9:00-10:00	**Registration**
10:00-10:30	**Opening** High level official of Ministry of Internal Affairs and Communications, Japan High level official of Ministry of Economy, Trade and Industry, Japan Ms. Mari Kiviniemi, Deputy Secretary-General, OECD
10:30-10:40	**Keynote** Mr. Kenneth Cukier, The Economist
Session 1 10:40-12:10	**"Illustrating the economic benefits"** For many businesses, data-driven innovation (DDI) has already created significant added value in a variety of operations, ranging from optimising the value chain and manufacturing production to using more efficiently labour improving customer relationships. Overall, empirical studies suggest a positive impact of the use of data and analytics of around 5% to 10% on productivity growth depending on a number of enabling and complementary factors. The use of data and analytics is further driving the "servicification" of the entire economy, including manufacturing, and even low-tech industries such as textile and agriculture. In Japan in 2010, for instance, manufacturing companies using data analytics generated maintenance costs savings worth almost JPY 5 trillion (which corresponds to more than 15% of shipments), and more than JPY 50 billion in electricity saving. Agriculture is building on geo-coded maps of agricultural fields and real-time monitoring of every activity from seeding, to watering and fertilising, and harvesting. The use of this data is estimated by some experts to improve yields by five to ten bushels per acre or around USD 100 per acre in increased profit. However, the use of data and analytics comes with a number of business challenges that need to be addressed in order to realise the opportunities of DDI. Limitations to an open Internet, for example, and barriers to the free flow of data across borders, but also between market participants (including individuals), can adversely affect DDI. Furthermore, the economics of data can favour market concentration, making it difficult for new businesses to

effectively compete in certain markets. And last but not least, reaping the returns from DDI requires investment in complementary organisational changes that some businesses may find too difficult to implement due to the disruptive nature of some of these changes.

This session will illustrate the potential of DDI for establishing a resilient economy. Participants will discuss the economic benefits of using big data but also potential approaches to overcome the business challenges in realising the growing economic potential of DDI.

Questions to be discussed may include:
• How do data and analytics spur innovation and influence our daily lives?
• How do businesses use data and analytics to increase productivity growth and expand?
• What are the main barriers for businesses (incl. in particular SMEs) to take advantage of DDI?

Moderator

Mr. Andrew Wyckoff
    Director for Science, Technology and Innovation, OECD

Panellists

Mr. Tsuneo Kawatsuma
    CTO and CIO, Fujitsu

Mr. Junichi Hasegawa
    Director, Chief Strategy Officer, Preferred Networks, Inc.

Mr. Claro Parlade
    Senior Privacy Counsel, Asia-Pacific, Google

Mr. Jakob Haesler
    Startup entrepreneur

Mr. Kenneth Cukier
    The Economist

After Session1 12:10-12:40	**A session for journalists:** **Launch of the new OECD publication** **"Measuring the Digital Economy: A New Perspective"**

Session 2 14:00-15:45	**"Addressing complex societal challenges"** The real-time analysis of a wide range of data generated through social media, mobile devices and physical sensors (e.g. Internet of Things) provides a new opportunity for addressing complex societal challenges, including, in particular, crisis prevention and disaster management. A series of documentary films, "Disaster Big Data", produced by Japanese public broadcaster NHK, for example, has shown how data analytics can help better understand and respond to tremendous disasters such as the one caused by the 2011 earthquake and tsunami. Volunteers at Splunk, for example, crowd-sourced and analysed data from Twitter feeds to generate timelines of events and participatory maps during Hurricane Sandy (United States) to determine the areas most affected and in most need of supplies. London has used data analytics to ensure the reliability of its transportation system. Many developing countries are also using data analytics for crisis prevention and disaster management. Thailand is monitoring natural disaster prone areas such as forests and rivers with satellite and ground sensors in order to better react in emergency situations. The Kenyan-based non-profit software company Ushahidi created a system to collect real-time data from eyewitnesses of violence in the aftermath of Kenya's disputed 2007 presidential election. Addressing complex societal challenges through data-driven innovation (DDI), however, comes with a number of challenges. For example, a mutually shared vision of collaboration between all main stakeholder groups (including citizens, businesses and governments) is key to success. Furthermore, there is a serious risk that the underlying data and algorithms could lead to unexpected false results due to unknown biases, false reporting, or a rapidly changing environment, thus tampering decision-making. Google Flu Trends, for example, has been used by researchers and citizens since 2008 as a means to accurately estimate flu infection faster than the United States Centers for Disease Control and Prevention (CDC). However, in January 2013, Google Flu Trends drastically overestimated flu infection rates in the United States. Panellists in this session will share their experience in realising the potential of DDI for addressing complex societal challenges with a focus on crisis prevention and disaster management.

