Industry Agenda

Mobility
Governors Meeting
2015

February 2015
Contents

5 Message from the World Economic Forum
6 Automotive Governors Programme
   6 Priorities for 2015
   6 CO₂ Emissions and Pollution
   10 Self-Driving Vehicles
12 Aviation & Travel Governors Programme
   12 Priorities for 2015
   15 Key Innovators Lunch
18 Supply Chain & Transport Governors Programme
   18 Priorities for 2015
   19 Glocal Dilemmas: Building Responsible Supply Chains for Tomorrow’s Consumers
21 Trade Programme
22 Cross-Industry Programme
   22 Travel & Trade in a High-Risk Era
   24 Disruptive Mobility – Smart Transportation Solutions
   26 A Hyperconnected World: Transforming Your Business
27 Circular Economy: Towards Global Impact
28 Future of Urban Development
29 Geopolitics and Global Corporations
30 The New Geo-Economics of Energy
31 Climate Programme: Delivering Action on Climate Change
32 The Future of Jobs
33 The New Vision for Agriculture
34 Mobility Industry Calendar 2015
35 Contact Information
About the World Economic Forum

The World Economic Forum is an international institution committed to improving the state of the world through public–private cooperation in the spirit of global citizenship. It engages with business, political, academic and other leaders of society to shape global, regional and industry agendas. Incorporated as a not-for-profit foundation in 1971 and headquartered in Geneva, Switzerland, the Forum is independent, impartial and not tied to any interests. It cooperates closely with all leading international organizations.

About the Mobility Industry Partnership

Industry Partners are select Member companies of the World Economic Forum that are actively involved in the Forum’s mission at the industry level. Each Industry Partner community comprises the most influential Member companies in their respective industries committed to working with the Forum.

The companies in the Mobility Industries drive the global economy by enabling the movement of goods and people. As a community, they collaborate to address issues of common concern. The Mobility Industries group is comprised of three Industry Partnership communities Automotive, Aviation & Travel, and Supply Chain & Transportation. Member companies are leaders in the transportation and mobility space and are committed to the Forum’s mission and activities.

About the Governors Steering Committees

The Steering Committees are comprised of a representative subset of Mobility Governors and act on behalf of the Community throughout the year, delivering strategic guidance and direction to shape the future of the industry. The Committees aim to provide insights on the changes taking place in mobility and to suggest ways in which the World Economic Forum can help to develop multistakeholder, industry-specific interactions; identify relevant intersections with other industries; and transform business, society and the economy.

Partners as of 1 January 2015

**Automotive**
- Apollo Tyres Ltd
- Audi AG
- Bajaj Auto Ltd
- Bharat Forge Ltd
- Delphi Automotive LLP
- General Motors Company
- Hero Group
- Hyundai Motor Company
- Johnson Controls Inc.
- Mahindra & Mahindra Ltd
- Renault-Nissan Alliance
- Tata Sons Ltd
- Toyota Motor Corporation
- TrueCar
- Volkswagen AG
- AB Volvo

**Aviation & Travel**
- AirAsia Bhd
- All Nippon Airways
- Bahrain Economic Development Board
- BAE Systems
- Bombardier
- EMBRAER SA
- Emirates Group
- Etihad Airways
- Hilton Worldwide
- HNA Group Co. Ltd
- InterContinental Hotels Group Plc
- Jet Airways
- Jumeirah Group
- Lockheed Martin Corporation
- Marriott International
- Safran Group
- Starwood Hotels & Resorts Worldwide
- Swiss International Air Lines
- Visa

**Supply Chain & Transport**
- A.P. Møller-Maersk
- Agility
- Brambles Limited
- DNB ASA
- Deutsche Post DHL
- DP World
- Emirates Group
- International Container Terminal Services (ICTSI)
- Royal Vopak
- Stena AB
- Transnet SOC Limited
- United Parcel Services Inc.
- Volkswagen AG
- AB Volvo
Message from the World Economic Forum

The New Global Context, the theme of the 2015 Annual Meeting, is particularly relevant for the Forum’s Mobility Partners, who come from the Automotive, Aviation & Travel, and Supply Chain & Transport Industry Partnership communities.

Consider just a few developments from last year that shape the new global context:

- Terrorism, geopolitical conflict and Ebola impact global travel
- Oil prices plummet
- China and the US sign a breakthrough agreement on global climate change
- Non-traditional mobility companies – like Google, Uber, Airbnb and Tesla – continue to shape the competitive landscape
- Global trade rebounds (particularly air cargo), yet a sense of uncertainty saps confidence in the business outlook

Mobility – the movement of people and goods – has entered a period of profound transformation. The industries that enable mobility, such as airlines and logistics, are also transforming. This transformation is driven by the fact that the mobility system is changing – not just the products and services delivered by mobility companies. We see new stakeholders such as city governments pursuing car restriction policies. We see new business models enabled by new technologies. We see the needs and expectations of mobility consumers changing – sometimes in opposite directions in developed versus rapidly developing markets.

Mobility must now be considered as an integrated system dependent on forces that once seemed part of a different domain, such as broadband capacity, urbanization or the changing nature of jobs. To reflect this holistic “systems” approach, we have combined the findings of the three Mobility Governors Meetings into this single report, which summarizes key discussion points and describes the 2015 agenda determined by each of our three Steering Committees.

We thank all of our Governors for their active engagement in shaping these critical industry issues in alignment with the Forum’s mission of improving the state of the world.
Priorities for 2015

Overview
The Automotive Governors Steering Committee met to review the work conducted by the World Economic Forum and discuss the priorities for industry action in 2015. The meeting was chaired by Carlos Ghosn, Chairman and Chief Executive Officer of the Renault-Nissan Alliance.

2015 Automotive Programme
Controlling CO₂ emissions and pollution
The Automotive Governors agreed that the run up to the 21st Conference of Parties (COP21) of the United Nations Framework Convention on Climate Change (UNFCCC) in Paris in December 2015 provides the global automotive industry with a rare opportunity to craft an industry-wide vision to support policy-makers in developing a global solution to the inherently global challenge of climate change. The Automotive Community will aim for a common vision and commitment for COP21, taking both emerging and developed markets into account.

Making self-driving vehicles a reality
The focus in 2015 will be on understanding customer needs (while recognizing that cities are potential new customers), establishing consumer trust and dealing with related risks. On the cybersecurity front, the Forum will organize a series of dialogues with industries such as aviation that already integrate a high degree of automation in order to accelerate the development of solutions to cybersecurity risks.

Steering the future of automotive and personal transport
The Automotive Council chaired by Patrick Pelata, Executive Vice-President and Chief Automotive Officer of Salesforce, will focus on evaluating the emerging urban mobility ecosystems and their impact on proactive industries and cities. The objectives are to:
- Clarify components of new mobility ecosystems, identify the stakeholders and gauge potential economic, societal and environmental benefits
- Provide guidelines for industry and city stakeholders to drive and accelerate transformation of urban mobility

The China dialogue
A proposal to hold a Governors Meeting with chief executives from the automotive community, chief executives of original equipment manufacturers (OEMs) from China and representatives of the Chinese government found strong support. Participants agreed that the World Economic Forum and the Chinese Association of Automotive Manufacturers should join forces to organize the Governors Meeting in China.

