

Seçilmiş Ülkelerde Bilim ve Teknoloji Geliştirme ve Yenilikle (İnovasyonla) ilgili Strateji, Plan, Program ve Yasal Düzenlemeler

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National Strategies, Plans, Programs and Legal Arrangements for Science and Technology Development and Innovation in Selected Countries

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Australia

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Industry Innovation and Competitiveness Agenda</p> <p>An action plan for a stronger Australia</p>	<p>2014 onwards</p>	<p>“Improving Australia’s competitiveness is a central part of the Government’s Economic Action Strategy to build a strong, prosperous economy and a safe, secure Australia. “...The Agenda sets out four ambitions that Australia must pursue:</p> <ol style="list-style-type: none"> 1. A lower cost, business friendly environment with less regulation, lower taxes and more competitive markets; 2. A more skilled labour force; 3. Better economic infrastructure; and 4. Industry policy that fosters innovation and entrepreneurship. <p>“This Agenda is an integral step along the path of economic growth and prosperity.”</p> <p>The Honourable Tony Abbott MP Prime Minister of Australia</p> <p>(Industry Innovation and Competitiveness Agenda)</p> <p>Australia.ind.inno.competitiveness.agenda.2014.pdf</p>
<p>2012 National Research Investment Plan</p>	<p>2012 onwards</p>	<p>“We must be a nation where education and training provides individuals with opportunities to improve their lives, where the skills and inventiveness of Australians enable business and government to deliver better products and services, and where our open, flexible and innovative people can capture the benefits of the Asian Century.</p> <p>“This National Research Investment Plan provides a key roadmap to achieving these goals by ensuring that public investment in research and innovation is truly coordinated across the whole of government, and the discovery and use of new ideas makes the greatest possible contribution to the Government’s broader policy objectives and to the wellbeing of all Australians.</p> <p>“...I believe that Australia’s system of innovation and research can and should be ranked in the world’s top 10. It is a worthwhile and achievable goal, and the National Research Investment Plan will help take us there.”</p> <p>The Honourable Julia Gillard MP Prime Minister of Australia</p> <p>(2012 National Research Investment Plan)</p> <p>Australia.NationalResearchInvestmentPlan_2012.pdf</p>
<p>Inspiring Australia A National Strategy for Engagement with the Sciences</p> <p>A report to the Minister for Innovation, Industry, Science and Research 2010</p>		<p>The report has been prepared by the Steering Committee for a National Science Communications Strategy.</p> <p>This report and its recommendations propose a way forward for national leadership and coherent action in public engagement that will further harness the potential of Australia’s investment in the sciences.</p> <p>Australia.InspiringAustraliaReport.2010.pdf</p>

<p>Australian Innovation System Report</p>	<p>2010 onwards</p>	<p>The Australian Innovation System Report is an annual series of reference reports that:</p> <ul style="list-style-type: none"> • Compile and analyse quantitative and qualitative data on business innovation and innovation- related activities such as skills development, education, research and development and capital investment, • Outlines achievements and actions of Australian innovators, and • Outlines challenges and opportunities for Australian innovation. <p>Australian Innovation System Report - 2013 Australian Innovation System Report - 2012 Australian Innovation System Report - 2011 Australian Innovation System Report - 2010</p>
<p>venturousaustralia: building strength in innovation and Collaborating to a purpose: Review of the Cooperative Research Centres Program</p>	<p>2008</p>	<p>venturousaustralia is a review of the National Innovation System that was completed at the end of 2008. This review was undertaken by an independent panel.</p> <p>Australia.NIS.Review.2008.pdf Australia.NIS.Review.2008.summary.pdf</p> <p>As part of the review process, a separate review of the Cooperative Research Centres was undertaken under the title of Collaborating to a purpose: Review of the Cooperative Research Centres Program in 2008. It is available below.”</p> <p>Australia.CRC.ReviewReport.pdf</p>
<p>Backing Australia’s Ability An Innovation Action Plan for the Future</p>	<p>2001-02 / 2010-11</p>	<p>With total funding of \$8.3 billion over the 10 year period from 2001-02 to 2010-11, the <i>Backing Australia’s Ability</i> initiative is the largest and most comprehensive single set of programmes and measures put in place by an Australian Government in support of science and innovation.</p> <p>It targets three key elements of the innovation system: Strengthening the Australians’ ability to generate ideas and undertake research, accelerating the commercial application of ideas, and developing and retaining their skills.</p> <p>Australia.BackingAustralia'sAbility.ActionPlan2001.pdf Australia.BackingAustralia'sAbility.InnovationReport.2006-07.pdf</p>

Austria

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Becoming an Innovation Leader Strategy for research, technology and innovation of the Austrian Federal Government</p>	2011-2020	<p>On 8 March 2011 the Austrian Government adopted its new strategy for research, technology and innovation (RTI Strategy) called "Becoming an Innovation Leader". The aim of Austria is to become one of the most innovative countries of the EU by 2020 and to establish itself solidly among the group of "Innovation Leaders".</p> <p>Austria.Fed.Govern.RTI.Strategy.2011-2020.pdf Austria.Fed.Govern.RTI.Strategy.2011-2020.exe.sum.pdf</p>
<p>Austrian Research and Technology Reports</p>	2004-2014	<p>The Austrian Research and Technology Reports are status reports to the Austrian parliament on the nation's federally funded research, technology and innovation. The reports draw on current data to present an overview of specific trends in research, technology and innovation (RTI) and show how Austria measures up internationally in select categories. The report were commissioned by the Federal Ministry of Science, Research and Economy (BWF) and the Federal Ministry for Transport, Innovation and Technology (bmvit).</p> <ul style="list-style-type: none"> • Austrian Research and Technology Report 2014 (pdf 2,2 MB) • Austrian Research and Technology Report 2013 (pdf 3,1 MB) • Austrian Research and Technology Report 2012 (pdf 1,9 MB) • Austrian Research and Technology Report 2011 (pdf 2,0 MB) • Austrian Research and Technology Report 2010 (pdf 3,0 MB) • Austrian Research and Technology Report 2009 (pdf 2,1 MB) • Austrian Research and Technology Report 2008 (pdf 1,5 MB) • Austrian Research and Technology Report 2007 (pdf 2,3 MB) • Austrian Research and Technology Report 2006 (pdf 4,4 MB) • Austrian Research and Technology Report 2005 (pdf 2,5 MB) • Austrian Research and Technology Report 2004 (pdf 3,3 MB)
<p>Strategie 2010 – Perspektiven für Forschung, Technologie und Innovation in Österreich [Strategy 2010 - Perspectives for Research, Technology and Innovation in Austria]</p>	2005-2010	<p>In the course of the Alpbach Technology Symposium 2005 Knut Consemüller and Günther Bonn, chairman and deputy chairman of the Austrian Council, presented the Council's new position paper, the "<i>Strategy 2010 - Perspectives for Research, Technology and Innovation in Austria</i>" to the public.</p> <p>"<i>Strategy 2010</i>" builds upon the <i>National Research and Innovation Plan (NAFIP)</i> published in December 2002 and it contains guidelines for Austrian research, technology and innovation policy with a time horizon of 2010 and beyond. The Austrian Council hopes, that it will stimulate broad discussion within the government and in parliament, and sees this document as the basis for a strategy for Austria to be formulated by decision makers that should also include an implementation plan.</p> <p>Austria.NAFIP.2002.eng.pdf Austria.NAFIP.2002.pdf Austria.Strategie2010.eng.pdf Austria.Strategie2010.pdf</p>

Brazil

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Estratégia Nacional de Ciência, Tecnologia e Inovação (ENCTI) [National Science, Technology and Innovation Strategy]</p>	<p>2012 – 2015</p>	<p>The ENCTI main targets are: increase GERD - in 2014 GERD/GDP index will reach 1.8 compared to 1.16 in 2010; increase BERD (a goal shared with the Greater Brazil Plan)– in 2014 BERD/GDP index will reach 0.9 compared to 0.56 in 2010; increase the innovation rate (share of industrial firms involved in innovation) in 2014 to 48.6%, compared to 38.6 in 2008 (latest year available from national innovation survey PINTEC); increase the number of firms doing continuous R&D to 5,000 from 3,425 in 2008 (excludes state firms. PINTEC); double to 12,260 by 2014 the number of innovating firms making use of the Good Law incentives, from 630 in 2009-2010; and increase the percentage of innovating firms that make use of at least one of the government innovation support measures to 30% in 2014 compared to 22.3% in 2010.</p> <p>ENCTI priority programmes are: ICT, Pharmaceuticals and the Health Industry Complex, Oil and Gas, Defence Industrial Complex, Aerospace, Nuclear, Innovation Borders (biotechnology and nanotechnology), Promotion of Green Economy (renewable energy, climate change, biodiversity, and oceans and coastal zones) and Science, and Technology and Innovation for Social Development (ST&I diffusion and improvements in science education, productive inclusion and social technology, and technologies for sustainable cities).</p> <p>Brazil.Estratégia.Nacional.de.CTI.2012-2015.pdf</p>
<p>Plano de Ação 2007-2010: Ciência, Tecnologia e Inovação para o Desenvolvimento Nacional [Action Plan 2007-2010: Science, Technology and Innovation for National Development]</p>	<p>2007-2010</p>	<p>During the plan period 2007-2010, it will be invested R\$ 41 billion (about 15.7 billion euros, 28/01/2008 exchange rate) across all S&T areas. Funds will come mainly from the Ministry of Science and Technology (MCT) own budget, but budgetary and other financial resources from other ministries with significant research expenditures and institutes will also be important sources of funding for the Plan, like the ministries of Mining and Energy (through the giant state oil and gas company Petrobrás), Agriculture (through its Agricultural Research Enterprise EMBRAPA), Defence (through its network of research institutes), Education (through its agency for support of graduate education CAPES) and Health (through its health research institution FIOCRUZ).</p> <p>Two major challenges cited by the Ministry of Science and Technology at the time of the plan's announcement were:</p> <ol style="list-style-type: none"> 1- To make Brazilian enterprises to do more research, development and innovation and 2- To promote research in strategic areas such as biofuels. <p>The plan's main priorities are enlargement of business innovation and consolidation of the national STI system. In order to meet these, the plan has established 4 strategic priorities composed of 21 action lines and 88 programmes and policy initiatives. Furthermore, the plan will integrate its actions with the industrial policy and the corresponding development plans of the health, education and agriculture areas.</p> <p>Brazil.Plano.de.Acao2007-2010.pdf</p>

