World’s Top Global Mega Trends To 2020 and Implications to Business, Society and Cultures

Executive Summary

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Definition of a Mega Trend

Definition:

What is a Mega Trend?

- Mega trends are global, sustained and macro economic forces of development that impacts business, economy, society, cultures and personal lives thereby defining our future world and its increasing pace of change.

Why Do Mega Trends Matter?

- Mega trends have different meanings and impacts for different industries, companies and individuals. Analysis of these mega trends and their implications forms an important component of a company’s future strategy, development and innovation process, and design and technology planning.

- The following document sets the stage for visionary thinking by identifying the most important global mega trends, potential scenarios of specific trends in 2020, and the implications of these mega trends in transforming society, markets and cultures. These mega trends can be used as a base for strategic work within all core business areas: from corporate strategy, business or product development to market innovation and resource planning.
Summary of Top Megatrends

Urbanization: Increasing pace of urbanization will lead to integration of core city with daughter suburbs resulting in expanding city limits having massive impact on the future of mobility, working life and societies. Three concepts of urbanization will emerge: megacities, mega regions and mega corridors.

Mega cities: Integration of core city with suburbs and housing over 5 million people

Mega Regions: Integration of two or more mega cities to form Mega Regions housing over 12 million people

Mega Corridor: Transport Corridors Connecting Two or More Mega Cities or Mega Regions Converging to form Mega Corridors

SMART City: With the advent of technology and infrastructure development, there will be a shift from GREEN to SMART concept. Some of the SMART initiatives will find its way into elements of Energy, Technology, Grids, Cars, Buildings, Utilities and Infrastructure. These will define the future of personal lives, mobility and business.

Generation Y: Most educated, affluent, assertive and IT literate generation in history, these digital natives between 15 – 35 years will have distinct values, beliefs, attitudes, lifestyle and behavioural patterns influencing product, technology development and marketing strategies in 2020. Constituting 34% of global population in 2020, Generation Y will be the most adaptive to change, ready to experiment with new technologies and a high level of purchasing power in 2020.

Women Empowerment: Around 30 of the Fortune Global 500 Companies will be headed by women in 2020. Women will have more decisive power over finance and business development gaining more prominence in the boardroom and at the family front. Goods, services and advertisements will be specifically targeted to women.

Rise Of Middle Class: With over 1 billion coming from India and China alone in 2020, this income group will have the greatest impact on products and services and the biggest purchasing power. Companies will specially align their products to match the interest, income, lifestyle and preferences of this burgeoning middle income group.

Reverse Brain Drain: Mostly evident in countries like India and China, reverse brain drain as a concept implies a massive reversal of highly educated and skilled workers back to their homeland in 2020. This movement of labor force will have huge impact on the economy and industry, particularly for developing countries with non-resident population filling up CXO jobs.
Summary of Top Megatrends

N11 – The Next Game Changers: The next big emerging markets coined as the Next 11, will be the future economic engines of growth – signalling a shift in economic power in 2020 from BRIC countries to nations of Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, Philippines, South Korea, Turkey, Vietnam.

Future Outsourcing Hotspots: The future outsourcing markets in 2020 will not be defined by overall labour cost or productivity but by specialization in niche areas like business analytics, software application development, product development and software testing. Most of these emerging hotspots will be located in Eastern and Central Asia and in Latin America.

Future Fortune Global 500: Companies in developing economies, particularly Asia will wield greater commercial progress in 2020. We will see around 30% increase in the number of Asian companies in the Global 500 Companies list signalling a shift of economic growth from Europe, United States to developing regions of India and China.

New Trade Zones: Governments are entering into new trade agreements which will spur the development of new trading hubs and increase in trade volume in 2020. These trade agreements will also lead to zero tariff rates and favourable prices for goods in 2020, particularly for countries in Asia, Africa and Latin America.

Cloud Computing: Cloud computing as a trend is not new. However, the advent of customized SMART clouds in 2020 with advanced features and functions will have numerous benefits to businesses and society in the future.

Satellite Technology: With the launch of GALILEO, and around 900 new satellites in 2020, new navigation and communication technologies will be enabled leading to multiple innovations in Machine-to-Machine (M2M) communications, Mobile Satellite Services (MSS), and increase in broadband speed.