Next Steps
- Aim for a common vision and commitment to prepare for COP21 in Paris, for both emerging and developed markets
- On self-driving vehicles, focus work around mayoral and consumer needs taking into account various ownership models and automation levels in emerging and developed markets as they relate to autonomous vehicles as well as infrastructure needs
- Conduct dialogue with airlines and other industries on cybersecurity risks
- Host a Governors Meeting with Chinese OEMs and Chinese government figures in April 2015 in Shanghai, during the Shanghai Motor Show

CO₂ Emissions and Pollution
Overview
Steadily growing demand for mobility and increasing congestion are driving the need to reduce CO₂ emissions and improve fuel efficiency. Automotive Governors met with Christiana Figueres (Executive Secretary, UNFCCC) and Maroš Šefčovič (European Vice-President and Commissioner, Energy Union) to discuss the fragmentation of regulatory regimes and ways to achieve more consistency and complementarity.

Key Points
- The regulatory landscape for CO₂ emissions and air pollution varies widely between regions and even cities.
- This heterogeneity drives up the cost of compliance, tying up funds for driving innovation in fuel efficiency and safety.
- Regulation must take a systems approach to accelerate innovation for meeting climate targets and providing societal and environmental benefits.
- The run up to COP21 in Paris provides the industry with a rare opportunity to push for a more global solution to this inherently global problem.
Synopsis
Demand for a global solution to a global problem
CO\textsubscript{2} emissions must be tackled globally for both mature and developing economies. Industry and policy leaders are highly concerned about the fragmentation of efforts. For example, there has yet to be a decision on a global carbon price; 40 markets currently follow different legislation and rules. Isolated regulation at the city and regional levels (e.g. in the state of California) drives up the complexity and cost of compliance.

Variety of testing protocols a major challenge
One major challenge in meeting regulatory requirements is the variety of testing protocols that diverge on various aspects and modalities (e.g. average and maximum speed, maximum acceleration, length and external temperature). Standardization in testing procedures could free up research and development (R&D) budgets to drive technological innovation for reducing CO\textsubscript{2} emissions.

Role of infrastructure and standards
Implementation of green vehicle technologies requires significant investment in infrastructure and introduction of unified standards (e.g. for plug types, data protocols, billing and payment). Competition between OEMs (e.g. with different direct current charging standards) prevents a rapid and broad deployment of infrastructure. In such cases more harmonization and an end-to-end optimization of the entire workflow is required.

Joint approach on the way to Paris
The run up to COP21 provides a rare opportunity to move towards a global solution to CO\textsubscript{2} legislation. The UNFCCC is preparing a directional draft, which will be made available in May 2015 for discussion in cabinet meetings in 194 countries. Automotive Governors have been invited to participate in the document adoption process to contribute the industry perspective, especially:
- Emphasizing technological possibilities and backdrops to make the targets realistic
- Framing mobility as a system and anticipating upcoming changes in public, private and multi-modal transport, rather than viewing vehicles in isolation
- Assessing the price of heterogeneity and standard adaptation
- Providing an outlook on realistic targets beyond 2020
- Briefing various ministers of transport before the conversation in Paris

Country or Region | Target Year | Standard Type | Unadjusted Fleet Target | Calculation Method | Test Cycle | Penalties |
--- | --- | --- | --- | --- | --- | --- |
EU | 2015 | CO\textsubscript{2} | 130 gCO\textsubscript{2}/km | Weight-based corporate avg. | NEDC | Economic fines |
 | 2021 | | 95 gCO\textsubscript{2}/km | |
Japan | 2015 | Fuel economy | 16.8 km/L | Weight-based corporate avg. | JC08 | Economic fines |
 | 2020 | | 20.3 km/L | |
Canada | 2016 CO\textsubscript{2} + other GHGs | 217 gCO\textsubscript{2}/mi | FP-based\textsuperscript{1} corporate avg. | US combined | Economic fines |
 | 2025 (proposed) | N/A | |
India | (from 2016) CO\textsubscript{2} | (130 gCO\textsubscript{2}/km) | Weight-based corporate avg. | NED for low-powered vehicle | Not available |
 | 2021 | | 113 gCO\textsubscript{2}/km | |
China | 2015 Fuel consumption | 6.9 L/100 km | Weight-class based corporate avg. | NEDC | Economic fines |
 | 2020 (proposed) | 5L/100km | |
USA | 2016 CO\textsubscript{2} + other GHGs | 36.2 mpg or 225 gCO\textsubscript{2}/mi | FP-based\textsuperscript{1} corporate avg. | US combined | Economic fines |
 | 2025 | 56.2 mpg or 143 gCO\textsubscript{2}/mi | |
Korea | 2015 CO\textsubscript{2} + other GHGs | 17km/L or 140 gCO\textsubscript{2}/km | Weight-based corporate avg. | US combined | Public proclamation |
Mexico | 2016 CO\textsubscript{2} + other GHGs | 39.3 mpg or 140 gCO\textsubscript{2}/km | FP-based\textsuperscript{1} corporate avg. | US combined | Economic fines |

Source: Analysis of Government Documentation, World Economic Forum

Conclusion
- The Forum will work with OEMs and suppliers to develop a common vision and commitment to prepare the automotive sector for COP21 in Paris, providing a direction for both emerging and developed markets.
- The solution must internalize market mechanisms so that realistic targets can be set and achieved.
- In the run up to COP21 in Paris, the industry and policy leaders must reach agreement on both an aspirational long-term timeline and operational timelines with clear details.

\textsuperscript{1}Reference cycle
In the past, as an industry, we have not coordinated well regarding lowering CO₂ emissions and we’ve allowed the demands of our home markets to dictate our standards. The problem of CO₂ emissions is global. We are all global players. We should adopt a global approach.

Carlos Ghosn, Chairman and Chief Executive Officer, Renault-Nissan Alliance

We are ready to listen – without your input we are not able to propose tangible solutions.

Maroš Šefčovič, Vice-President and Commissioner, Energy Union, European Commission

I am equally concerned about the fragmentation. There still has not been a global decision on a global carbon price.

Christiana Figueres, Executive Secretary, United Nations Framework Convention on Climate Change (UNFCCC)
Self-Driving Vehicles

Overview
Automotive chief executives joined senior executives from Google, Cisco, Qualcomm, Sompo, Zurich and State Farm to evaluate the roadmap for self-driving vehicles (SDVs) that the World Economic Forum prepared over the last year. Emphasizing the societal significance of the benefits, while also recognizing various obstacles to large-scale adoption, Carlos Moedas (European Commissioner, Science Research and Innovation), Bruce Andrews (US Deputy Secretary of Commerce) and Doris Leuthard (Swiss Minister for Transport) provided reactions and recommendations for the next steps towards making self-driving vehicles a reality.

Key Points
- Focusing on consumer needs and expectations in emerging and developed markets is fundamental for making self-driving vehicles a reality.
- Ensuring technology maturity with extremely low fault probabilities is a further prerequisite; all players will have to overcome consumer concerns about trust and cybersecurity.
- Market introduction will likely take place in three pathways: partial autonomy, full autonomy and new mobility platforms.
- In any scenario, four critical obstacles need to be addressed: ensuring policy-maker support, managing the liability shift, introducing and showcasing safety standards and limiting the cybersecurity risk.

Synopsis
Focusing on the consumer is fundamental
Consumers welcome the vision of (partially) autonomous vehicles. Participants disagreed on whether SDVs may render personal car ownership obsolete. Consumer attitudes, especially in tech-savvy areas like Silicon Valley, are clearly changing. However, it remains questionable if this is a global trend.

Ensuring technology maturity with extremely low fault probabilities
Reliability and maturity should be proved to the highest degree, e.g. avoiding that one accident that could cause consumers and policy-makers to doubt the technology in general.

Three pathways for market introduction
- Partial autonomy: supporting the human driver – already observable today
- Full autonomy: vehicle operating fully without any interaction with the driver – expected to be seen on a large scale “tomorrow”, but the actual timeline is difficult to estimate
- Platforms: fully autonomous vehicles acting as public transport infrastructure – Singapore is running a first pilot in a closed compound

Google currently pursues the second pathway, while traditional OEMs are more likely to follow the first.