Canada

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>The State of Industrial R&D in Canada</p>	<p>14 June, 2013</p>	<p>"The Minister of Industry, on behalf of Industry Canada, asked the Council of Canadian Academies to assess industrial research and development (IR&D) in Canada.</p> <p>"To conduct this assessment the Council assembled a 14-member expert panel who met over the course of 14 months to consider the most relevant evidence possible.</p> <p>"The report, The State of Industrial R&D in Canada, provides an in-depth analysis of research and development activities in Canadian industries and is one of the most detailed and systematic studies of the state of IR&D ever undertaken in Canada.</p> <p>"While many reports have documented Canada's historical weakness in industrial R&D, the Panel's report sheds new light on the subject by examining areas of strength and how these strengths are distributed regionally. The report also examines the alignment of IR&D strengths with Canada's areas of excellence in science and technology research and economic performance. Barriers and gaps that limit the translation of Canada's S&T strengths into innovation and wealth creation are also identified.</p> <p>"Key findings include:</p> <p>"Canada's four IR&D strengths:</p> <ul style="list-style-type: none"> - Aerospace products and parts manufacturing - Information and communication Technologies - Oil and gas extraction - Pharmaceutical and medicine manufacturing <p>"IR&D activity is concentrated in central Canada, with Ontario and Quebec ranking highest, followed by Alberta and British Columbia. IR&D in Canada is relatively personnel intensive and less capital intensive when compared to other countries.</p> <p>"An IR&D intensity gap exists between Canada and the United States and is largely driven by Canada's low IR&D intensity in the high-technology manufacturing sector.</p> <p>"Some areas of alignment exist between Canada's industrial IR&D strengths, research strengths in science and technology, and overall economic performance, but these are limited and more research into these relationships is needed."</p> <p>(Council of Canadian Academies)</p> <p style="text-align: right;"> Canada.State.of.Industrial.R&D.exe.summ.2013.pdf Canada.State.of.Industrial.R&D.2013.pdf </p>

<p>The State of Science and Technology in Canada</p>	<p>04 September, 2012</p>	<p>"In 2010, the Minister of Industry asked the Council of Canadian Academies to assess the state of science and technology in Canada.</p> <p>"The State of Science and Technology in Canada, 2012 builds upon, updates, and expands upon the Council's inaugural report, published in 2006. This current assessment provides a thorough analysis of the scientific disciplines and technological applications where Canada excels in a global context. It also identifies Canada's S&T strengths, regional specializations, and emerging research areas.</p> <p>"[Some of the] key findings within the report include:</p> <p>"The six research fields in which Canada excels: clinical medicine, historical studies, information and communication technologies (ICT), physics and astronomy, psychology and cognitive sciences, and visual and performing arts.</p> <p>"With less than 0.5 per cent of the world's population, Canada produces 4.1 per cent of the world's research papers and nearly 5 per cent of the world's most frequently cited papers.</p> <p>"In a survey of over 5,000 leading international scientists, Canada's scientific research enterprise was ranked fourth highest in the world, after the United States, United Kingdom, and Germany.</p> <p>"Canada is part of a network of international science and technology collaboration that includes the most scientifically advanced countries in the world. Canada is also attracting high-quality researchers from abroad, such that over the past decade there has been a net migration of researchers into the country."...</p> <p>(Council of Canadian Academies)</p> <p>Canada.State.of.S&T.exe.summ.2012.pdf Canada.State.of.S&T.2012.pdf</p>
<p>Advantage Canada - Building a Strong Economy for Canadians</p>	<p>2007 onwards</p>	<p>In November 2006, Canada's federal government released <i>Advantage Canada</i>, an economic plan to make Canada a world leader for current and future generations.</p> <p><i>Advantage Canada</i> is based on the premise that Canada already has tremendous strengths—including the drive and ingenuity of Canadians, the relative strength of Canada's fiscal position, and her strong research base. It also recognizes that Canada can and must do more to turn Canadians' ideas into innovations that provide solutions to environmental, health, and other important social challenges, and to improve the economic competitiveness of Canada.</p> <p>Canada.AdvantageCanada.2006.exec.summary.pdf Canada.AdvantageCanada.2006.pdf</p>
<p>Mobilizing Science and Technology to Canada's Advantage</p>	<p>2007 onwards</p>	<p>This science and technology (S&T) strategy—<i>Mobilizing Science and Technology to Canada's Advantage</i>—is the government's plan to achieve the goals put forward in the <i>Advantage Canada</i>. It sets out a comprehensive, multi-year science and technology agenda."</p> <p>Canada.S&Tstrategy.Summary.pdf Canada.S&Tstrategy.pdf</p> <p>Mobilizing Science and Technology to Canada's Advantage PROGRESS REPORT, 2009:</p> <p>Canada.STProgressReport.2009.pdf</p>

<p>A Framework for Federal Science and Technology</p>	<p>2006 onwards</p>	<p>This framework sets out the Government of Canada’s continuing commitment to effectively conduct and manage science and technology in support of action on issues of concern to Canadians. It has been prepared in response to the wide-ranging and rapidly evolving challenges and opportunities facing the federal government in carrying out, managing and communicating its science and technology activities, many of which have been highlighted in a series of reports by the Council of Science and Technology Advisors.</p> <p>Canada.Framework.for.S&T.pdf</p>
<p>Canada's Innovation Strategy</p>	<p>2006 onwards</p>	<p><i>Canada's Innovation Strategy</i> was launched on February 12, 2002, with the release of two companion documents: <i>Achieving Excellence: Investing in People, Knowledge and Opportunity</i> and <i>Knowledge Matters: Skills and Learning for Canadians</i>. The papers highlight goals, milestones and targets that will improve innovation, skills and learning in Canada.</p> <ul style="list-style-type: none"> - <i>Achieving Excellence</i> examines the role of innovation in the Canadian economy and proposes goals, targets and federal priorities in four key areas: knowledge performance, skills, the innovation environment and strengthening communities. The strategy also sets out a call for action, challenging Canadians to work together to improve innovation performance. <p>Canada.Inno.Strategy.AchievingExcellence.pdf</p> <ul style="list-style-type: none"> - <i>Knowledge Matters</i> calls for a collaborative approach among all sectors of society to ensure Canadians have the tools they need to participate in Canada's workplace. The paper outlines a series of national goals and milestones for children and youth, post-secondary education, the adult labour force and immigration. <p>Canada.Inno.Strategy.KnowledgeMatters.pdf</p>

Chile

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Agenda Innovación Y Competitividad 2010-2020 [National Innovation Agenda for Competitiveness 2010-2020]</p>	<p>2010-2020</p>	<p>“The National Innovation Agenda for Competitiveness 2010-2020 (2010) is the latest policy document, which establishes main strategic focus areas for the country. The objective of the Agenda is to assure that the country continues to have economic growth based on knowledge, high quality human capital, and innovation. The Agenda is continuation of the two previous policy documents Towards a National Innovation Strategy for Competitiveness Vol. I (2007) and Vol. II (2008). These documents were the first of their kind in Chile. The three strategy documents combined, share the objective to double the GDP (baseline year of 2008) within 12 years, allowing Chile to qualify as a ‘developed country’ and compete at the same income level as some European countries. The strategy can be considered, to a great extent, as the roadmap for these aspirations.</p> <p>“The main objective of the 2010 Agenda document is to provide recommendations for measures, which are expected to produce long-term, above 5%, economic growth rate until 2020, and assuring the desired national development levels.” (ERAWATCH, 14th November, 2014)</p> <p>Chile.agenda.innovacion.2010-2020.pdf</p>
<p>Evaluation Report of National Innovation Strategy for Competitiveness Chile International Evaluation Panel</p>	<p>March, 2010</p>	<p>Context of the Strategy</p> <p>“Chile’s economy has moved from high to low growth, largely because of low and falling down productivity and low levels of innovative activity in major economic sectors. In recognition of the urgent need to re-energise the Chilean business sector, Government intervention has been necessary in order to effect the necessary changes in a time scale in which competitive market forces cannot be relied upon alone to restore growth.</p> <p>“The National Innovation Strategy presents an evidence-based, analytically coherent, and action oriented set of proposals for fostering increased economic growth. The strategy is based on three pillars – high quality life-long learning, a science and technology system oriented towards economic and social needs and a proactive and innovative business enterprise sector. The governance structure established for the Strategy involved the Consejo Nacional de Innovacion para la Competitividad (CNIC) as strategic advisor to the Government, and the Committee of Ministers of Innovation (MCI) for to undertake policy design and implement the strategy.”</p> <p>Context of this Report</p> <p>“CNIC has engaged a Panel of international experts to assess the relevance of its strategy to the needed objectives of the national innovation agenda. The panel examined both the design of the strategy and progress in its implementation. This report provides a summary of its conclusions and recommendations.</p> <p>“The Panel recognises that this intervention is complex and wide ranging, and that many of the initiatives are at an early stage. There are many issues to be addressed and many of the initiatives will not bear fruit for a number of years. The Panel therefore makes a number of recommendations which it has categorised as short-term, where urgent actions needs to be taken or where early</p>

		<p>successes can be achieved, and medium to longer term, where actions need to be put in place in order to have a cohesive strategic intervention and where major gains should be made over a longer timescale.”</p> <p>Evaluation panel: Prof Morris Teubal (Chairman), Hebrew University of Jerusalem Dr Erik Arnold (Rapporteur), Chairman, Technopolis Group Michael Crawford, Senior Education Specialist, The World Bank Prof Em Irwin Feller, Penn State University Josep Piqué, Managing Director, 22@Barcelona Prof Charles Sabel, Columbia Law School Dr Michael Sargent, M.A.Sargent & Associates Pty Ltd</p> <p>Chile.evaluation.report.national.inno.strategy.2010.pdf</p>
<p>Hacia Una Estrategia Nacional de Innovación para la Competitividad [Towards a National Innovation Strategy for Competitiveness]</p>	<p>2006 onwards</p>	<p>“... Chile is facing an enormous opportunity to reach the stage of development. To achieve it, a virtuous combination between the advantages of the natural resource export model, in which Chile has already made great progress, together with the capabilities created by an increasing effort in the generation of human capital and knowledge is needed. The latter, when applied to the production process, permits a leap forward to sectors based on acquired competitive advantages.</p> <p>“This path will allow the country to face the increasingly tougher international competition successfully, to continue expanding its goods and services in the global marketplace, and to increasingly provide more and better jobs for a higher skilled labour force. It will also provide dividends in terms of increased equity. By strengthening the development of knowledge-base sectors due to its non rivalry; profits may be distributed more equitably compared to those highly concentrated capital or natural resources-based sectors.”</p> <p>Chile.HaciaUnaEstrategiaNacionalDeInnovación.vol.I.2006.pdf Chile.Towards.a.National.Inno.Strategy.vol.I.2006.pdf Chile.HaciaUnaEstrategiaNacionalDeInnovación.vol.II.2008.pdf</p>