Virtual World: Digital networking, online communities and computer-simulated environments will govern businesses, healthcare, education, mobility and even personal relationships in 2020. 3D virtual environments and avatars will interact and simulate real-life situations enabling users to experience virtual reality.

Robotics: Robotic technology combined with Artificial Intelligence will assist humans in manufacturing, space, military and transportation sectors. Although mainly used for industrial applications, robotics will soon enter into the realm of personal relationships acting as a slave, companion and even a decision maker in 2020.
Summary of Top Megatrends

Future Consumer Electronics: Wearable Computing, 3D HDTV, Video Calling, E-Paper, Mind-Control Video Gaming are some of the future technologies which will hit the mainstream market in 2020. These will change the way people think, interact and work resulting in greener, smarter and technology-savvy lives in the future.

Geo-Socialization: The next level of social networking will rely on geographic services and capabilities such as geocoding and geotagging. These collaborative web mapping techniques will result in new trends of networking, digital marketing and innovative ways of socializing furthering the evolution of interaction of individuals and organizations.

Wireless Intelligence: Wireless technology enabled by advancement in cellular networks, satellite networks, RFID, Wi-Fi and WiMax will lead to IT infrastructure and other services to be 80% wireless on a single integrated platform in 2020. With real-time video surveillance, virtual Monitoring and secure, high-speed, wireless data networking, this intelligence will be managed by a central server which commands different emergency services to detect, react, prepare, respond and even predict events.

Future Broadband Technologies: Around 50 billion devices will be connected by broadband in 2020 with innovative applications in healthcare, business, education and entertainment sectors. Evolving Artificial Intelligence (AI) and broadband technologies will lead to sophistication of major applications resulting in virtual companies, business conferences, defense simulation, virtual classroom and even virtual space tours to name a few.

Top Technologies in the Future: The next emerging technologies to watch out for will be in areas of nanomaterials, flexible electronics, lasers, SMART materials and so on. These technologies will drive multiple applications and present a potentially high ROI for companies in 2020.

Global Power Generation in 2020: By 2020, nearly half of world electricity will be produced in emerging regions like China and India. Shifting regional and fuel balance will see renewable and nuclear energy increasing to 36% in 2020 of the total power generation.

Innovating to Zero!: “Zero Concept” World will drive technologies and applications to “Innovate to zero”. Development of zero emission technologies such as wind power, Travelling Wave Reactor (TWR), Solar PV, Third Generation Bio Fuels will be the emerging trend gaining considerable interest.

E-Mobility: Over 40 million electric 2 wheelers and 4 wheelers will be sold annually around the globe in 2020. E-Mobility, from electric cars to aircrafts, will usher in a new set of players with new business models offering innovative and customized set of infrastructure and technology solutions.
Summary of Top Megatrends

**Infrastructure Development:** Emerging transportation corridors (e.g., Trans Siberian Rail) will lead to mushrooming of economic and technology clusters along these corridors. These integrated hubs will be the future centres of innovation, R&D and technical excellence attracting massive investment and government support.

**New Business Models:** Next Generation Business models in 2020 will redefine future business propositions and influence technology and product development. Some of these evolving models are Personalization, Car Sharing, “Pay by the Hour”.

**SMART Factory:** Fully automated factories are now approaching reality. Sophisticated machines, intelligent robots infused with future technologies will soon allow a plethora of machinery to rapidly manufacture and fabricate products on demand, without any human intervention. The entire production line will be configured with artificial intelligence allowing direct access and control to different machinery in the manufacturing process.
From Macro to Micro: Mega Trend Impact Analysis on Your Industry, Your Products and Services

Mega Trend
Selected Trends That Impact Your Business And Markets

Example: Urbanization, Satellites

Sub Trend
A Sub Layer of Trends that Has Wide Ranging Impact

Example: Three concepts of urbanization will emerge: megacities, mega regions and mega corridors. Smart Cities. Civilian satellites means high speed broadband, wireless and 4G and free wi-fi in public places/cities

Impact to Your Industry
Visualizing The Roadmap Of These Critical Forces Through Scenario Building and Macro Economic Forecasts

Example: People in future will need “personal mobility” not necessarily cars to commute to work. This will lead to need for integrated mobility combining all forms of transport including cars

Macro

Micro

Impact on Future Product/ Technology

Example: New Product Opportunity - New Mega City Cars, Car sharing, New Technology Opportunities – Connected car, e.g. Internet Radio

Analysis of Opportunities and Unmet Needs

Example: Mega City electric cars with small turning radius, autonomous parking in busy cities, Facebook on wheels, seamless switching from home to car
About
Frost & Sullivan
In a glance
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We propose **growth consulting, market and technology research** and **career-focused best practice training** to help clients grow their businesses.