Evaluation of infrastructure requirements
It is crucial for governments to understand where to focus future investments, especially given budgetary limitations and the rising demand for mobility. If SDV technology is able to provide better utilization of the physical infrastructure (roads, special lanes, parking space, etc.), funds may be released to increase the investment in digital infrastructure (smart solutions, data management, V2I-technology, telecommunication, etc.)

Critical obstacles to be addressed
- Policy-makers need to be convinced that self-driving vehicles are safe. The EU has set aside €6 billion for research into smart, green, integrated transport as part of its Horizon 2020 programme. However, this needs further legislative support.
- Management of the transition towards autonomous systems requires dedicated solutions from insurers. The complexity of risk evaluation for developing insurance solutions could slow down the mass introduction of the SDV technology. A “black-box-approach,” similar to aviation, might be a possible solution.
- It is important to establish common safety standards with early involvement of relevant agencies (e.g. the National Highway Traffic Safety Administration in the United States) into the test design process. Introduction of global standards from a trade standpoint is crucial to ensuring acceptance.
- The two aspects of cybersecurity that must be considered are: consumer perception of data being protected, and actual prevention of unauthorized remote access. The industry needs to work with other industries (e.g. information technology, telecommunications, aviation and railways) to learn from their approach.

Conclusion
- The auto industry needs to better understand consumer needs and expectations with regard to autonomous vehicles as well as infrastructure in both emerging and developed markets; the Forum may organize a project to assist in such efforts.
- The Forum will initiate a dialogue series with airlines/aviation and other advanced industries to share best practices on cybersecurity risks and consumer trust.
**Strategic Roadmap to Make Self-Driving Vehicles a Reality**

### Consumers and society
- General public: Create and maintain emotional buy-in
- Affected players: Mitigate impact

### Policy-makers
- General: Ensure policy-maker support
- Liability: Manage shift with agreed procedures & regulation
- Safety standards: Define requirements & testing procedures
- Traffic rules: Update regulation

### Industry
- Product development: Achieve technological maturity
- Common issues: Collaborate on cybersecurity, vehicle-to-vehicle communication and highly precise maps
- Organization: Adjust business models and processes

### Options to Manage the Liability Shift

**Liability likely to shift from human driver to industry**
(OEMs, suppliers, insurers, mobility providers, etc.)

<table>
<thead>
<tr>
<th>Potential solution options</th>
<th>Benefits</th>
<th>Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Let compliance w/ performance standards</td>
<td>Reduces auto industry’s liability uncertainty, Enables future (safety) improvements</td>
<td>Requires in-depth expertise on regulator side</td>
</tr>
<tr>
<td>2. Treat SDV and human drivers equally</td>
<td>Reduces drivers’ &amp; auto industry’s liability uncertainty, Avoids additional litigation burden on insurers</td>
<td>May stall improvements beyond human skills</td>
</tr>
<tr>
<td>3. Agree across industries on liability claim resolution</td>
<td>Avoids costly litigation and ensures timely settlement, Defines standards on evidence, e.g., black boxes</td>
<td>Requires various insurances and OEMs to agree</td>
</tr>
<tr>
<td>4. Introduce government backstop for unknown new risks emerging</td>
<td>Reduces consumers’ and industry’s uncertainty about unknown risks</td>
<td>Potentially costly for gov’t, may disincentivize improvements</td>
</tr>
</tbody>
</table>

---

1. Performance standards could be proactively mandated by regulators (e.g., similar to the European type approval, i.e., prescribing performance requirement before market intro.)

Source: Expert interviews; RAND report: Liability and Regulation of Autonomous Vehicle Technologies (2009); Bryant Walker Smith; BCG analysis; World Economic Forum
We will see the next technological battlefield in the area of autonomous and connected vehicles.

Carlos Ghosn, Chairman and Chief Executive Officer, Renault-Nissan Alliance

In the US, everything is allowed until it is forbidden; in the EU everything is forbidden until it’s allowed.

Rupert Stadler, Chairman of the Management Board, Audi
Aviation & Travel Governors Programme

Priorities for 2015

Overview
Under the chairmanship of Tony Fernandes, Group Chief Executive Officer, AirAsia, Malaysia, the Forum’s Aviation & Travel Governors came together to review and establish the community priorities for 2015.

2015 Aviation & Travel Programme
Enabling secure travel
The Governors gave the mandate to continue work on regional visa agreements and smart visas through the Global Agenda Council on the Future of Travel and Tourism. The community will work with relevant stakeholders (governments, international agencies) and engage more deeply with ASEAN as a region.

The Governors called for the Forum to lead an initiative to examine the connection between travel facilitation, security and data sharing, and develop creative solutions such as a framework for a global trusted-traveller programme.

Sustainability

2014 Aviation & Travel Activities

<table>
<thead>
<tr>
<th>Issues</th>
<th>Forum’s Value</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitiveness</td>
<td>UNDERSTANDING</td>
<td>Travel &amp; Tourism Competitiveness Report and Summits</td>
</tr>
<tr>
<td></td>
<td>- SHAPING</td>
<td>The Forum provides a platform for multistakeholder dialogue to ensure the development of strong and sustainable national Travel &amp; Tourism industries capable of contributing effectively to international economic development. In 2014, the Forum worked actively with a number of governments in sub-Saharan Africa through active dialogue and the signing of a call to action.</td>
</tr>
<tr>
<td>Connectivity</td>
<td>UNDERSTANDING</td>
<td>Connected World: Transforming Travel, Transport and Supply Chains</td>
</tr>
<tr>
<td></td>
<td>- SHAPING</td>
<td>The third year of the project focused on establishing a dialogue between the private sector and policy-makers for the implementation of more seamless transportation by overcoming challenges for Automated Check-In, Border Control and SMART Visa (ACIS) and Integrated Personal Travel Assistant (IPITA).</td>
</tr>
<tr>
<td>Trade</td>
<td>UNDERSTANDING</td>
<td>Enabling Trade</td>
</tr>
<tr>
<td></td>
<td>- SHAPING</td>
<td>The programme serves as a platform to help policy-makers appreciate private sector priorities. In 2014, the focus was on identifying barriers for cross-border trade in the soy, automotive and paper value chains. To position travel as part of the global trade facilitation agenda, joint sessions were hosted at regional events.</td>
</tr>
<tr>
<td>Human Capital</td>
<td>UNDERSTANDING</td>
<td>Future of Jobs</td>
</tr>
<tr>
<td></td>
<td>- SHAPING</td>
<td>Building on the Human Capital Report, the Forum has launched the Future of Jobs initiative which is a cross-industry analysis to understand the impact of key drivers of change on the employment outlook and the skillset needed for the future. In 2015, an analysis of the AT sector is likely to be undertaken.</td>
</tr>
<tr>
<td>Travel Facilitation</td>
<td>SHAPING</td>
<td>Enabling Travel</td>
</tr>
<tr>
<td></td>
<td>- ACTING</td>
<td>The Global Agenda Council on the Future of Travel &amp; Tourism worked on the development of a framework to replace traditional visa systems with Smart Visa Systems. This includes reducing processing of application time, the introduction of electronic visas, the expansion of visa-waiver programmes, and helping structure common regional visa programmes. The council published the Smart Travel report.</td>
</tr>
</tbody>
</table>
Governors Meeting 2015