The discussion will explore how best to use data analytics with a view to more broadly identifying challenges that could prevent DDI from establishing a more resilient economy and society.

Questions to be discussed may include:
• What types of data and analytics can be used to improve risk management and disaster response, and to broadly establish a more resilient economy and society?
• How can governments promote a secure and robust infrastructure through the use of data and analytics?
• How well suited are current policy frameworks to enabling data-centric multi-stakeholder collaboration?

Moderator

Ms. Anne Carblanc
Head of Division for Digital Economy Policy, DSTI, OECD

Presentation

Mr. Hirofumi Abe
NHK

Panellists

Mr. Takeshi Imai
Executive, Global Telematics Division, Honda Motor Co., Ltd.

Dr. Alanna Simpson
Sr. Disaster Risk Management Specialist, World Bank

Mr. Henry Addo
Ushahidi

Mr. Jop Esmeijer
TNO

Session 3 16:05-17:35	**"Leveraging data-driven innovation in aging societies"** The share of the population over 65 years of age has been increasing in OECD and Partner economies over the past few decades. In 2010, around 15% of the OECD population was over 65 years old. This ratio is expected to rise to 26% by 2050. Outside the OECD area, while less-developed regions still have young populations, some of the larger emerging economies are likely to converge with OECD population-aging profiles by mid-century. Aging will generate a range of serious challenges. Pension, health and long-term care spending is

forecast to grow faster than national income in most OECD economies. Aging will also generate a range of serious challenges for productivity performance, as labour forces age in some countries and shrink in others.

In recent years, the policy debate has focused on how best to mitigate these pressures and the use of data and analytics is being considered as an opportunity to address special needs of aging societies. The growing range and volume of data collected today (behavioural, genetic, environmental, epigenetic, social, clinical, administrative data, etc.) promises to deliver solutions to complex, chronic health conditions and overcome physical, sensory, and cognitive impairments of the older populations- in particular to improve older persons' ability to stay independent and take charge of their health and wellness.

The development of large global databases and open science also provide a number of near-term and long-term opportunities for greater international cooperation towards accelerating new therapeutics discovery and development and the evaluation of new care models for Alzheimer's disease and dementia.

While these opportunities for addressing the needs of aging societies are acknowledged, data governance frameworks are still needed that provide incentives for data sharing between all stakeholder groups and that enable the interoperability of data-driven health and care-related services.

This session will shed light on the importance of data and analytics in aging society with a particular focus on new models of care and smart solutions to support independent living and research. Participants will highlight good practices in the use of big data to empower older people, and as an opportunity for social growth and innovation.

Questions to be discussed may include:

• What are the opportunities for big data and analytics in addressing the needs of aging societies?
• What frameworks are needed to maximize the benefits and minimize the risks?
• What data governance and incentives need to be in place to promote data sharing and enable integrated assisted living and care solutions?