China

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
National Medium- and Long-term Plan for Building Key Science and Technology Infrastructure (2012 - 2030)	2012-2030	<p>“The Medium- and Long-term Plan (MLP) for Building Key Science and Technology Infrastructure (2012 -2030) is based on strategies laid out in National Medium- and Long-term Plan for Science and Technology Development (2006 – 2020) and the 12th Five-Year-Plan for Economic and Social Development. Its purpose is to define strategic directions for developing key S&T infrastructure for the next 20 years and priorities for funding and support during the 12th Five-Year-Plan period (2011 – 2015).”</p> <p>(ERAWATCH, 14th November, 2014)</p>
Strategies on deepening the reform of the science and technology governance and speeding up the construction of a national innovation system	2012-2020	<p>“In 2006, the central government set the strategy of building an innovative country by 2020. While progress was made, the State Council identified several challenges to be overcome in order to achieve the strategic goals. These challenges include:</p> <ul style="list-style-type: none"> ▪ A business enterprise-centred innovation system is yet to be established, and linkages among industry, university, and research institutes are weak; ▪ Original research outcomes are few, and indigenous supply of key technologies is low; ▪ Administrative control of allocating S&T resources is inefficient; ▪ Low commercialisation rate of research outputs; ▪ Research evaluation is inefficient, and the innovation culture is weak <p>“To address the above issues, this new strategy document published in 2012 defines a plan for future actions, clustered around the theme of further reform of the S&T system.”</p> <p>(ERAWATCH, 14th November, 2014)</p>
National Plan for Building Indigenous Innovation Capabilities in the 12th Five-Year-Plan Period (2011-2015)	2011-2015	<p>“The National Plan for Building Indigenous Innovation Capabilities in the 12th Five-Year-Plan Period (2011-2015) is the implementation and extension plan of the Chinese national innovation strategies, i.e. National Medium- and Long-term Plan for Science and Technology Development (2006 – 2020), the 12th Five-Year-Plan for Economic and Social Development, and Strategies on deepening the reform of the science and technology governance and speeding up the construction of a national innovation system, dated back to 2006. Its purpose is to accelerate the development of indigenous innovation capabilities for society as a whole. The national plan covers innovation infrastructure, innovation actors, innovation human resource, and innovation institutions and culture.”</p> <p>(ERAWATCH, 14th November, 2014)</p>

<p>Development Plan of National Strategic Emerging Industries during the 12th Five-Year-Plan Period (2011-2015)</p>	<p>2011-2015</p>	<p>“The goal of this policy document is to specify strategies and plans of nurturing and developing strategic emerging industries during the 12th Five Year Plan period (2011-2015). According to the State Council, strategic emerging industries are defined as sectors that are based on major technological breakthroughs, address major development challenges, have long-term impacts on economic and social development, knowledge-intensive and growth-potential. This policy document intends to promote and develop energy saving, next-generation information technology, biotechnology, high-end equipment manufacturing, new energy, new materials, and new energy vehicle industries.” (ERAWATCH, 14th November, 2014)</p>																											
<p>12th Five-Year Plan for S&T Development</p>	<p>2011-2015</p>	<p>“This policy document is the implementation plan of China’s 12th Five-Year Plan (2011-2015) for science and technology development. It is also a part of the implementation of Medium- and Long-term National Plan for Science and Technology Development 2006-2020, a larger strategic plan for S&T development. “The goals of the 12th Five-Year Plan for S&T Development include:</p> <ul style="list-style-type: none"> ▪ To increase the national capabilities for indigenous innovation; ▪ To improve the international competitiveness in science and technology; ▪ To make breakthroughs in key areas of technologies; ▪ To support the transformation of drivers for economic growth; ▪ To build a high-performance national innovation system.” <table border="1" data-bbox="699 1142 1382 1814"> <thead> <tr> <th style="text-align: center;">Indicators</th> <th style="text-align: center;">2010</th> <th style="text-align: center;">2015</th> </tr> </thead> <tbody> <tr> <td>R&D investment as percentage of GDP (%)</td> <td style="text-align: center;">1.75</td> <td style="text-align: center;">2.2</td> </tr> <tr> <td>R&D personnel in 10,000 working force (person-year)</td> <td style="text-align: center;">33</td> <td style="text-align: center;">43</td> </tr> <tr> <td>Science journal citation world ranking (No.)</td> <td style="text-align: center;">8</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Number of patents received in 10,000 residents</td> <td style="text-align: center;">1.7</td> <td style="text-align: center;">3.3</td> </tr> <tr> <td>Patent application of R&D workforce (No. per hundred person-year)</td> <td style="text-align: center;">10</td> <td style="text-align: center;">12</td> </tr> <tr> <td>Technology market transaction nationwide (billion yuan)</td> <td style="text-align: center;">390</td> <td style="text-align: center;">800</td> </tr> <tr> <td>High-tech value-added as percentage of manufacturing as whole (%)</td> <td style="text-align: center;">13</td> <td style="text-align: center;">18</td> </tr> <tr> <td>Citizens with basic science qualification (%)</td> <td style="text-align: center;">3.27</td> <td style="text-align: center;">5</td> </tr> </tbody> </table> <p>(ERAWATCH, 14th November, 2014)</p>	Indicators	2010	2015	R&D investment as percentage of GDP (%)	1.75	2.2	R&D personnel in 10,000 working force (person-year)	33	43	Science journal citation world ranking (No.)	8	5	Number of patents received in 10,000 residents	1.7	3.3	Patent application of R&D workforce (No. per hundred person-year)	10	12	Technology market transaction nationwide (billion yuan)	390	800	High-tech value-added as percentage of manufacturing as whole (%)	13	18	Citizens with basic science qualification (%)	3.27	5
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High-tech value-added as percentage of manufacturing as whole (%)	13	18																											
Citizens with basic science qualification (%)	3.27	5																											

<p>National S&T Development Plan for the 11th Five-year Period (2006-2010)</p>	<p>2006-2010</p>	<p>“The National S&T Development Plans began in 1950s. It is intended to strategically plan resource distribution, industrial activities, and development targets for a certain period.</p> <p>“By 2006, nine national S&T development plans had been produced:</p> <ul style="list-style-type: none"> - The National S&T Development Twelve-year Plan 1956-1967; - The National S&T Development Ten-year Plan 1963-1972; - The National S&T Development Eight-year Plan 1978-1985; - The National S&T Development Fifteen-year Plan 1986-2000; - The National S&T Development Ten-year Plan 1991-2000; - The National S&T Development Plan for the 9th Five-year Period (1996-2000) and The Long-term Goal in 2010 (which is not published); - The National S&T Development Plan for the 10th Five-year Period (2001-2005); - Medium- and Long-term National Plan for S&T Development (2006-2020); and - The National S&T Development Plan for the 11th Five-year Period (2006-2010). <p>“These plans allocate and mobilise resources based on previous years' development, and set various goals for different stages of S&T development.</p> <p>“The National S&T Development Plan for the 11th Five-year Period (2006-2010) was developed according to the guidelines of the Medium- and Long-term National Plan for S&T Development (2006-2020) and proposed the corresponding strategy for S&T development over next five years.</p> <p>“Main issues addressed:</p> <ul style="list-style-type: none"> - Increasing R&D investment; - Reformulating the S&T budget structure; - Encouraging enterprise innovation; - Enhancing intellectual property protection; - Creating a favourable environment for S&T researchers; - Improving the S&T management and coordination system.” (ERAWATCH; 02 February, 2009) <p style="text-align: right;">Chine.S&TPlans.10th.and.11th.pdf</p>
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<p>Medium- and Long-term National Plan for Science and Technology Development: (2006-2020)</p> <p>/</p> <p>The National Guideline On Medium- and Long-Term Plan for Science and Technology Development (2006-2020)</p>	<p>2006-2020</p>	<p>"The Medium- and Long-Term National Plan for S&T Development 2006-2020 was prepared as a guide for an S&T development strategy in China for the first 20 years of the 21st century.</p> <p>"Since China established the principle that S&T is crucial to development, it is widely recognised that China has made great progress in S&T. However, compared to other industrialised countries, the overall level of S&T development in China still falls short. Moving beyond imitation and into innovation is considered to be one of the main challenges for China.</p> <p>"The first 20 years of the 21st century are regarded as a key strategic period for China. It is hoped that China will not only move closer to industrialised countries in S&T fields, but also become a leader in emerging S&T fields. In this context, the document suggests 'selective development' and enhancing indigenous innovation capacity as an S&T development strategy over the next fifteen years, which is in line with the status quo of China.</p> <p>"Due to limited technological and financial resources, it is unrealistic to develop all disciplines and fields simultaneously. Instead, priority is given to certain key fields, deemed to have major socio-economic implications. Resources are mobilised to focus on these fields to make them internationally competitive." (ERAWATCH; 16 December, 2014)</p> <p>The National Guideline On Medium- and Long-Term Programme for Science and Technology Development (2006-2020) was issued by the State Council on February 09, 2006.</p> <p>According to the Guideline, the proportion of research and development expenditures should reach 2,5 percent of the gross domestic product, by 2020.</p> <p>It is also said that, by 2020,</p> <ul style="list-style-type: none"> - The progress of science and technology will contribute 60 percent or above to the country's development. - Meanwhile, the country's reliance on foreign technology will decline to 30 percent or below. - And the number of patents granted to Chinese nationals and the introduction of their academic essays are expected to rank among the first five in the world. <p>China.NationalGuidelines.for.S&T.Dev.pdf</p>
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Denmark