Aviation & Travel Governors Programme

01: Anthony F. Fernandes, Group Chief Executive Officer, AirAsia
02: Naresh K. Goyal, Chairman, Jet Airways
03: Ramón Martín, Global Head, Merchant Sales and Solutions, Visa; Harry Hohmeister, Chief Executive Officer, Swiss International Air Lines; Carsten Spohr, Chairman and Chief Executive Officer, Deutsche Lufthansa; and Jean-Pierre Cojan, Executive Vice-President, Strategy and Transformation, Safran Group
04: Frits D. van Paasschen, President and Chief Executive Officer, Starwood Hotels & Resorts Worldwide; Claudia Sender Ramirez, Chief Executive Officer, TAM Linhas Aereas; Frederico Curado, President and Chief Executive Officer, EMBRAER; Christopher J. Nassetta, President and Chief Executive Officer, Hilton Worldwide; Keisuke Okada, Senior Executive Adviser to the Chairman, ANA Holdings
Aviation & Travel Governors Programme

01: Co-Chairs Arne Sorenson, President and Chief Executive Officer, Marriott International, and Anthony F. Fernandes, Group Chief Executive Officer, AirAsia

02: Frits D. van Paaschen, President and Chief Executive Officer, Starwood Hotels & Resorts Worldwide, and Kathleen Matthews, Executive Vice-President and Chief Global Communications and Public Affairs Officer, Marriott International

03: Peter Baumgartner, Chief Commercial Officer, Etihad Airways

04: Steering Committee
Key Innovators Lunch

Synopsis
People dream of flying cars and teleportation, of change and innovations fuelled by technology. However, the aviation and travel industry, though growing faster than most, has not kept up with technology and innovation to quite the same extent.

This “think big” session brought together leaders from the Aviation & Travel industry, key innovators from other industries and design thinkers, to consider the key technological changes which are likely to take place over the next 20 years, their implications and the challenges and opportunities associated to them.

In this session moderated by Loic LeMeur, participants heard perspectives from fire-starters, including Reid Hoffman from LinkedIn, Tim Brown from IDEO and Eric Anderson from Planetary Holdings, before continuing the discussions at their tables.

The following insights emerged:
- Marketplaces, linked to the principles of the shared economy, will have a fundamental impact on the industry, e.g. Airbnb where individual hosts will be offering a unique place and service. Houses might turn into restaurants and castles into hotels; there is a notion of “liquid space”.
- The Internet of Things will provide an increasing number of mobile applications which will facilitate seamless travel through tools that will, for instance, help people find their car, board an aircraft without a boarding pass and even unlock their hotel room door.
- Increased data availability will allow for enhanced security systems and better identification technology, which could support the creation of a global identification platform.
- Recent tragedies in the industry reveal the need for better tracking, recording and protection of data. Like the black box recordings invented in the 1960s, new virtual recorders offering real-time data links to ground stations are in development, although expensive.
To the frustration of most travellers, airport check-in and security have not improved, but this is due to an operational rather than a technological issue.

- Technology and innovation will push the frontier of the aviation and travel industry, from affordable space travel to virtual travel experiences from the comfort of one’s living room.
- Bitcoin and Amazon are examples of trusted platforms. Algorithms for new recommendation engines or security codes will facilitate a more customized service offering with secure transactions.
- New materials, energy sources and data tracking enable a better, safer and more environment-friendly flying experience.

**Conclusion**

New technologies and innovations are essential for creating a seamless travel experience from the booking process, to the airport and flying experience all the way to the hotel checkout. When implementing new technologies, sustainability and security implications – including cybercrime – must remain top of mind. A high calibre of data security is indispensable.

While innovation is important, so is collaboration with governments for adaptation, data ownership management, and data sharing solutions. Public-private cooperation will be key in designing a global data standard for the future.
Supply Chain & Transport Governors Programme

Priorities for 2015

Overview
The Supply Chain & Transport Governors gathered to review the outcome of the projects undertaken during 2014, identify top priorities and design the industry’s agenda for 2015.

2015 Supply Chain & Transport Programme

Trade facilitation
– Continue helping the improvement of border administration, following the 2014 projects in Brazil and Nigeria; shape a practical and actionable project which creates tangible outcome and impact
– Launch one specific country project, based on government support, at the Forum

Moving a connected world
– The Global Agenda Council on the Future of Logistics & Supply Chains will conduct a project based on real use cases to enhance understanding of the impact of the Internet, the Internet of Things and the cloud on supply chains.
– The use cases will be the basis for establishing a framework and making recommendations to the private and public sectors to improve supply chains.

Responsible supply chains and globalization
– With the focus on the triple advantage – i.e. balancing commercial advantage with environmental protection and contribution to local economic development – the Forum will increase the awareness of responsible behaviour along supply chains, leveraging the best practices gathered and analysed through the project “Beyond Supply Chains” in 2014.

Humanitarian responses
– The work of the Logistics Emergency Teams, an initiative launched by the World Economic Forum in 2005 which provided assistance in the aftermath of the Ebola outbreak and typhoon Hagupit in the Philippines, among other initiatives, should be supported further.

01 Steering Committee Meeting
02 Kim Fejfer, Chief Executive Officer, APM Terminals, A.P. Møller-Maersk; and Ayesha Sultan, Director, Corporate Strategy, DP World, United Arab Emirates
Glocal Dilemmas: Building Responsible Supply Chains for Tomorrow’s Consumers

Overview
Tomorrow’s consumers will demand speed, flexibility and convenience. This poses challenges for global supply chains as the world becomes increasingly transparent and sensitive. Participants explored ideas about how the public and private sectors can work together to create solutions that meet the needs of tomorrow’s consumers while respecting the requirements of tomorrow’s society.

Key Points
- All stakeholders need to be brought together in order to achieve efficient supply chains; private and public collaboration is indispensable.
- More holistic government structures are essential for establishing an efficient regulatory framework; countries could consider setting up a ministry of supply chains to ensure a more coordinated and coherent approach to policy development.
- Consumers are becoming more aware of where and how products are being made and demand responsible products. To respond, mechanisms must be put in place to drive ethical behaviour among all players, including subcontractors.

Better collaboration among all stakeholders across entire supply chains would improve capacity utilization and significantly reduce energy consumption and carbon emissions.
- Technology is the key enabler of better collaboration – as visibility and transparency improve, supply chains can go beyond pure logistics towards enhanced responsibility.

Synopsis
The sustainable development of supply chains is a sound and wise business decision. Nike and Heineken presented two examples from among consumer goods companies to prove this point:
- Nike has seamlessly integrated sustainability into its supply chains. For instance, Nike Flyknit, the newly launched knitted running shoes, produces 80% less waste compared with traditional footwear.
- Heineken is leveraging multistakeholder collaboration to achieve economic development in communities where it operates. The company’s goal is to have 60% of raw materials used in Africa sourced locally. Additionally, since 30% of their CO₂ footprint is traced to refrigerants, Heineken has joined forces with suppliers to develop a new refrigerant that is 80% more energy efficient. In all big cities where they have a presence, they aim to operate electric transport in collaboration with city councils and suppliers.
Lack of collaboration among key stakeholders is the key hurdle to achieving higher transport capacity utilization and supply chain efficiencies.

- Incoherent and fragmented regulations cause inefficiency. One possible solution is the introduction of a ministry responsible for supply chains to ensure more effective and responsible design and execution of this function so crucial for the economy and society.

Technology and digital progresses will help build trust and eliminate inefficiencies.

- Technology allows companies to pinpoint the exact location of products. Visibility and transparency provide the basis for measurement, redesign and improved supply chain management, including reuse, recycling and repurposing.
- Visibility and transparency are also important for consumers, who demand the ability to trace goods, track deliveries, prepare for receipt and actively participate in the process of rerouting.
- Logistics facilities need to be adjusted and improved to respond to the emerging omni-channel world with increasingly demanding consumers.