Moderator

Dr. Elettra Ronchi

Senior Policy Analyst, Division for Digital Economy Policy, DSTI, OECD

Panellists

Prof. Toshio Obi

Waseda University

Mr. Satoshi Yamaguchi

Deputy General Manager, NTT East

Mr. Mohammad-Reza (Saied) Tazari

Associate Head, Fraunhofer-Institut für Graphische Datenverarbeitung IGD

Dr. David Glance

Director, UWA Centre for Software Practice

8:30-9:40	**Registration**
Session 4 9:40-11:10	**"Promoting skills for the data-driven economy"** Data management and analytic skills (i.e. data scientist skills) are among the most critical enablers of data-driven innovation (DDI). Scientific rigour is essential to mitigate risks related to possible inappropriate use of data and analytics. While it is true that analytic software makes it increasingly easy to detect correlations in "big data", it is also widely accepted among practitioners that data analysis itself must rely on rigorous scientific methods in order to lead to appropriate results. This rigour starts with assessing the relevance and quality of the data and its fit to the business or scientific questions the data is supposed to answer. There is evidence that firms that are well connected to labour networks with sufficient expertise in data analytics are more likely to gain faster productivity growth through "big data". However, surveys also indicate that shortage of data scientist skills is still one of the biggest impediments to making use of data analytics, including in science, health care and also in the public sector. There are considerable mismatches between the supply of, and the demand for, skills in data management and data analytics. One estimate, for example, suggests that the demand for "deep analytical" positions in the United States could exceed supply by 140 000 to 190 000 positions by 2018, and the supply-demand gap for data-driven decision-makers including managers and analysts is even larger (1.5 million positions). Estimates of the mismatches suggest that data scientist skills are insufficient, and need to be accompanied by domain-specific competencies on how to interpret and make best decisions based on the results of data analysis. This illustrates that there may be underused potential to create new jobs and that policy can ease potential labour market pressures that may be induced by increased automation capabilities enabled by DDI. This session will focus on the effects on labour market and skills of an economy becoming more data-driven. It will discuss the potential for new jobs such as data specialists and their required skill sets and competencies. It will also consider the potential structural change induced by data-driven process automation and the implications for labour, and the degree to which skills policies may respond to potential employment challenges ahead.

Questions to be discussed may include:

• What skills are needed for innovation through data and analytics?
• Does society have the necessary level of skills and awareness to embrace data and analytics?
• What role can the public and the private sector play in promoting the right skills and competencies for a data-driven economy?

Moderator

Mr. Christian Reimsbach-Kounatze

Information Economist/Policy Analyst, Division for Digital Economy Policy, DSTI, OECD

Panellists

Prof. Hiroyuki Morikawa

The University of Tokyo, Vice Chair of the OECD Committee on Digital Economy Policy

Dr. Kazuto Ataka

Chief Strategy Officer, Yahoo Japan Corporation

Dr. rer. pol. Dirk Solte

Deputy Director, Research Institute for Applied Knowledge Processing, Ulm

Dr. Devdatt Dubhashi

Professor, Department of Computer Science and Engineering

Session 5 11:30-13:00	**"Building trust in the data-driven economy"** Developments in digital technology are shaping the ways in which data is generated, collected, stored, shared, distributed and analysed throughout the economy. These developments offer significant prospects for innovation, growth and well-being. At the same, there are important challenges related to ensuring the trust needed for individuals and organisations to embrace data-driven innovation (DDI). Trust is critical both to the substantial economic benefits of DDI, but also to realising its full social and cultural potential. Data analytics may raise difficult issues when the data collected and analysed relates to individuals. Advances in data analytics make it possible for example to infer sensitive information including from unexpected sources. The insights gained from analysing the movements, interests and activities of individuals raise questions ranging from unanticipated use of personal data, to potential

discrimination, to the impact of data breach, challenging existing policy frameworks for privacy, security, and consumer protection. The misuse of these insights can affect core values and principles, such as individual autonomy, equality and free speech, and may have a broader impact on society as a whole. The cross-border flows of data that are essential to bringing the benefits of DDI also raise challenges that should be addressed from an international perspective.

There is a growing body of policy work on the privacy issues raised by "big data" much of which suggests that addressing these issues is both essential and difficult. Possible responses to these challenges include improving transparency, access and empowerment of individuals, promoting responsible usage of personal data by organisations and use of technologies in the service of privacy protection. Finally, the application of risk management to privacy protection may help to effectively protect privacy in the context of DDI.

This session will discuss the emerging challenges to ensuring trust in a data-driven economy.

Questions to be discussed may include:

• What are the most important challenges raised by data analytics for individuals?
• How should security risks to personal data be managed in the context of data analytics on a large scale?
• How can governments help build consumer trust in the data-driven economy?