Global expertise and local knowledge: 40 offices worldwide – 1,800+ employees
# What Makes Us Unique

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<th>Feature</th>
<th>Description</th>
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<tr>
<td><strong>Exclusively Focused on Growth</strong></td>
<td>Actively engaged in identifying, researching and developing opportunities, growth models and strategies that enable clients to accelerate growth</td>
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<td><strong>Industry Breadth</strong></td>
<td>Cover the broadest spectrum of markets and technologies to provide clients with the ability to look outside the box and discover new and innovative ideas</td>
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<td><strong>Global Perspective</strong></td>
<td>40 global offices ensure that clients receive global coverage and perspective based on regional expertise</td>
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<td><strong>Continuous Monitoring</strong></td>
<td>Continuously monitoring markets, technologies, careers, and geographies for growth opportunities</td>
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<td><strong>360° Perspective</strong></td>
<td>Proprietary T.E.A.M.™ Methodology integrates all 6 critical research methodologies to significantly enhance the accuracy of decision making and lower the risk of implementing growth strategies</td>
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<td><strong>Trusted Partner</strong></td>
<td>Work closely with the clients’ Growth Teams – helping them generate new growth initiatives and leverage all of Frost &amp; Sullivan assets to accelerate their growth</td>
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8 Business Units with Comprehensive Industry Coverage

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<th>Business Unit</th>
<th>Industry Focus</th>
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<tbody>
<tr>
<td>Energy &amp; Power Systems</td>
<td>Power Generation, Distributed Energy, Power supplies, Batteries, Renewable</td>
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<tr>
<td>Automotive &amp; Transportation</td>
<td>Automotive, Transportation Systems, Logistics, Railway Systems</td>
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<tr>
<td>Environment &amp; Building Technologies</td>
<td>Water &amp; Wastewater, Waste, Air Treatment, Building Mgmt Technologies</td>
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<tr>
<td>Industrial Automation &amp; Electronics</td>
<td>Pumps, Process Control, Power Transmission, Test &amp; Measurement, Sensors</td>
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<td>Technical Insight</td>
<td>Emerging Technology Research, Across ALL Business Units</td>
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<td>Chemicals, Materials &amp; Food</td>
<td>Food, Agrochemicals Specialty Chemicals, Fine Chemicals, Performance Materials</td>
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<tr>
<td>Aerospace &amp; Defense</td>
<td>Battle Space IT, C4ISR, Satellites &amp; Space, Military Aerospace, Training &amp; Simulation</td>
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<tr>
<td>Healthcare</td>
<td>Drug Discovery, Clinical Diagnostics, Pharmaceuticals, Biotechnology, Medical Technologies, Medical Devices</td>
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1. Mega trends are connected and inter-wined which suggests “synergetic” opportunities between them

2. It is important to understand the eco-system of the mega-trend and the elements of the value chain which have most profitability

3. All these trends are global and have global ramifications thereby offering scalable opportunities

4. These forces are changing rapidly and bringing new competencies into play at half the life-cycle speed of the past decade

5. Organisations’ need “Mega Trend” champions and teams within their organisation structure to best exploit the opportunity
How To Take Mega Trends from Information to Strategy Implementation?

S1: Identify and Select Top Mega Trends through Macro-Economic Analysis, Interviewing and Brainstorming Sessions

S2: Build Scenario of these Unique Mega Trends

S3: Analyse the Impact of the Scenario Developed in Step 2 on Industry (e.g. Personal Mobility then Automotive)

S4: Analyse Impact on Product and Technology Planning and Generate Suggestions for Design and Development