Conclusion

- A holistic approach and common standards must inform each step along the supply chain.
- Continuously improved visibility and transparency through technological advancements will be the key for collaboration and optimization across supply chains from suppliers to logistics providers to consumers and beyond the product life cycle.
Trade Programme

Key Points
- The political case for liberalization is eroding due to growing perceptions of inequality.
- Companies are integrating globally while the borders of countries remain rigid.
- Promising areas for trade reform lie in inventory management, volatility reduction and meeting private standards.
- Regulatory reforms need to focus on the fundamentals of greater transparency, harmonization and data security.

Synopsis

Need for reform
Politics is the biggest barrier to trade and investment, and the case for liberalization is eroding due to growing perceptions of inequality. Trade facilitation is a widely accepted government priority, but implementation requires assistance. A new reform agenda must be centred on services, investment and transparency. The benefits of change will be seen in diversification, opportunity for small businesses and growth of trade and investment.

Political context
The fear of globalization has always been present, but the current perceptions of unfairness are particularly damaging. Trade and investment agreements are seen as protecting capital rather than labour. Ensuring that the benefits of liberalization reach the poor in less-developed countries is thus critical to the political case.

The world is witnessing a new era of mega deals. Though relatively unpublicized, a US-China bilateral investment treaty would dwarf anything else on the table. Progress on mega deals should not derail the WTO. The importance of a fair process must be emphasized as development will remain a key part of the narrative for many.

Business context
Companies are integrating globally but the borders of countries remain rigid, putting business at odds with national regulation. Traditional trading companies are now 80% focused on global investment rather than trade, and investments mainly take the form of skills and knowledge transfers, not money. To grow support for future agreements, business leaders need to be convinced that these are political vehicles of substance.

Promising areas of improvement in trade reforms are inventory management and volatility reduction. Robust and optimized supply chains require some, but not excessive, localization. Reducing the multiplicity of national standards can increase efficiency. However, meeting private standards is the larger consideration in the design of value chains.

Reform proposals
Proposals need to focus on fundamentals, not governance.
- Communications: Transparency and the demystification of the language of trade are prerequisites.
- Investment and competition: Greater transparency in, and oversight of, government procurement and treatment of state-owned enterprises would be useful.
- Regulatory coherence: Regulatory harmonization is seen as politically impossible. However, sector-by-sector mutual recognition is feasible. More holistically, working on common thresholds for risk would prevent protectionist abuse.
- Data: Sovereignty and security are major considerations in regulating data and e-commerce. Progress will come from a clearer understanding of how to evaluate opportunities, challenges and trade-offs.

Conclusion
Implementation of the Trade Facilitation Agreement among members of the World Trade Organization should be the first priority. Partnership with the private sector is needed to ensure implementation efforts take a value-chain perspective and reach tipping points for growth.
Travel & Trade in a High-Risk Era

Overview
Travel & Trade are fundamental drivers of economic growth and job creation. Today's day and age are characterized by the greatest ever movement of people, globalization and the rise of emerging markets. Yet, the current geopolitical situation, terrorism and pandemics could jeopardize all advances made in travel and trade facilitation over the last decades.

Key Points
- Open borders are subject to numerous risks – pandemics, terrorism, cybersecurity issues, natural disasters, and also concerns about the safety of transport.
- Gathering, sharing and validation of data about travellers will be crucial for risk profiling and mitigation. Cooperation between governments and the private sector must improve.
- Risk mitigation requires new and better information sharing. While a big step forward is unlikely, incremental steps such as the creation and expansion of regional blocs are on the horizon.

Synopsis
President Alpha Condé of Guinea noted that African countries have been isolated during the Ebola outbreak. The impact on society and economy is as severe as the disease itself. Global panic and lack of awareness only amplify the issue.

Prime Minister Irakli Garibashvili of Georgia underlined the importance of open borders to foster economic growth and welfare. However, he highlighted the challenges too, particularly organized crime and terrorism.

Deputy President William Kipchirchir Ruto of Kenya noted the necessity for global cooperation to make open borders a reality. In effect, a regional visa agreement for Eastern African states has been established to facilitate travel and trade. Yet, open borders are undermined by security challenges and require smart global partnerships to move forward.

William Lacy Swing, Director-General of the International Organization for Migration, revealed that one in seven people is on the move today. At the same time, multiple crises occur frequently across countries and regions. Migration is often driven by economics or politics, but tends to have negative connotations. In effect, countries need to adapt their infrastructure and policies to handle migration.

A number of insights and recommendations emerged from the breakout group conversations:
- The narrative of human mobility must change. The prevailing tendency is to perceive all travellers as potential terrorists. The focus must shift to the benefit that free flow of travel and trade brings economic growth.
- Geopolitical risks are man-made barriers that must be broken down; a counter-narrative is needed to build trust and cohesion.
- An operational model for information sharing must be created. Although governments are keen to maintain ultimate control of their borders, the private sector and/or intergovernmental bodies could facilitate information sharing by leveraging existing agencies such as the Interpol.
- There is a clear need for greater automation, coordination and clarity for creating a timeline for global response to global risks. Countries cannot operate separately and develop their own guidelines; there must be a centralized and responsive system.
- Technology must be harnessed to ensure security without closing borders, while focusing on the accurate assessment of risks.
- Ultimately, a “global traveller” programme must be designed.

Conclusion
The majority of crises today are man-made – from geopolitical tensions to terrorism – and so are the ways to cope with them. As such, there is a clear need for better global coordination, which should be built up regionally to garner credibility for a globally trusted platform to help coordinate and mitigate global threats and risks.

Participants agreed that the Forum is a credible platform to foster this public-private dialogue on issues relating to travel and trade facilitation and particularly in today’s geopolitical context, where technology and security issues intersect with open-border policies.
We live in the era of greatest human mobility in history.

William Kipchirchir Ruto, Deputy President of Kenya

With Ebola, there is no such thing as ‘one affected country’ – it is a global issue!

Alpha Condé, President of Guinea
Disruptive Mobility – Smart Transportation Solutions

Overview
Disruptive technology in transportation has created different sets of challenges for businesses and consumers. Businesses have not been able to find a cost-effective way to use data for financial growth and have faced a backlash from customers for lack of transparency. Customers, on the other hand, feel that businesses need to protect the trust reposed in them.

Key Points
- As trust is the foundation of consumer acceptance of products and services, new technology that increases transparency must be developed and deployed.
- Companies must change their perspective of the customers’ experience rather than relying on technology to deliver it.
- The technology for seamless travel is already available, but the question is who will pay for an intermodal system.

Synopsis
The consumer experience is the basis of the revolution in urban mobility and logistics. Consumers need to know they are safe and protected when using a new technology to make decisions.
- Ninety per cent of consumers check reviews.
- More than 60% say that reviews influence their final decision.

Many consumers see the potential benefits of autonomous or electric cars in the form of reduced road congestion and fewer accidents, enabled by features such as facial sensors that can detect driver fatigue. A pilot-less plane, although enabling cost savings, creates a different perception altogether – it leaves consumers feeling fearful.

To improve acceptance of new technology, innovators must create a seamless experience and proactively work to increase consumer trust, such as businesses making it easy for consumers to understand and opt-in for data privacy online.

The airline industry has historically struggled with technological improvements and has lagged behind. Tangible results from autonomous vehicles may help consumers become more comfortable and facilitate adaptation of pilot-less planes, for instance.

The environment is also an important element to consider when introducing a disruptive technology like autonomous vehicles.

Technological disruption will no doubt change consumer behaviour and provide societal and environmental benefits through higher utilization of assets and enhanced efficiency. However, there are some prerequisites:
- Consumer experience must improve.
- Demand and supply must be better matched (through mechanisms such as those in the sharing economy).
- Access to information and transparency must improve through greater integration of stakeholders.