Moderator

Prof. Fumio Shimpo
Keio University, Vice Chair of the OECD Working Party on Security and Privacy in the Digital Economy

Lead speaker

Ms. Julie Brill
Commissioner of the Federal Trade Commission, United States

Panellists

Dr. Jack R Dan

National General Manager for Government, Telstra, on behalf of BIAC

Mr. Marc Rotenberg

President and Executive Director of the Electronic Privacy Information Center (EPIC), on behalf of CSISAC

Mr. Jeff Bullwinkel

Associate General Counsel and Director of Legal & Corporate Affairs, Asia Pacific/Japan, Microsoft

Mr. David Smith

Deputy Commissioner and Director of Data Protection
Information Commissioner's Office, UK

Session 6	**"Encouraging open data across society"**
14:30-16:00	The ability to access and re-use data is a crucial pre-condition for data-driven innovation (DDI). The intangible nature of data suggests that non-discriminatory access to data (i.e. open data) can help maximize the economic and social value of data. This includes enhancing the interoperability of data-driven services and empowering individuals (consumers) to reuse their data across interoperable applications and services (i.e. data portability).

The public sector is one of the largest sources of data that can be exploited not only within the government, but also increasingly across the economy. Governments in OECD and Partner economies are leading by example. They are opening up data repositories via open government data initiatives, encouraged by the OECD (2008) Council Recommendation on Enhanced Access and More Effective Use of Public Sector Information (PSI) and the G8 Open Government Partnership Summit in 2013.

An increasing number of private and public sector initiatives are also promoting access to private sector data, some of which has led to the formation of data markets. Examples include the provision of operational data on public transportation in Tokyo, and the midata project in the United Kingdom which gives consumers better access to their personal data in a portable, electronic format.

This session will focus on the importance of better access to data, including open data, across the economy. It will highlight that open data is a concept that spans a continuum ranging from limited to non-discriminatory access to the public. Panellists will discuss the potential of open data in areas such as government, science and research, and network industries. They will address key demand side challenges such as data portability and standards, and related consumer issues. They will also discuss key supply side challenges, some of which relate to economic incentives and business models to encourage data sharing and open data.

	Questions to be discussed may include:
	
	• How can open data contribute to economic growth and well-being?
	• What mechanisms are available to assess private sector and citizen demand for data?
	• How well are current policy frameworks suited to addressing key supply and demand side issues?
	• What is the role of public-private partnerships in advancing open data across the economy?
	
	Moderator
	
	Mr. Edwin Lau
	    Head of Division for Reform of the Public Sector, Directorate for Public Governance and Territorial Development, OECD
	
	Panellists
	
	Prof. Noboru Koshizuka
	    The University of Tokyo
	
	Dr. David Rawlins
	    Programme Leader of midata, Department for Business, Innovation & Skills, United Kingdom
	
	Mr. Brett M. Frischmann
	    Director, Cardozo Intellectual Property & Information Law Program Professor of Law, Benjamin N. Cardozo School of Law
	
	Prof. Cheol H. Oh
	    Dept of Public Administration, Soongsil University

16:20-17:30	**Policy conclusions**
	
	Moderator
	
	Mr. Jørgen Abild Andersen
	    Danish Business Authority, Chair of the OECD Committee on Digital Economy Policy
	
	Panellists
	
	Dr. Yuko Harayama
	    Executive Member, Council for Science, Technology and Innovation, Cabinet Office, Japan
	
	Mr. Pindar Wong
	    Commissioner, Global Commission on Internet Governance

	Mr. Richard A. Johnson
	    Chair, BIAC Technology Committee
	    CEO, Global Helix LLC
	    Senior Partner (Ret.), Arnold & Porter LLP
	
	Ms. Anriette Esterhuysen
	    Executive Director of the Association for Progressive Communications (APC), on behalf of CSISAC
	
	Mr. Robin Wilton
	    Technical Outreach for Identity and Privacy, on behalf of ITAC

17:30-17:35	**Closing** Mr. Andrew Wyckoff, Director for Science, Technology and Innovation, OECD