Foreword

The OECD Science, Technology and Industry Scoreboard 2011 *draws on the latest internationally comparable data to explore the challenges faced by OECD and other leading economies as repercussions from the recent financial and economic crises continue to be felt. It presents indicators traditionally used to monitor developments in science, technology, innovation and industry, and complements them with experimental indicators that provide new insights into areas of policy interest.*

The STI Scoreboard *is not about "ranking" countries or developing composite indicators. It is about allowing policy makers and analysts to compare their economies with others of a similar size or with similar structure and monitor their progress towards desired national or supranational policy goals. It draws on the OECD's longer-term efforts to build the data infrastructure needed to link actors, outcomes and impacts; it highlights the potential and the limits of certain metrics and points to directions for further work.*

The selected indicators have been developed with the following criteria in mind:

- *The validity of a set of indicators depends on its use.*
- *Indicators do not necessarily reveal causal relations.*
- *Indicators should be based on high quality statistics and analytically robust principles and be measurable – internationally, over time and with prospects of improvement.*
- *Indicators should be relevant – particularly for policy decision making.*

The first chapter, Knowledge economies: trends and features, *provides a broad "narrative". It looks at long-term sources of growth; the new geography of growth and emerging players; the changing landscape of innovation against the backdrop of the economic crisis; the characteristics of innovation beyond formal research and development; and the challenges ahead and the need for knowledge and innovation.*

The five thematic chapters focus on five key areas of policy interest:

- Building knowledge *looks at the knowledge assets that many firms and governments view as their current and future strengths for long-term sustainable growth. It focuses on indicators of human resources in science and technology and investment in research. It also introduces experimental indicators of public funding "modes" (*institutional versus *project funding).*
- Connecting to knowledge *considers the extent to which countries' science-innovation systems are connected, open and tap into international "brain circulation". Novel indicators are presented such as the impact of scientific collaboration (based on normalised patent citations) and indicators of science-industry linkages (based on citations of non-patent literature in patent documents). Also included are indicators of researcher mobility and of the extent of firms' collaboration in innovation processes.*

- Targeting new growth areas *examines the direction of countries' scientific efforts and the technologies on which they build their comparative advantage. It presents R&D and innovation indicators in health and environmental technologies and looks at developments in smart ICT infrastructure.*
- Unleashing innovation in firms *is concerned with the dynamism of the business sector, the main types of innovation in firms, and the extent to which governments create the conditions for innovation to flourish. It uses firm-level surveys to analyse broader, non-technological innovation. It presents indicators on the policy environment for innovation, including estimates of government support via R&D tax incentives and indicators of entrepreneurial culture.*
- Competing in the global economy *examines how countries seek to build their competitive strengths. An eclectic range of indicators examines the import content of exports, the characteristics of innovative firms, industrial specialisation and diversification, technology specialisation, innovation intensity in different sectors and indexes of patent quality and impact.*

The main audience of the STI Scoreboard *is the policy analyst with a good level of understanding of the use of indicators and all those engaged in producing indicators for policy making. A few paragraphs introducing an indicator, and offering interpretations, are accompanied by a "Definitions" box for those less familiar with the methods used. A "Measurability" box summarises measurement challenges, gaps and recent initiatives. All charts and underlying data can be downloaded via the* Statlinks *(hyperlink to a webpage).*