Conclusion
While consumer trust is essential, disruptive mobility offers a great opportunity for mobility companies to become the “hub” of future transportation, just like the iPhone has become the hub for social interaction.

“Cities have to be made for people, not for cars. The challenge will be public transportation, cycling and walking.”

Amitabh Kant, Secretary, Department of Industrial Policy & Promotion, India
Innovations disrupting transportation

**Self-driving vehicles**—May 2014, Google launches car without steering wheel/pedals

**Drones deliver parcels**—Late 2014, DHL pilots medicine delivery in Northern Germany

**Increased comfort in public transport**—better usage transparency increased ridership by 10%

**Smartphone-enabled car-sharing**—Each shared car substitutes up to 15 regular cars

**Real-time dynamic traffic management**—London uses CCTV data to steer traffic

**Smart city analytics**—optimizing bus network using cell data reduced city-wide traveling time by 10%

**Mobile of people and goods**

**Total Automation**

Source: Expert interviews; City of Singapore; Self-driving vehicle working group; Company information; Zipcar; BCG analysis, World Economic Forum
A Hyperconnected World: Transforming Your Business

Overview
Digital technologies are transforming business and society at record pace. Over 50 top-level leaders from various industries and select public figures convened to explore and assess the impact of digital technologies.

Key Points
- Every industry will be digital and most will see more changes in the coming five years than in the past 50.
- With fragmented regulation and lack of a single digital market, Europe is running the serious risk of losing its competitiveness.
- Global structural reform should increase policy-makers’ understanding of the digital economy and address security and privacy issues.

Synopsis
Industry transformation
With approximately 2.5 billion people connected to the internet and 4 billion projected users by 2020, the world is becoming increasingly digital. The ability to leverage data becomes a core competency to compete. Yet data is becoming increasingly complex, in four main ways: digitization; the need to leverage data and insights in new ways; the use of data to create new business models; and increased distribution of data. The fears that companies face include rapid disruption, a need for constant reinvention, new competitors, the Internet of Things, workforce irrelevance and talent tracking.

Regulatory gaps
Data must be available across boundaries for various actors to be able to operate globally while complying with privacy regulations. Participants spoke of “dark holes” where the movement of data is complicated by the lack of concerted policies. Europe, for example, is running the serious risk of losing its competitiveness due to fragmented regulation and the lack of a single digital market.

Security versus privacy debate
Participants listed four types of security that are necessary: physical, network, internal and data security. A new common set of regulations for privacy and security should be created sector by sector. Regional rather than national regulation is more beneficial to industries and allows them to operate more efficiently. More awareness programmes should be held to enable policy-makers to bridge the gaps with industry expectations.

Conclusion
- Today all industries are tremendously affected by digital transformation and the ability to understand the implications of this is a core competency.
- The digital economy creates pressure for companies to be increasingly competitive.
- A serious debate between consumers, businesses and policy-makers is needed to find appropriate forms of data governance.
Circular Economy: Towards Global Impact

Overview
With the world population set to reach 9 billion by 2030 – including 3 billion new middle-class consumers – there are unprecedented challenges of expanding resource supply to meet future demand. The current “take-make-dispose” approach results in massive waste; in the fast-moving consumer goods sector alone, about 80% of the $3.2 trillion material input value is lost irrecoverably each year.

The circular model represents a necessary redesign of the future economy, where industrial systems are restorative and regenerative by intention and design.

Key Points
- The circular economy represents the next wave of economic development, involving smart business models, innovation and employment. In addition, it gets to the root cause of major environmental problems created by today’s linear take-make-dispose model.
- Collaboration across networks and value chains is vital, and Project MainStream has been designed with this premise in mind.
- Enabling policy environments are also critical and the session welcomed the participation and commitment of the US Undersecretary for Economic Growth, Energy and the Environment.

Synopsis
The circular economy offers huge potential for innovation, job creation and economic development – estimates indicate a trillion-dollar opportunity. Participants were inspired and motivated by the potential economic opportunities of moving to a circular economy, particularly in terms of cutting costs within supply chains and the opportunity for job creation. They noted that the new concept of the “Internet of Things” is loaded with opportunities for promoting the circular economy.

However, many stakeholders, particularly consumers in emerging economies, would benefit from education in this concept. Millennials in Asia may well prove more likely to change their modes of consumption, embracing the sharing economy and making choices based more on environmental and low-carbon benefits. There was agreement that it is important to increase efficiency and drive down prices to enable the consumer to make choices that fit the circular model – premium-priced niche solutions are not the way forward.

Next Steps
The existing workstreams of the Forum’s Circular Economy project will provide the necessary proof of concept to raise awareness and make a strong case for expanding the initiative.
Future of Urban Development

Overview
Cities are facing accelerated migration, unprecedented demographic change, economic boom and bust, and shifting lifestyle and consumer preferences. Industry leaders, public figures, civil society representatives and urban experts discussed how urban innovations can help address the problems cities face today.

Key Points
- Harnessing sensory data enables cities to understand how citizens avail of urban services, enabling them to offer more efficient services.
- Smart public transit has the ability to improve capacity and distribution, reduce energy use and increase savings.
- Urban innovation is required to retrofit existing cities. Yet, adaptation and retrofitting rates for new efficient solutions remain low. New measures are needed to encourage adaptation.
- Cities in developing countries such as India must first provide basic urban services (i.e. water, sanitation and waste) before transitioning towards being “smart”, but they have an opportunity to leapfrog.
- Urban innovation offers major potential, but behavioural acceptance and participation of citizens, city management as well as private-sector representatives will determine success.
- Public-private collaboration is needed to integrate and provide urban innovations. It needs to be holistic and integrative, connecting disconnected industries and removing administrative silos.

Synopsis
Citizen participation
The merging of physical and digital dimensions provides cities and citizens with opportunities to work together to solve urban problems. Direct interaction with city officials helps build trust and creates participatory engagement. However, the success of such trust-building and engagement depends on whether people see actual change as a result.

Smart buildings
The greatest innovations in the built environment are in the development of smart building materials and smart buildings. The challenges include the cost of (early) adoption, outdated regulatory constraints at city/national level and silo practices at the operational level. Demonstration projects are essential for facilitating implementation of new technologies.

Urban planning, governance and financing
The private sector is ahead of the public sector in both developing and developed countries. The public sector needs capability in data analysis, target setting, benchmarking and impact measurement. Also, the public sector needs city managers who understand data and are capable in translating it into effective measures. Municipalities do not yet fully understand the shared economy (e.g. Airbnb and Uber) and its impact on city finances. Public-private collaboration is needed for seamless integration and to provide real urban innovation.

Conclusion
Innovation is largely required for existing urban infrastructure, taking into account how cities are growing and preparing for reuse and upcycling of materials. However, the low adoption of new and efficient solutions remains a challenge. The success of any technical solution is determined by the acceptance and participation of the private sector, city managers and citizens. The private sector needs to take the lead by developing demonstration pilot projects.
Geopolitics and Global Corporations

Overview
As the geopolitical sphere becomes increasingly fragmented and the business sphere increasingly interconnected, global companies are operating in more complex, uncertain and sometimes turbulent contexts.

Key Points
– To operate in an increasingly complex landscape, companies must empower both their senior leadership and broader workforce to build agility and resilience to cope with geopolitical uncertainty.
– Structural changes are often necessary to integrate geopolitical resilience into a company's core competencies.
– It is not only critical for organizations to learn how to identify and measure risks, but also to adapt their norms, behaviours and communication to address risks and related issues.