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>RESEARCH2020</p>	<p>2011-2020</p>	<p>“The RESEARCH2020 catalogue points out the most promising research areas in regard to growth, employment and welfare using major societal challenges as starting point.</p> <p>“RESEARCH2020 complies with the fiscal act of November 2011 where the involved political parties agreed that RESEARCH2020 will form the basis for decision for strategic funding of research in the future.</p> <p>“Moreover, the catalogue is used in a number of areas which goes beyond the political prioritizing of strategic investments of research, e.g. research collaboration within the EU and INNO+. Furthermore, it is the ambition that RESEARCH2020 can inspire strategy work at e.g. universities, GTS institutes, within private foundations, and among teachers and students at high schools, university colleges, etc.</p> <p>“RESEARCH2020 replaces RESEARCH2015 as basis for knowledge and prioritizing of strategic investments in research. The RESEARCH2015-catalogue was published 21. May 2008 and was the first systematic, thorough and forward-looking basis for a political prioritisation of strategic research. The catalogue is now replaced by the RESEARCH2020- catalogue.”</p> <p>(Ministry of Higher Education and Science, 14th November, 2014)</p> <p>Denmark.research2020.summary.pdf</p> <p>Denmark.research2020.StrategicResearchHorizons.pdf</p>
<p>INNO+ Catalogue Innovative Denmark A basis for inspiration and prioritisation of strategic investments in innovation</p>	<p>November 2013, onward</p>	<p>“The INNO+ is designed as an inspiration and prioritisation framework for new, intelligent investments in innovation. INNO+ does not reflect the Danish Government’s political priorities, but is instead the result of an extensive mapping process and close dialogue with several hundred stakeholders from trade organisations, employees’ organisations, special interest organisations, research institutions, educational institutions, GTS institutes, innovation incubators, innovation networks and private foundations as well as municipal, regional and central government authorities.</p> <p>“Such broad-based and inclusive collaboration across professional sectors and interests gives a new and desirable input into how Denmark’s future innovation efforts should be shaped.”</p> <p>Morten Østergaard Minister for Science, Innovation and Higher Education (INNO+ Catalogue, p. 5)</p> <p>“...In our neighbouring countries as well as e.g. the United States and Asia, there is considerable focus on promoting production and application of knowledge and on strengthening competitiveness through innovation, education and knowledge sharing. Therefore, Denmark must find the challenge areas where we have a good starting point from which to create new and better solutions</p>

		<p>and industrial successes than our competitors. It is vital that we take action in areas where we have strong research and industrial preconditions for creating solutions that are competitive in a global market. This INNO+ Catalogue identifies such promising areas and aims to provide a solid basis for prioritising them in Denmark.</p> <p>“The INNO+ Catalogue is a result of the political agreement on allocation of the Research Reserve in 2013, in which it was agreed that an innovation policy supplement to the prioritisation platform, RESEARCH2020 was to be drawn up. RESEARCH2020 identifies promising areas for strategic investments in research of relevance to a number of Danish and global societal challenges as well as to Danish research and industrial strengths. Concerning innovation policy, a basis for prioritisation must identify promising areas for innovation efforts designed to address important societal challenges and particular Danish prerequisites. The work of the Government’s growth teams has since confirmed that such a basis should ideally focus on areas where Denmark has international competitive power.”</p> <p>(“Introduction”, INNO+ Catalogue, p. 7)</p> <p>Denmark.INNO+Catalogue.pdf</p>
<p>InnovationDenmark 2010-2013</p>	<p>2010-2013</p>	<p>On Wednesday 14 July 2010, the Danish Council for Technology and Innovation announced its new action plan ‘Innovation Denmark 2010-2013’.</p> <p>Vision</p> <p>The council’s vision is that Denmark in 2020 rightfully can call itself an innovative nation. Private and public sector production and service enterprises alike must once again be among the most competitive and innovative in the world. Through dissemination of new knowledge and technology, the council also wishes to contribute to solving major societal challenges and to support the development of new forms of innovation in the business community.</p> <p>Goals</p> <p>Throughout 2010-2013, the overall goals of the council are: Danish enterprises must become and stay more innovative. This is particularly the case for small and medium-sized enterprises. At least 50 percent of all Danish enterprises must be innovative (in 2008, 42 percent were innovative) and at least 25 percent must be involved in R&D (in 2008, 24 percent were involved in R&D).</p> <p>Danish universities must be attractive business partners. At least 15 percent of innovative Danish enterprises must collaborate with universities (in 2008, 14 percent collaborated with universities).</p> <p>The share of enterprises with less than 50 employees employing a highly educated employee must exceed 30 percent (in 2007, this was 27 percent).</p> <p>DKK 3.5 billion at its disposal</p> <p>The Danish government and legislature has allocated more than DKK 3.5 billion to the council’s initiatives for 2010-2013.</p>

	Focus area 1	Focus area 2	Focus area 3	Focus area 4
	Collaboration between business and research	Access to highly skilled workforce	Authorised Technological Service	Commercialisation of Research
	Programmes: Innovation networks Innovation projects	Programmes: Industrial PhD Knowledge pilots	Programmes: Authorised Technological Service Institutes	Programmes: Proof-of-concept Innovation incubators
Innovation Denmark 2010-2013 Last modified Jul 11, 2013	Cross-cutting efforts			
	Evaluation and impact analysis	Service Innovation and the public sector	Future production in Denmark	Internationalisation SME strategy
Fremgang, fornyelse og tryghed - Strategi for Danmark i den globale økonomi [Progress, Innovation and Cohesion - Strategy for Denmark in the Global Economy]	2007-2010	"Denmark should be among the most attractive countries in the world to live and work in – also in 10 and 20 years from now. Denmark should be a country where everyone is optimally equipped to unfold their abilities and create prosperity for themselves and for others. A country that has a global outlook and plays an active role in the world community. A country where everyone participates in the renewal process and where everyone shares in progress and cohesion. "In order to seize the opportunities, the Danish society should be transformed. It is essential to invest in Denmark's future, to generate better opportunities for growth and prosperity. It is essential to set new, ambitious objectives." Denmark.Progress.Inno.Cohesion.pdf		
INNOVATIONDENMARK 2007-2010 The Danish Council for Technology and Innovation's Action Plan for More Innovation and Effective Knowledge Dissemination	2007-2010	"In future the ability of Danish companies to be innovative and use new knowledge will be a crucial parameter in their exploitation of the possibilities that growing globalisation presents. "This means that it is vital that Denmark pursue an active innovation policy, focussing on strengthening the framework of company innovation and competitiveness. Thus research, development and innovation policies will become increasingly important in the coming years. This will reflect the policy requirements of high growth and high employment. "...The Danish government and Parliament set out the framework for innovation policies in Denmark. The Danish Council for Technology and Innovation (DCTI) is, together with The Danish Agency for Science, Technology and Innovation, under the Ministry of Science, Technology and Innovation tasked with realising a large part of these innovation policies to achieve the best possible societal impact. "...'InnovationDenmark 2007-2010' sets out the main direction of innovation policy activities up to 2010."		

		(The Danish Council for Technology and Innovation , 2007) Denmark.InnovationDenmark.2007-10.Summary.pdf Denmark.InnovationDenmark.2007-10.pdf
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Finland

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Sustainable growth from bioeconomy</p> <p>THE FINNISH BIOECONOMY STRATEGY</p>	2014-2025	<p>“Finland has set the course for a low-carbon and resource-efficient society and a sustainable economy. A key role in reaching this goal is played by a sustainable bioeconomy. Thanks to our plentiful renewable natural resources, high level of expertise and industrial strengths, Finland is excellently placed to become a pioneer of the bioeconomy in the world. The bioeconomy will boost the national economy and employment in Finland and enhance the well-being of the Finnish people. The vision of the first Finnish Bioeconomy Strategy is that Finnish well-being and competitiveness will be based on sustainable bioeconomy solutions.</p> <p>“The objective of the Finnish Bioeconomy Strategy is to generate new economic growth and new jobs from an increase in the bioeconomy business and from high added value products and services while securing the operating conditions for the nature’s ecosystems. The leading idea of the strategy is that competitive and sustainable bioeconomy solutions for global problems will be created in Finland, and that new business will be generated both in the Finnish and international market, thus boosting the welfare of the whole of Finland.</p> <p>“The strategic goals of the Bioeconomy Strategy are:</p> <ol style="list-style-type: none"> 1. A competitive operating environment for the bioeconomy, 2. New business from the bioeconomy, 3. A strong bioeconomy competence base, 4. Accessibility and sustainability of biomasses. <p>...</p> <p>“The objective of the Bioeconomy Strategy is to push our bioeconomy output up to EUR 100 billion by 2025 and to create 100,000 new jobs.”</p> <p>(“Abstract”, The Finnish Bioeconomy Strategy, p.3)</p> <p>Finland.Bioeconomy.Strategy.2014.pdf</p>
<p>Europe 2020 - Strategy</p> <p>Finland’s National Programme, Spring 2012</p>	2012 onward	<p>“The Spring 2012 National Programme presents the Government measures by which the national targets can be achieved and barriers to growth removed. The programme also presents, as far as possible, the budgetary impacts of the measures.”</p> <p>Finland.Europe.2020.Strategy.pdf</p>
<p>Growth through expertise</p> <p>Action plan for research and innovation policy</p>	2012 onward	<p>“As stipulated in a decision issued by the Research and Innovation Council in autumn 2011, the Ministry of Education and Culture (MEC) and the Ministry of Employment and the Economy (MEE) drafted an action plan for research and innovation policy by the end of 2012 as part of the government’s strategy process.</p> <p>“A starting point for the plan has been the numerous development projects, studies, assessments and reports by groups of experts conducted recently in the area of research and innovation policy. Together with the policy</p>

		<p>guidelines issued by the Research and Innovation Council, the results obtained and the measures proposed in these development projects create an important foundation for the action plan. Another central element in the preparation of the action plan has consisted of the hearings and interaction with the central interest groups of the research and innovation system.</p> <p>“The aim of the action plan is to concretise and enhance the implementation of the government’s research and innovation policies and document central development measures and adjustments required in the final half of the present term of government...”</p> <p>Ministry of Education and Culture Ministry of Employment and the Economy</p> <p>12 December 2012</p> <p>Finland.Action.plan.for.R&I.policy.2012.pdf</p>
<p>Science, Technology, Innovation</p>	<p>2007-2011</p>	<p>Public research and development funding will be increased with the aim of raising the GDP share of private and public research funding to 4 per cent by the end of the decade...</p> <p>The aim of development measures is to:</p> <ol style="list-style-type: none"> 1) Promote the overall functionality of the innovation system and the system’s ability to renew itself, 2) Enhance the knowledge base, 3) Improve the quality and targeting of research, 4) Promote the adaptation and commercialisation of research results, and 5) Secure adequate economic prerequisites for the activities. The continuous development of human resources ensures top-quality competence for the future as well. <p>Finland.STI.pdf</p>