Synopsis
The key themes that emerged are:
Country risk is outdated. Modern risk cuts across borders, comes from many sources and changes constantly, so that leaders must manage moving targets.

Managing risk is not just about measurement. It is also about how to behave and communicate. Many companies have become proficient at identifying risks, yet are not as proficient at managing their behaviours and communications, particularly during crises and in the context of local cultures.

Boards, chief executives and senior leadership teams need to adjust their practices to embrace the growing uncertainty and complexity of geopolitical shifts. Specifically, they must take on greater responsibility for developing deeper engagement with an array of stakeholders (government at all levels, regulators, civil society, actors up and down supply chains, customers and their own workforce).

Companies must go beyond compliance and risk management to empower the workforce in dealing with geopolitical risks. They must invest in training talent with relevant skills, such as geopolitical risk management and the ability to deal with ambiguity and uncertainty.

Structural changes are often necessary to integrate geopolitical resilience into a company's core competencies. For example, an oil and gas company moved its geopolitical risk function from its country staffing department to its core strategy department. This practice was echoed by participants from other industries, particularly financial services, as an effective way to respond to local issues and navigate in a highly regulated environment.

The perspective of a host country is often overlooked. As host countries want to attract international companies and investment, they also have to consider the impact of geopolitics on their ability to do so.

Conclusion
The geopolitical landscape is growing more complex – risks no longer flow only from nation states, but often come from regional communities and other kinds of actors as well. Companies must therefore engage in formal geopolitical due diligence – just as they conduct economic and financial due diligence today – and it must be integrated into their core business strategy.

In closing the session, participants emphasized the fact that talent and structure underpin a company’s ability to effectively deal with geopolitical risks.
The New Geo-Economics of Energy

Overview
The new era of abundant energy and significant oil-price drop are changing fortunes among countries, with potential effects on geo-economics and geopolitics.

Key Points
- Several “black swans” occurred in the energy and geopolitics sectors in 2014, such as oil prices falling below $50, the expansion of the Islamic State of Iraq and al-Sham (ISIS) and Russia’s annexation of Crimea.
- Low oil prices could imply up to $2 trillion annual transfer of wealth from net-producing to net-consuming nations.
- Slow oil price recovery to the $60-70 range, driven by the build-up of stocks and decreased investment, is expected.
- Social unrest can occur in most exposed petroleum exporting countries as a second-order consequence of current prices lasting 2015 and beyond.
- Possible future game-changers include South America or China becoming major unconventional producers, wars in the Middle East and North Africa region and a human capital shortage.

Synopsis
In response to lower prices, the oil and gas industry is already scaling back investments and cutting costs. As a result, and due to an anticipated build-up of stocks, a slow oil price recovery to the $60-70 range is expected. However, history has proven oil prices hard to predict and a protracted 2-3 year low price scenario is possible. A wave of consolidation in the energy industry across chemical, petrochemical, upstream and downstream segments would not be surprising.

The extent of the economic and political impact of the oil price drop will depend on how long the low prices last. Seen globally, the oil price drop is certainly a “boost” for the global economy overall with an expected gain for world GDP between 0.3 and 0.7% in 2015 (compared to a scenario without a drop in oil prices, according to International Monetary Fund estimates). However, low oil prices could imply up to $2 trillion annual transfer of wealth from net-producing to net-consuming nations, thereby shifting economic fortunes.

Social unrest, even state failure, which can occur in most exposed petroleum exporting countries is unlikely in Russia. Views differ on how much Russia’s economy is affected by sanctions and decreased oil prices though most agree a weaker Russia may pose higher geopolitical risks.

Other economies heavily dependent on oil revenues such as Venezuela may be more exposed. A possible breakdown of the Petrocaribe programme financed by Venezuela will have real economic effects across a number of Caribbean countries. Some believe this eventuality is among the reasons for the recent and unexpected normalization of relations between Cuba and the US.

China and India benefit from lower oil prices, and energy security remains a primary policy driver for both. China is likely to take the opportunity of low oil prices to build strategic oil reserves. In the case of India, expanding access to electricity and renewables and reforming the coal sector is central in the broader energy reforms on which the government has embarked.

Next Steps
The World Economic Forum will pursue dialogue and deeper insights through a project on geopolitics and international security and their implications for business. Partner companies and other constituents can engage in this work to gain further strategic insights.
Climate Programme: Delivering Action on Climate Change

Overview
The World Economic Forum has been invited to collaborate with the United Nations to advance public-private cooperation, action and ambition on climate change. This year, key decisions are expected at a series of global summits on climate change, financing for development and sustainable development goals.

Key Points
- 2015 presents a unique opportunity to design a coherent global agenda to tackle the interwoven challenges of climate change and sustainable development.
- Renewed leadership and stronger collaboration was fostered during the inaugural CEO Climate Leadership Group meeting where leaders pledged to support global action leading up to COP21.
- Business and government leaders signalled their support for carbon pricing.

Synopsis
Reducing tropical deforestation related to key agricultural commodities
Helen Clark, Administrator, United Nations Development Programme, set the context by reminding participants that the past year has seen renewed momentum on climate and forest issues, due in particular to a number of deforestation-free supply chain commitments from major players in the palm oil industry.

Participants suggested expanding existing commitments to reach the same level with soy and paper as has been reached with palm oil. They also pledged to catalyse practical public-private investment partnerships to help farmers and companies make the transition while protecting tropical forest resources. They also favoured linking this agenda to discussions on public finance and policy during 2015 to create a mutually-reinforcing agenda for COP21.

CEO Climate Leadership session
This private session launched the CEO Climate Leadership Group, which aims to catalyse a broad business coalition towards concrete delivery of climate solutions.

"I encourage you to put forth new commitments that spark a race to the top. Show the world that a low-carbon pathway is not only the right thing to do, but the smart choice for sustainable prosperity for all."

Ban Ki-moon, Secretary-General, United Nations

The renewable and conventional energy sectors reached agreement that carbon pricing should be a major feature of the next-generation climate policies and instruments. Suggestions for new financial instruments to reward climate leadership and incentivize emissions reductions included brokering of equity into projects like the Green Climate Fund, using power purchase agreements and other instruments to support renewable energy, and increasing the magnitude of green bonds.

Next Steps
The Forum will support a number of public-private climate change collaborations to increase their scale, deepen their impact and help the international community recognize their practical potential. These activities will feed into the Third International Conference on Financing for Development in Addis Ababa (July) and the UN Special Summit on Sustainable Development in New York (September), culminating in COP21 in Paris in December.
The Future of Jobs

Overview
Technological, demographic and economic trends are leading to profound changes in the nature of work, displacing existing jobs and creating new ones for which current education and training systems are not yet fully equipped.

Key Points
- Technology is a big disruptor across industries and will demand a different set of skills from the future workforce.
- Regardless of the type of trend in the industry, employers and employees will need to adopt a life-cycle skilling approach as jobs continue to evolve.
- A collaborative approach involving multiple stakeholders is a must to tackle the issue of talent shortage and unemployment, to forge a more sustainable solution and to impact a larger talent pool.

Synopsis
The Future of Jobs project launched a survey at the end of 2014 and preliminary results offer some key insights:
- Technology is affecting industries in various ways – enabling 3D printing for manufacturing, making jobs mobile across geographies, and enabling crowdsourcing and storage in the cloud.
- In the future, the composition of the workforce and the nature of jobs will change as tasks will be performed differently and the quality of service improved through increased intelligence and technology.
- The workforce of the future will need to be equipped with transferrable foundational skill sets including digital literacy and quantitative skills.
- Preparing for tomorrow, today’s employers value candidates with positive attitudes such as willingness to learn more. For employers, having an adaptable workforce becomes critical, and for employees, a wide-based, expanding skill set.
- Traditional educational institutions will need to shift towards a life-cycle education system.
- Given the proven track record of mobility within organizations to fill roles, reskilling and continuous development of the existing workforce will become ever more important.