France

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>France Europe 2020 un agenda stratégique pour la recherche, le transfert et l'innovation [France Europe 2020 a strategic agenda for research, transfer and innovation]</p>	<p>February 4th 2013</p>	<p>"The central aim of the 'France Europe 2020' Agenda is to enable all areas of French research to better take on the scientific, technological, economic and societal challenges of the decades to come. Health, food safety, reasoned resource management and climate change, the energy transition, mobility and sustainable urban systems, development of the digital economy and space technologies, or re-industrialisation of our territories are all some of the major challenges on which research and innovation players must focus.</p> <p>"In addition to these efforts in response to societal challenges, we will work to safeguard our basic research. This is not only one of our nation's sources of pride, but also a key to the future. Scientific research as a whole will be mobilised to help bring knowledge forward, to the highest international standard. This long-term, high-risk, exploratory research, 'with no immediate application', remains central to national scientific strategy."</p> <p>Geneviève Fioraso Minister for Higher Education and Research February 4th, 2013</p> <p style="text-align: right;">France.Europe.2020.agenda.stratégique.pdf France.Europe.2020.Strategic.Agenda.pdf</p>
<p>Plan National pour l'Innovation [National Plan for Innovation]</p>	<p>2013-</p>	<p>Le plan national pour l'innovation comporte trois priorités: stimuler la culture de l'innovation dans l'enseignement supérieur, encourager les échanges entre laboratoires publics et privés, et fixer des priorités cohérentes.</p> <ul style="list-style-type: none"> • Développer la culture de l'entrepreneuriat et de l'innovation dans l'enseignement supérieur, • Décloisonner et établir un dialogue permanent entre recherche et entreprises, • Choisir et fixer des priorités cohérentes.
<p>Stratégie Nationale de Recherche - S.N.R. [National Research Strategy]</p>	<p>2013-</p>	<p>L'essentiel sur la stratégie nationale de recherche</p> <ul style="list-style-type: none"> • Décidée par la loi du 22 juillet 2013, une stratégie nationale de recherche (S.N.R.), comportant une programmation pluriannuelle des moyens, est élaborée sous la coordination du ministre chargé de la recherche en concertation avec la société civile. • Cette stratégie vise à répondre aux défis scientifiques, technologiques, environnementaux et sociétaux en maintenant une recherche fondamentale de haut niveau. • Elle comprend la valorisation des résultats de la recherche au service de la société. A cet effet, elle veille au développement de l'innovation, du transfert de technologie, de la capacité d'expertise et d'appui aux politiques publiques et aux associations et fondations, reconnues d'utilité publique. • La culture scientifique, technique et industrielle fait

		<p>partie de la stratégie nationale de recherche et est prise en compte dans sa mise en œuvre.</p> <ul style="list-style-type: none"> • La S.N.R. a vocation à être révisée tous les 5 ans et mise en œuvre par l'intermédiaire de contrats pluriannuels conclus avec les organismes de recherche et les établissements d'enseignement supérieur, la programmation de l'A.N.R. et les autres financements publics de la recherche. • Initié à l'automne 2013, le processus d'élaboration de la S.N.R. s'achèvera à l'été 2014. <p>Objectifs de la S.N.R.</p> <p>La S.N.R. vise plusieurs objectifs:</p> <ul style="list-style-type: none"> • Répondre aux défis scientifiques, technologiques, environnementaux et sociétaux auxquels la France devra faire face dans les décennies à venir en définissant un nombre restreint de priorités scientifiques et technologiques. • Réaffirmer le rôle de stratège de l'Etat en matière d'orientation et de programmation de la recherche tout en favorisant la concertation avec tous les acteurs publics et privés de la recherche. • Renforcer l'articulation avec le programme Horizon 2020 élaboré par l'Union européenne pour la période 2014-2020 qui vise également à répondre aux défis économiques et sociétaux. • Promouvoir la recherche fondamentale comme le socle essentiel pour le développement d'une science de haut niveau. • Valoriser les résultats de la recherche en assurant la promotion de l'innovation, le transfert de technologie, la capacité d'expertise et d'appui aux politiques publiques, le développement de la culture scientifique, technique et industrielle.
<p>La loi de programme pour la recherche [The program law on research]</p>	<p>2006 onwards</p>	<p><i>La loi de programme pour la recherche [The program law on research] addresses several issues with a midterm approach (until 2010). Strengthening the existing National System of Research and Innovation by creating a 'Supreme Council of Science and Technology', restructuring the National Research Agency, and also creating a new research evaluation organisation is one of the main objectives of the Law.</i></p> <p>It also provides new legal tools to encourage cooperation between research institutions and Higher Education Institutes.</p> <p>Finally the document tackles the question of technological innovation support that should improve firms' competitiveness.</p> <p>France.La.loi.de.proq.pour.la.recherche.pdf France.Pacte.pour.la.recherche.pdf</p>

Germany

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Higher Education Pact 2020</p>	<p>2011-2020</p>	<p>“Institutions of higher education in Germany are facing great challenges. The number of young people qualified to enter university is set to increase significantly by 2020. At the same time, international competition demands that universities put a greater emphasis on research. In order to maintain the performance of institutions of higher education and give more new entrants access to university, the Federal Government and the Länder have agreed on the Higher Education Pact 2020.”</p> <p>“Pillar 1: Programme for the admission of additional university entrants</p> <p>“The Federal Government is increasing funds for the Higher Education Pact 2020 by 2.2 billion euros to a total of over 7 billion euros between 2011 and 2015. The Länder will also contribute comparable additional funds to secure the total finances. To complete the second phase of the Pact, an additional 2.7 billion euros of Federal funding is planned until 2018. This is 1.7 billion euros more than previously stipulated.</p> <p>“...According to projections, around 300 000 more university entrants that previously predicted are expected in the second programme phase of the Higher Education Pact 2020 between 2011 and 2015.”</p> <p>“Pillar 2: Programme allowances for projects funded by the Deutsche Forschungsgemeinschaft (DFG - German Research Foundation)</p> <p>“Providing one-off payments for research projects supported by the DFG is sustainably strengthening university research and increasing universities' ability to develop new strategies. Previously, universities had to cover addition indirect cost for successful external projects out of their own financial resources. Now they receive an additional lump sum of 20 per cent of the project cost, while still maintaining room to manoeuvre. This important instrument for higher education funding has also been extended for five years. As before, the financing costs incurred are to be entirely covered by the Federal Government: about 1.7 billion euros by 2015.”</p>  <p>Federal Ministry of Education and Research</p>
<p>Die Hightech-Strategie für Deutschland [The High-tech Strategy for Germany]</p>	<p>2010-2020</p>	<p>“The High-Tech Strategy, which was launched in August 2006, was the first national concept to rally the key stakeholders involved in innovation around a common idea. On 14 July 2010, the Federal Cabinet decided to continue along this successful path. The new High-Tech Strategy 2020 will ensure the continuity of the overall approach and, at the same time, set new priorities.”</p> <p>“Five areas in which Germany aims to play a leading role</p>

	<p>“The High-Tech Strategy aims to create lead markets, to intensify cooperation between science and industry, and to further improve the framework conditions for innovation. Its direction is determined by the benefit of new technologies for humankind. The strategy defines five areas that represent challenges of global dimensions:</p> <ul style="list-style-type: none"> • Climate/Energy • Health/Nutrition • Mobility • Safety • Communication <p>“The High-Tech Strategy aims to enable science and industry in Germany to pioneer solutions in these fields. This will also generate fresh impetus for growth and employment.</p> <p>“Forward-looking projects</p> <p>“The High-Tech Strategy aims to use forward-looking projects to shift the focus of research and technology onto concrete social and global goals. Strategies for achieving these goals are to be developed and implemented in the next 10 to 15 years. The High-Tech Strategy 2020 names the following as examples of forward-looking projects:</p> <ul style="list-style-type: none"> • The carbon-neutral, energy-efficient and climate-friendly city • Intelligent reorganisation of the energy supply system • Renewable raw materials as an alternative to oil • Improved treatment of illnesses with personalised medicine • Improving health with an optimised diet • Leading an independent life in old age • One million electric vehicles in Germany by 2020 • More effective protection for communications networks • Achieving higher Internet use with lower energy consumption • Making it possible to access and experience the world’s knowledge in digital form • The future world of work and work organisation <p>“Strengthening cooperation between industry and science</p> <p>“Science and industry have to work closely together in order to swiftly transform research results into innovative products. The High-Tech Strategy therefore calls for strategic partnerships and innovation alliances that pool strengths and create synergies. In particular, dynamic small and medium-sized enterprises (SMEs) in Germany’s innovative Mittelstand are receiving technology funding to increase the incentives for research partnerships. Success stories in this area include collaborations for improving energy and vehicle efficiency. Another successful model is the Leading-Edge Cluster Competition, which is intended to support the strongest regional clusters on their way to the top of the international league table.”</p>
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		 <p>Federal Ministry of Education and Research</p> <p>Germany.Perspective.on.Innovation.Policy.2010.pdf Germany.HighTechStrategy.2020.inGerman.pdf Germany.HighTechStrategy.2020.pdf</p>
<p>Die Hightech-Strategie für Deutschland [The High-tech Strategy for Germany]</p>	<p>2006-2009</p>	<p>"For the first time ever, the German government has developed a comprehensive national strategy for all its ministries with the aim of putting our country at the top of the world's ranks in tomorrow's most important markets. All political sectors that affect research and development will be geared to a clearly defined goal. This strategy puts innovation policy front and centre in government activities.</p> <p>"Our vision is a country that respects and rewards achievement in science and industry. We want to encourage people to strike out on new paths. We want a curious, learning society. We want to foster talent in all spheres – from the natural sciences to the humanities, from small start-ups to sizable SMEs. We are capable of turning Germany into the most research- friendly nation in the world by the year 2020.</p> <p>"For Germany, outstanding achievements are not an end in themselves in this connection. Global competition means that we always have to be a shade better than the competition. We need new ideas, new products and new system solutions in order to ensure our standard of living today and our children's standard of living tomorrow. We cannot win the competition over the lowest labour costs. However, we can certainly win the competition over the best ideas.</p> <p>"To achieve this goal, we are following up <i>the High-Tech Strategy</i> with concrete action: The German government is investing an additional €6 billion in research and development during the current legislative period. This represents the largest increase in research funding in the history of the Federal Republic of Germany. A total of some €15 billion will be allocated for cutting-edge technology through the year 2009. This will bring Germany's federal government, Länder (state) governments, trade and industry closer to achieving their common goal: Boosting research expenditure to three per cent of gross domestic product by the year 2010."</p> <p>Germany.HighTechStrategy.pdf</p>

Greece

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
Strategic Development Plan for Research, Technology and Innovation Under the NSRF 2007-13	2007-2013	<p>This strategic plan presents the strategy for the development of research, technology and innovation under the NSRF (The National Strategic Reference Framework) 2007-13. The key objective of the development strategy for research, technology and innovation during the 2007-13 period is to restructure the Greek economy, gearing it towards high value added products and services, and achieve the transition to the knowledge economy and society. In formulating this strategy, consideration was given to the revised Lisbon strategy and the need for convergence with the European Union, as well as to globalisation and open innovation.</p> <p>Greece.NationalStrategicRef.Framework.2007-13.pdf Greece.StrategicPlan.2007-13.pdf</p>