Organizations can prepare in many ways – through collaborations with other organizations; providing life-cycle skilling internally; creating their own campuses to retrain employees or train fresh hires where traditional educational institutes have failed.

Next Steps
There was general agreement on the need for more collaboration between the different actors in society so as to achieve a more sustainable solution and impact a larger talent pool.

As the collection of survey responses is still in progress, participants have been requested to assist with further distribution of the survey to ensure that a larger dataset can be collected and a richer conversation facilitated on the Future of Jobs.

01: Future of Jobs Workshop
02: Douglas Anderson, President and Chief Executive Officer, Carlson Wagonlit Travel
The New Vision for Agriculture

Overview
The New Vision for Agriculture (NVA) is a multistakeholder platform that seeks to deliver food security, environmental sustainability and economic opportunity through market-based approaches to agriculture. The initiative’s network works to translate global-level commitment into action in 16 countries in Asia, Africa and Latin America, and through the Transformation Leaders Network, which facilitates the exchange of best practices and solutions for sustainable and inclusive agricultural growth.

Key Points
– Global leaders from industry, government, civil society, international and farmers’ organizations agreed on priority actions to contribute to the Sustainable Development Goals on food and nutrition security.
– Leaders applauded the progress on coordinated action, emphasizing that public-private collaboration will be even more important in the future.
– Partner countries of Grow Africa and Grow Asia shared their ambitious goals for 2015 and reinforced their commitment to deepening impact on the ground.

Synopsis
Achieving impact through agriculture partnerships
Global leaders highlighted the importance of multistakeholder collaboration to achieve agriculture transformation. Participants also emphasized the central role of smallholder farmers, recognizing that they are the primary investors in agriculture and are critical stakeholders in these trust- and collaboration-based partnerships.

Impressive action-oriented results achieved to date include the newly-launched Patient Procurement Platform, a game-changing tool for procurement of agricultural goods from smallholder farmers in Africa, developed by the World Food Programme, Rabobank and other partners. Other examples include a public-private platform for multistakeholder collaboration in Ghana; a Coffee Coordination Board in Vietnam that represents a best practice in addressing environmental goals alongside economic growth; a multi-company initiative to increase productivity through technology acceptance in Vietnam; and an initiative to transform communities through the cocoa value chain in Indonesia.

Grow Africa and Grow Asia partners shared their ambitious goals for 2015. Grow Africa will continue to intensify implementation efforts for the significant investment commitments secured. Grow Asia will officially launch in 2015, leveraging the strong progress already under way in national-level partnerships, including the recently-added Cambodia and Thailand.

Shaping the leadership agenda on global food security
In 2015, the world will adopt a new set of Sustainable Development Goals, committing to the elimination of hunger and the development of food systems to meet the nutritional and socio-economic needs of a growing population while ensuring the sustainable use of the planet’s resources. Achieving these goals will challenge all stakeholders to join together in an unprecedented effort, building on new strategies and partnership approaches.

Next Steps
– Expand the focus from food security to a fully integrated food system that includes health and nutrition
– Align government policies (linking agriculture to health, finance, trade and economy) and create a country business plan for agricultural investment
– Develop a roadmap for land use planning, infrastructure development and the elimination of food losses, particularly in post-harvest storage and processing
– Unite and organize farmers to ensure they have a voice, since they are the biggest investors in agriculture
– Educate the consumer on nutrition to incentivize the entire value chain
Mobility Industry Calendar 2015

REGIONAL MEETINGS

- March 19-21: East Asia, Indonesia
- April 6-8: Latin America, Mexico
- May 21-23: Middle East, Jordan
- June 3-5: Africa, South Africa
- July 29-30: Latin America, Mexico
- August 18-19: Middle East, Jordan

FORUM MEETINGS

- March 25-27: Summit on the Global Agenda, UAE
- April 19-21: Annual Meeting, Davos
- June 9-11: Annual Meeting of the New Champions, China
- July 29-30: Global Growth Companies and Tech. Pioneers, USA
- September 30-1: Summit on the Global Agenda, UAE
- October 25-27: Annual Meeting of the New Champions, China
- November 19-22: Annual Meeting, Davos
- December 19-22: Annual Meeting, Davos

January ‘16

- January 19-22: Annual Meeting, Davos

COMMITTED TO IMPROVING THE STATE OF THE WORLD
## Contact Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Company</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Moavenzadeh</td>
<td>Senior Director, Head of Mobility Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2316</td>
<td><a href="mailto:john.moavenzadeh@weforum.org">john.moavenzadeh@weforum.org</a></td>
</tr>
<tr>
<td>Alex Mitchell</td>
<td>Director, Head of Automotive Industry</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2315</td>
<td><a href="mailto:alex.mitchell@weforum.org">alex.mitchell@weforum.org</a></td>
</tr>
<tr>
<td>Wolfgang Lehmacher</td>
<td>Director, Head of Supply Chain &amp; Transport Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 6602</td>
<td><a href="mailto:wolfgang.lehmacher@weforum.org">wolfgang.lehmacher@weforum.org</a></td>
</tr>
<tr>
<td>Juergen Keitel</td>
<td>Senior Community Manager, Aviation &amp; Travel Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2325</td>
<td><a href="mailto:juergen.keitel@weforum.org">juergen.keitel@weforum.org</a></td>
</tr>
<tr>
<td>Jieun Chung</td>
<td>Senior Community Manager, Supply Chain &amp; Transport Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2353</td>
<td><a href="mailto:jieun.chung@weforum.org">jieun.chung@weforum.org</a></td>
</tr>
<tr>
<td>Andrey Berdichevskiy</td>
<td>Senior Community Manager, Automotive Industry</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2303</td>
<td><a href="mailto:andrey.berdichevskiy@weforum.org">andrey.berdichevskiy@weforum.org</a></td>
</tr>
<tr>
<td>Tiffany Misrahi</td>
<td>Community Manager, Aviation &amp; Travel Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2304</td>
<td><a href="mailto:tiffany.misrahi@weforum.org">tiffany.misrahi@weforum.org</a></td>
</tr>
<tr>
<td>Lisa Pang</td>
<td>Senior Community Associate, Mobility Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2379</td>
<td><a href="mailto:lisa.pang@weforum.org">lisa.pang@weforum.org</a></td>
</tr>
<tr>
<td>Lullit Jezequel</td>
<td>Community Associate, Mobility Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2338</td>
<td><a href="mailto:lullit.jezequel@weforum.org">lullit.jezequel@weforum.org</a></td>
</tr>
<tr>
<td>Ksenia Yakustidi</td>
<td>Team Coordinator, Mobility Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 2350</td>
<td><a href="mailto:ksenia.yakustidi@weforum.org">ksenia.yakustidi@weforum.org</a></td>
</tr>
<tr>
<td>Rose Summers</td>
<td>Team Coordinator, Mobility Industries</td>
<td>World Economic Forum USA</td>
<td>+1 212 703 6644</td>
<td><a href="mailto:rose.summers@weforum.org">rose.summers@weforum.org</a></td>
</tr>
</tbody>
</table>
The World Economic Forum is an international institution committed to improving the state of the world through public-private cooperation in the spirit of global citizenship. It engages with business, political, academic and other leaders of society to shape global, regional and industry agendas.

Incorporated as a not-for-profit foundation in 1971 and headquartered in Geneva, Switzerland, the Forum is independent, impartial and not tied to any interests. It cooperates closely with all leading international organizations.