Hungary

Law on Research and Technological Innovation	2004 Onward	<p>The main purposes of the <i>Law</i> are:</p> <ul style="list-style-type: none"> - To promote sustainable development of the Hungarian economy by improving the conditions to achieve and exploit R&D results and technological innovation; - To enhance the competitiveness of enterprises and facilitate the efficient exploitation of regional R&D and innovation possibilities; - To create jobs with high value added activities; - To improve the professional skills of researchers and promote the appreciation of their activities; - To contribute to the dissemination of advanced technologies to improve defence capabilities of the country." <p>Hungary.InnovationLaw.2004.pdf</p>
<p>A Kormány középtávú (2007-2013) tudomány-, technológia és innováció-politikai (TTI) stratégiája [Mid-term science, technology and innovation policy strategy (2007-2013)]</p>	2007-2013	<p>"The main aim of the strategy is to put the Hungarian economy and society on a new development path by 2013, where knowledge and innovation is the engine of growth and businesses can enter global markets with competitive, knowledge- and technology-intensive products and services.</p> <p>Based on analyses of the current strengths and weaknesses of the Hungarian national innovation system, the strategy sets out several target indicators to be reached by 2010 and 2013, respectively.</p> <p>"Targets are defined for all relevant areas: the organisations performing and co-ordinating R&D activities, human resources, business innovation exploiting S&T results, national and regional intermediary organisations, international co-operation. The highest level aggregated target stipulates that GERD must reach 1.8 percent of GDP (2005: 0.95) and BERD 0.9 percent (2005: 0.37) by 2013." (ERAWATCH; 02 February 2009)</p> <p>Hungary.TTI.Strategia.2007-2013.Outlines.pdf Hungary.TTI.Strategia.2007-2013.pdf</p>

Iceland

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Science and Technology Policy and Action Plan 2014-2016</p>	<p>2014-2016</p>	<p>Foreword by the Prime Minister for the Action Plan:</p> <p>"...The action plan which now has been adopted comprises 21 actions which provide a key to the strengthening of research and innovation in Iceland. Each action is made the responsibility of either a ministry or a public institution, and the cost of each action has been assessed. The plan features vastly increased contributions to competitive funds, as well as measures to facilitate investment by companies in research and innovation, but also to make the results achieved by such investment more visible through the use of a special information system, boost recruitment, and introduce more streamlined and efficient mechanisms in the public administration. These actions are meant to provide support for a modern labour policy and a forward-looking education policy in line with the Government's strategy.</p> <p>"This is the first time that the Science and Technology Policy Council draws up a special action plan featuring specified responsible parties, a cost analysis and fixed time limits. On its side, the Government has agreed to provide funding for the plan, subject to the budgetary process and parliamentary approval."</p> <p>Sigmundur Davíð Gunnlaugsson</p> <p>Iceland.S&TPolicy&ActionPlan.2014-2016.pdf</p>
<p>Science and Technology Policy: 2006-2009 (Policy Statement of the Science and Technology Policy Council)</p>	<p>2006-2009</p>	<p>The STPC places highest priority on the followings:</p> <ul style="list-style-type: none"> - To establish an internationally outstanding educational and scientific institutional system, closely connected to a dynamic economy, capable of providing leadership in responding to rapid changes; - To strengthen public competitive funding schemes and merge these in related areas; - To encourage private firms and the public sector institutions to join efforts in strengthening research and development in order to boost successful and profitable innovation and thus international competitiveness based on knowledge; - To redefine the role of the public sector in financially supporting scientific monitoring and research in support of public interest, environmental protection and sustainable economic growth. <p>Iceland.S&TPol.pdf</p>

India

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
National Policy on Information Technology, 2011 (NPIT 2011)	2011-2020	<p>“The National Policy on IT focuses on application of technology-enabled approaches to overcome monumental developmental challenges in education, health, skill development, financial inclusion, employment generation, governance etc. to greatly enhance efficiency across the board in the economy. The policy seeks to achieve the twin goals of bringing the full power of ICT within the reach of the whole of India and harnessing the capability and human resources of the whole of India to enable India to emerge as the Global Hub and Destination for IT and ITeS Services by 2020. The focus of the IT policy is therefore on deployment of ICT in all sectors of the economy and on providing IT solutions to the world.”</p> <p>(NPIT 2011)</p> <p>India.National.Policy.on.IT.2011.pdf</p>
National Biotechnology Development Strategy -Key Elements-	2007 ongoing	<p>“...The strategy is an outcome of a two-year-long nationwide consultation process with multiple stakeholders including concerned ministries, universities, research institutes, private sector, civil society, consumer groups, non-government and voluntary organizations and international bodies. The draft strategy, which was posted on the web, received over 300 comments from all sections of the society. The strategy has been finalized after careful scrutiny of these.</p> <p>“Announcing this at a Press Conference on 13th November 2007 Union Hon’ble Minister S&T and ES, Shri. Kapil Sibal said “recognizing that biotechnology is a sunrise sector which requires focused attention, the Government has accorded approval for the broad framework of this strategy and the sectors proposed therein”. The strategy, while enabling the full utilization of currently available opportunities in manufacturing and services, will lay a strong foundation for discovery and innovation, effectively utilizing novel technology platforms with potential to contribute to long term benefits in agriculture, animal productivity, human health, environmental security and sustainable industrial growth.”</p> <p>(http://dbtindia.nic.in/biotech_strategy.htm; 07.12.2014)</p> <p>India.National.Biotech.Development.Strategy.2011.pdf</p>

<p>Twelfth Five Year Plan (2012-2017)</p>	<p>2012-2017</p>	<p>“India's national social and economic strategies and priority setting is done in a planned schedule via Five Year Plans... “Given the challenges at domestic and global levels the Indian S&T landscape needs to undergo a paradigm shift. Despite economic slowdown during the Eleventh Plan (2007-2012), the government continued its support to science and technology and the higher education sector. The government sought to adopt new delivery mechanisms for innovative deployment of technologies and business models for financing innovations in the Twelfth Plan period. The major shift in the science, technology and higher education including innovation has been towards inclusive growth and development. This shift necessitated appropriate Science, Technology and Innovation strategies and guiding posts. The challenge is to develop an ecosystem that addresses the national priority for sustainable, inclusive and accelerated growth taking along the education, research and corporate sectors. The Twelfth Plan envisages a larger role to private sector.” (ERAWATCH, 7th December, 2014)</p> <p>India.12thFiveYearPlan.vol1.pdf India.12thFiveYearPlan.vol2.pdf India.12thFiveYearPlan.vol3.pdf</p>
<p>Eleventh Five Year Plan (2007-2012) /</p> <p>Report of The Steering Committee on Science and Technology for Eleventh Five Year Plan (2007-12)</p>	<p>2007-2012</p>	<p>“India’s commitment to planned economic development is a reflection of our society’s determination to improve the economic conditions of our people and an affirmation of the role of the government in bringing about this outcome through a variety of social, economic, and institutional means. The Eleventh Five Year Plan, which was approved by the National Development Council on 19 December 2007, reaffirms this commitment. It provides a comprehensive strategy for inclusive development, building on the growing strength of the economy, while also addressing weaknesses that have surfaced.”</p> <p>India.11thFiveYearPlan.vol1.pdf India.11thFiveYearPlan.vol2.pdf India.11thFiveYearPlan.vol3.pdf India.S&TReport.for.11thFiveYearPlan.2007-12.pdf</p>

Ireland

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>National Reform Programme For Ireland under the Europe 2020 Strategy 29 April 2011</p>	2011-2020	<p>“The document sets out Ireland's first National Reform Programme in the context of the Europe 2020 strategy which has been adopted as a successor to the Lisbon Strategy for Jobs and Growth and which aims to enable Europe to emerge from the current economic crisis and to turn the European Union into a smart, sustainable and inclusive economy.</p> <p>“Five headline targets for 2020 have been set at an EU level covering employment, research and development, climate change, education and poverty.</p> <p>“The Irish National Reform Programme identifies national targets in each of the five headline areas, the main bottlenecks to reaching these targets and sets out the measures necessary to allow Ireland overcome these and achieve its national targets. The National Reform Programme complements the Stability Programme Update as part of the European Semester.” (ERAWATCH; 09.12.2014)</p> <p>Ireland.National.ReformProg.under.EU.2020Strategy.pdf</p>
<p>Report of the Research Prioritisation Steering Group November 2011</p>	2011 ongoing	<p>“This report sets out the recommendations of the Research Prioritisation Steering Group which met between October 2010 and September 2011. We were asked by Government to identify a number of priority areas around which future investment in publicly-performed research should be based. These priority areas should deliver sustainable economic return through their contribution to enterprise development, employment growth, job retention and tangible improvements in quality of life.</p> <p>“Based on our deliberations, a number of significant studies undertaken by Forfás and direct input from the research community, the enterprise sector and research-funding Departments and agencies, we make recommendations in this report on 14 priority areas of focus and on the wider science, technology and innovation (STI) ecosystem.” [“Executive Summary”, Report, p. 7.]</p> <p>Priority Areas foreseen in the Report:</p> <ul style="list-style-type: none"> A - Future Networks & Communications B - Data Analytics, Management, Security & Privacy C - Digital Platforms, Content & Applications D - Connected Health and Independent Living E - Medical Devices F - Diagnostics G - Therapeutics: Synthesis, Formulation, Processing and Drug Delivery H - Food for Health I - Sustainable Food Production and Processing J - Marine Renewable Energy K - Smart Grids & Smart Cities

		<p>L - Manufacturing Competitiveness M - Processing Technologies and Novel Materials N - Innovation in Services and Business Processes</p> <p>Ireland.research_prioritisation.November.2011.pdf</p>
<p>Innovation Ireland Report of the Innovation Taskforce March 2010</p>	2010-2020	<p>"Our vision is that by 2020 Ireland will be an Innovation Hub with a significant number of large, world leading, innovation-intensive companies, each having a global footprint, many of which are Irish headquartered and owned.</p> <p>"These companies will provide high-quality employment and generate exports and tax receipts. They will have scale, and will recycle capital and experience while reinforcing a positive international image of Ireland as a place to invest risk capital and develop new innovative products and services.</p> <p>"Our vision also involves the creation of thousands of innovative companies, from very small start-ups through small, medium and larger companies, many of which aspire to scale themselves.</p> <p>"This requires a transformation in how we generate jobs and growth, and a shift in how we learn and how we work. It means making connections between ideas and people in ways which have not been tried before. It involves reevaluating our attitudes to both success and failure in order to reap the rewards of innovation.</p> <p>"Our vision encompasses existing companies and sectors that are strong in Ireland today with the aspiration to grow and innovate, thereby creating further jobs and profits. It requires a transformation of existing Irish businesses, as well as continuing to support moves by MNCs here into higher value activities which provide high quality jobs.</p> <p>"It also encompasses new companies: spin-outs from university or started by people working in Irish or MNC industry today. Many of these will be in emerging industries or in converging sectors using cutting-edge technology and concentrating significant efforts in research and development (a number of examples of innovative companies are interspersed in Textboxes within this Report).</p> <p>"To be very clear, our vision is not just about start-ups or businesses run by "people wearing white coats" - it includes family-run businesses, SMEs and MNCs that have been in existence in Ireland for many years. And they are supported by an innovative and entrepreneurial public service.</p> <p>"What is distinctive about these companies is that they are ambitious, they are export-focused and above all they are innovative."</p> <p>("Vision", Innovation Ireland, Report, p 7)</p> <p>Ireland Innovation.Ireland Report.March.2010.pdf</p>
<p>Strategy for Science, Technology and Innovation</p>	2006-2013	<p>Vision and Challenge:</p> <p>"Ireland by 2013 will be internationally renowned for the excellence of its research, and will be to the forefront in generating and using new knowledge for economic and</p>

		social progress, within an innovation driven culture." Ireland.Strategy.forSTI.2006-13.pdf
National Development Plan 2007-2013: Transforming Ireland A Better Quality of Life for All	2007-2013	<p>"The National Development Plan (NDP) 2007-2013 is a plan drawn up by the Irish Government which outlines priorities for investment during the period 2007-2013. There have been three earlier National Development Plans (1989-1993, 1994-1999 and 2000-2006.</p> <p>"NDP 2007-2013 notes the high levels of investment needed in the areas of Science and Technology, Enterprise Development, Agriculture and Food, Marine and Tourism to promote development in these areas.</p> <p>"The document highlights that while public funding of Research and Development has risen rapidly in recent years (more than doubling between 2000 and 2005), Ireland's performance in R&D is still behind that of the leading countries. The NDP document stresses that it is essential that Ireland develops a real competitive strength in this area.</p> <p>"The document states that the increased investment already underway in line with the 'Strategy for Science, Technology and Innovation 2006-2013' will continue during the period covered by the NDP. " (ERAWATCH; 04 February, 2009)</p> <p>Ireland.National.Development.Plan.2007-13.summary.pdf Ireland.National.Development.Plan.2007-13.pdf</p>
Building Ireland's Knowledge Economy: the Irish Action Plan for Promoting Investment in R&D to 2010	2004-2010	<p>"In order to realise this vision, the analysis undertaken reveals that the following targets need to be achieved:</p> <ul style="list-style-type: none"> - Business investment in R&D should increase from €917 million in 2001 (0,9% GNP) to €2,5 billion in 2010 or 1,7% GNP; - R&D performance in the higher education and public sectors should increase from €422 million in 2001 (0,4% GNP) to €1,1 billion in 2010 or 0,8% GNP; - The combined increases in performance in business, higher education and public sector R&D should result in gross expenditure on R&D increasing to 2,5% of GNP by 2010; <p>"Consequently, the number of researchers should reach 9,3 per 1.000 of total employment by 2010, from approximately 5,1 per 1.000 in 2001."</p> <p>Ireland.Building.KnowledgeEco.pdf</p>

Japan

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Contribution of Science and Technology to Future Society —Summary on the 9th Science and Technology Foresight— NISTEP REPORT No.145 Science and Technology Foresight Center National Institute of Science and Technology Policy December 2010</p>	<p>2010-2025</p>	<p>“In the “9th Science and Technology Foresight” conducted from FY2008 to FY2009, three investigative studies were carried out, with the cooperation of around 3200 experts in total, embracing not only each element of science and technology, but also discussion of a social system from such viewpoints as safety, security, and international collaboration, and discussion with due consideration of regional issues and the younger generation’s way of thinking. The foresight this time differs largely from its predecessors in that it aims at a problem-solving exercise that employs an interdisciplinary approach, eliminating as far as possible the boundaries of conventional disciplines.</p> <p>.....</p> <p>Vision of future society brought about by the advancement of science and technology</p> <p>“The consensus of opinion from 2900 experts by the delphi survey shows that society in around 2025 will have advanced features described below owing to the progress in science and technology.</p> <ul style="list-style-type: none"> <input type="checkbox"/> A society in which various diagnostic technologies and systems are incorporated in daily life and health maintenance by individuals has started to prevail. <input type="checkbox"/> A society where individuals can use various types of energy selectively based on their comprehensive evaluation of value and can feel that they proactively contribute to global warming prevention and environmental preservation. <input type="checkbox"/> A society in the early stage of coping with the various disasters caused by environmental changes.” <p>(“Executive Summary”, Summary on the 9th Science and Technology Foresight.)</p> <p style="text-align: right;">Japan.9th.Foresight.summary.pdf</p> <p>See also: Science and Technology Foresight Center and National Institute of Science and Technology Policy, The 9th Science and Technology Foresight -Contribution of Science and Technology to Future Society- The 9th Delphi Survey (Summary), NISTEP REPORT No.140, March 2010:</p> <p style="text-align: right;">Japan.9th.Foresight.Delphi.Survey.Summary.pdf</p>
<p>'Innovation 25' Creating the Future, Challenging Unlimited Possibilities</p>	<p>2007-2025</p>	<p>“According to the Innovation 25 Long Term Strategic Objectives, innovation is recognised as playing a role in bringing forth new value and societal change, as well as environmental enhancements and human abilities. Innovation is therefore seen as an important factor that should be promoted through government policies. However, over the next 20 years there are various challenges. The three main issues are:</p> <ol style="list-style-type: none"> 1) Population decline and ageing, accompanied by strong economic growth in Brazil, Russia, India, and China; 2) The globalisation of knowledge society and information, 3) Increased presence of global issues. <p>“In light of these trends, innovation serves to competitively enhance Japan's international position, as well as</p>

		<p>strengthen Japan's contribution to the world. In sum, innovation serves to enhance labour productivity and labour capacity, thereby assisting economic growth; creates new markets and applications; and elevates the quality of life for people.</p> <p>"The main issues addressed by the Innovation 25 Long Term Strategic Objectives relate to the opportunities and threats facing Japan over the period to 2025." [erawatch; 04 February, 2009]</p> <p>Japan.Innovation.25.Executive.Summary.pdf</p>
<p>Comprehensive STI Strategy June 7, 2013</p>		<p>'Comprehensive STI Strategy' is a Cabinet Decision of the Government of Japan.</p> <p>Japan.Comprehensive.STI.Strategy.2013.pdf</p>
<p>The 4th Science and Technology Basic Plan of Japan</p>	2011-2015	<p>Principles for the 4th Basic Plan:</p> <p>Target picture of Japan:</p> <p>(i) A nation achieving sustainable growth and societal development into the future, while accomplishing reconstruction and rebirth from the disaster...</p> <p>(ii) A nation realizing a safe, full and high-quality life for citizens...</p> <p>(iii) A nation leading in the resolution of global problems such as large-scale natural disasters...</p> <p>(iv) A nation maintaining S&T which forms the basis of its existence...</p> <p>(v) A nation continuing to create intellectual property and nurturing a culture of S&T..."</p> <p>Basic principles for future S&T policies:</p> <p>(i) Integrated promotion of "science, technology and innovation (STI) policies"...</p> <p>(ii) Greater priority to "roles of human resources and their supporting organizations"...</p> <p>(iii) Implementation of the "STI policy created together with society"...</p> <p>Japan.4th.S&T.BasicPlan.pdf</p>
<p>Japan's Science and Technology Basic Policy Report Council for Science and Technology Policy (December 24, 2010)</p>		<p>Policy Report, conducted by the Council for Science and Technology Policy criticizes the "<i>Results and issues of the 3rd Science and Technology Basic Plan</i>" and the "<i>Principles of the 4th Science and Technology Basic Plan</i>" such as:</p> <p>"Position of Science and Technology Basic Plan</p> <p>"In accordance with the Science and Technology Basic Law established in 1995, the Science and Technology Basic Plan ("Basic Plan"), consisting of three 5-year terms (15 years total), was formulated to ensure steady promotion of S&T in Japan. However, it cannot be denied that the S&T policies have been implemented mainly to promote S&T independently, not in organic coordination with essential policies on industry, economy, diplomacy, etc. On the other hand, many foreign countries position S&T policy as a basis of national strategies and develop S&T policy actively in organic / integrated coordination with other policies on industry, economy, diplomacy, etc. In view of what other countries are doing, as seen in the first acknowledgement of "Creation of innovation" by law, i.e., the 2008 Research</p>

		<p>and Development Enhancement Law¹, there is increasing need in Japan for the government to make an all-out effort to strongly and strategically promote S&T policies by integrating innovation policies, and tying S&T policies closely to other key policies on industry, economy, education, diplomacy, etc.</p> <p>"In light of these circumstances, the 4th Basic Plan aims to provide basic policies for comprehensive and systematic promotion of Japan's S&T policies by widely recognizing the "New Growth Strategy --Blueprint for Revitalizing Japan," formulated in June 2010 as a 5-year national strategy on S&T with an eye to the coming decade, deepening and embodying the policies provided by this Policy, and ensuring further coordination with other important policies." (<i>"Basic Understanding"</i>, Japan's Science and Technology Basic Policy Report, p. 1-2.)</p> <p>Japan.S&T.Basic.Policy.Report.2010.pdf</p>
Towards a Comprehensive Strategy of Science and Technology for the Medium-to-Long Term (2009)		<p>Since fiscal 2010 corresponds to the last year of the Third Science and Technology Basic Plan, in the run-up to deliberations over the formulation of the next phase of the Science and Technology Basic Plan to be conducted by CSTP, MEXT established the Special Committee on the Science and Technology Basic Plan under the Council for Science and Technology. In December 2009, the committee compiled the report "Towards a Comprehensive Strategy of Science and Technology for the Medium-to-Long Term".</p> <p>Japan.Towards.a.Comprehensive.Strat.of.S&T.2009.pdf</p>
3rd Science and Technology Basic Plan	2006-2010	<p>"The core strategies of the third plan are:</p> <p>"Development of human resources who can produce excellent research findings, creation of a competitive environment, promotion of science, and creation of persistent innovations through strategic investment; and removal of systematic or operational obstacles to return the R&D benefits to society. S&T has a mission to address a broad range of these policy issues for the next five years. With this basic understanding, the third basic plan intends to indicate primary measures to be executed steadily by the government as a whole with the leadership of the Council for Science and Technology Policy."</p> <p>Japan.3rd.S&T.BasicPlan.pdf</p> <p>More to explore for 'Japan Science and Technology Policy': http://www.mext.go.jp/english/index.htm</p>
The Science and Technology Basic Law	1995 onwards	<p>"The objective of this law is to achieve a higher standard of science and technology (hereinafter referred to as "S&T"), to contribute to the development of the economy and society in Japan and to the improvement of the welfare of the nation, as well as to contribute to the progress of S&T in the world and the sustainable development of human society, through prescribing the basic policy requirements for the promotion of S&T (excluding those relevant only to the humanities in this law) and comprehensively and systematically promoting policies for the progress of S&T."</p> <p>Japan.S&T.Basic.Law.1995.pdf</p>

Korea, South

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
3rd Science and Technology Basic Plan	2013-2017	<p>On 8th July, 2014 National Science and Technology Council (NSTC) announced Korea's 3rd Science and Technology Basic Plan, laying out government support for domestic R&D over the next five years.</p> <p>The plan's vision of 'pioneering a hopeful new generation guided by creative science and technology' is a nod toward Park's creative economy initiative and the use of R&D as a primary source of economic growth and job creation.</p> <p>The stated objectives are:</p> <ul style="list-style-type: none"> - 40% contribution of R&D to economic growth (The current Korean government aims to increase the contributions of R&D to economic growth from 35,4% to 40,0% through a new concept of creative economy.); - 640,000 new jobs; - World top 7 in STI capability <p>There are five strategies as below:</p> <ul style="list-style-type: none"> - Enhancing R&D investment and maximising efficiency, including raising R&D support from GBP 38.9 billion to GBP 52.9 billion for the next five years; - Development ability in 30 core and 120 national strategic technologies outlined and covering energy, environment, ICT and healthcare fields; more specifically priorities include smart grids, CCS(*), big data applications and personalised pharmaceuticals; - Building mid- to long-term creative capability through greater funding for basic sciences and international exchange; - Greater support for SMEs and venture companies in new industries, and the stimulation of intellectual property generation and commercialisation; - Creating new science related jobs, in part through revision of venture capital policies. <p>.....0.....</p> <p>(*Carbon capture and storage (CCS) (or carbon capture and sequestration), is the process of capturing waste carbon dioxide (CO₂) from large point sources, such as fossil fuel power plants, transporting it to a storage site, and depositing it where it will not enter the atmosphere, normally an underground geological formation.</p>
2nd Science and Technology Basic Plan	2008-2012	<p>"In 2007, the Korean National Science and Technology Council approved its second five-year S&T basic plan (2008-2012) which aims to help Korea become one of top five countries by 2012 in terms of S&T competitiveness. To this end, the plan sets major policy directions: to move from the existing follower/imitative innovation system to a creative/pioneering innovation system; to target 100 strategic technologies for the creation of future growth and the improvement of quality of life; to facilitate innovation in the services industry; and to expand the ratio of government R&D investment to GDP from 0.86% in 2006 to 1% in 2012." [OECD Science, Technology and Industry</p>

		Outlook 2008] Korea.S&T.BasicPlans.pdf Korea.2nd.S&T.BasicPlan.Evaluation.2008.pdf
Korea 2030 The Third Korean National Foresight Exercise June 2003-December 2004	Time Horizon: 2005-2030	“The Third Korean Foresight Exercise entitled ‘Future Perspectives and Technology Foresight for Korea – Identifying Challenges and Opportunities for Korea’s Economy and Society’ represents the most comprehensive effort to date by the Korean government in the field of S&T foresight. Capitalizing on previous studies conducted in 1994 and 1999 its chief purpose is to chart the future of Korean society and technology and link peoples future needs to innovations in science and in research. Systemic in both character and methodology this Third Korean Foresight Exercise accelerates Korea’s evolution towards a knowledge society.” (WWW.EFMN.INFO The European Foresight Monitoring Network) Korea-2030.3rd.foresight.pdf
Vision 2025 Korea’s Long-term Plan for Science and Technology Development June 2000	2000-2025	“By 2025, Korea will stand out as the major research hub in the Asia-Pacific region, engaging in the activation of the fundamentals of scientific study, promoting globalization, and forging a new atmosphere to the promotion of R&D. “Finally, by 2025, Korea should secure scientific and technological competitiveness in selected areas that are comparable to the level of G-7 countries. The nation will achieve this goal by: Creating, utilizing, and proliferating knowledge, heightening scientific literacy; and establishing a national operating system under the purview of S&T. “To attain affectively the above mentioned, long-term vision and goals, confidence must be acquired first to strategically cope with societal changes in the 21 st century. Secondly, Korea has to do its best to develop the fields of information technology, life science, materials, alternative energies, the environment, mechatronics, and basic science by implementing the ‘selection and concentration’ strategy. Third, the government should solidify the national innovation system by changing the basic direction of S&T policy.” Korea.Vision2025.pdf

Luxembourg

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
National plan for smart, sustainable and inclusive growth Luxembourg 2020 (30th April, 2010)	Target: 2020	Luxembourg 2020 is the government's national reform plan under the Europe 2020 strategy. Luxembourg-2020.pdf
Plan national pour l'innovation et le plein emploi [National plan for innovation and full employment]	2006-2010	"The main issues of this plan are: - To increase and improve R&D investment particularly for the private sector; and - To facilitate innovation in all its forms by the promotion of R&D and innovation investments." Luxembourg.NationalPlan.for.Inno.pdf Luxembourg.NationalPlan.Imple.Report.pdf

Mexico

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
Programa Especial de Ciencia, Tecnología e Innovación 2008-2012 (PECiTI) [2008-2012 Special Program of Science, Technology and Innovation]	2008-2012	The 2008-2012 Special Program of Science, Technology and Innovation is the sectoral planning instrument that defines the actions to be carried out in the field of science, technology and innovation in Mexico over the next few years and it will enable a short-, medium- and long-term perspective to be established for these topics. Mexico.PECiTI.2008-2012.Presentation.pdf Mexico.PECiTI.2008-2012.pdf
LEY DE CIENCIA Y TECNOLOGÍA [The Science and Technology Law] Nueva Ley publicada en el Diario Oficial de la Federación el 5 de junio de 2002 Última reforma publicada DOF 20-05-2014		"The Science and Technology Law is the framework for science and technology policy in Mexico. The Law has nine chapters that provide the framework for the regulation of STI activities, ranging from the principles that guide the support to scientific research, technological development and innovation; the description of the different types of available public funds in support of STI; the functioning of fiscal incentives for STI; the instruments for the decentralisation of STI activities and its financing instruments; the linkages between research and education; and the role of public research centres in supporting STI activities. One main original aim was to ensure greater stability by disconnecting Science and Technology policy from Mexico's political cycles. The law addresses also regional aspects of Science and Technology policy through co-operation mechanisms between the federal and state levels in the definition, financing and implementation of Science and Technology capacity building and Research and Development projects." (ERAWATCH; 15.12.2014) Since the 2002 decree, the law has been reformed five times (August 2006, June 2009, April 2010, January 2011, May 2014). Mexico.Ley.de.Ciencia.Y.Tecnología.pdf

Netherlands

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Kwaliteit in verscheidenheid Strategische Agenda Hoger Onderwijs, Onderzoek en Wetenschap</p> <p>[Quality in diversity: Strategic Agenda for Higher Education, Research and Science Policy]</p>	<p>2011-2025</p>	<p>"This strategic agenda, Quality in Diversity, outlines a long-term perspective for higher education, research and science. Our aim is a future-sustainable higher education system. A system with international allure, in which students are challenged, teachers teach with enthusiasm and researchers contribute to scientific breakthroughs, resolving the big social issues and increasing our economic success.</p> <p>"We need such a higher education system because our ambitions are high. The Netherlands wants to rank among the top knowledge economies. This requires a broad base of high-quality higher education and research and strong research focus areas. The government wants to bring about a strong connection between economic policy for the top sectors and policy for higher education and research. Making choices and focusing on one's own strengths are the key words. The Netherlands will advance if we opt for a focused effort aimed at a limited number of economic (top) sectors and big social challenges. For Dutch higher education and research, focusing is equally important. It increases quality and ensures that higher education and research can play their crucial roles in the further development of the Dutch economy and society.</p> <p>"In its Trade and Industry memorandum, the government outlined its approach to making the Netherlands more innovative, more entrepreneurial and more competitive. The approach to nine top sectors is pivotal in this. In the golden triangle of the business community, knowledge institutions and the government, agendas are being drawn up with actions that are necessary to keep the sectors on the map, also in an international perspective. According to the recommendations of the top sectors, public-private collaboration among the education and research sectors, the government and the business community is crucial in this. The report of the committee on the Future Sustainability of the Dutch Higher Education System (Veerman Committee) has persuaded the government and the entire field of higher education that a quality boost is needed in higher education and that comprehensive changes are therefore urgently required. Dutch higher education is generally of good quality but the ambitions of the Netherlands require an increase in quality. Furthermore, the quality of the bachelor's degree in professional higher education is no longer undisputed. Doubt has arisen regarding the quality of the diploma. The government has already presented its proposals on this point. In this strategic agenda, I further propose a number of changes of direction to make the higher education system future-proof." (<i>Introduction</i>, Quality in diversity, p.9)</p> <p>Netherlands.kwaliteit.in.verscheidenheid.pdf</p> <p>Netherlands.quality.in.diversity.pdf</p>

<p>Enterprise Policy at Full Speed Progress report on enterprise policy 2013</p>		<p>The report provides an overview of the first achievements of the Enterprise Policy (initiated in 2012). It covers both economic and research policy measures. Support to sectoral innovation in manufacturing is the focal point of the Enterprise Policy.</p> <p>“In the past few years we have laid the basis for an enterprise policy aimed at all businesses, but with special consideration for nine top sectors. This new enterprise policy has been at full speed for a good two years. The golden triangle of industry, knowledge institutions and government cooperate in building international competitive strength and responding to challenges in Dutch society. Much has been achieved in the foregoing period: from the establishment of the top teams to the conclusion of innovation contracts and the ‘technology pact’, the creation of various centres of expertise and centres for innovative craftsmanship and the organisation of several trade missions for the top sectors. Public and private sectors players are increasingly working together, and achieving good results that make the Netherlands stronger.”</p> <p>(Enterprise Policy at Full Speed, p.4)</p> <p>Netherlands.EnterprisePolicy.at.full.speed.pdf</p>
<p>NAAR DE TOP Het bedrijvenbeleid in actie(s) [To the top: Enterprise policy in action(s)]</p>	<p>2011-2020</p>	<p>“Globalisation provides opportunities for Dutch business...</p> <p>“Growth of emerging markets in Asia and Latin-America has meant increasing international competition. This has serious consequences for Dutch enterprise with its strong international orientation. A dynamic world economy should in itself be no cause for concern. On the contrary: the strong growth of emerging economies means strong growth in potential markets, the like of which has not been seen in recent history. This offers Dutch business, universities and knowledge institutes excellent potential to exploit market opportunities and attract businesses, people and knowledge institutes to form ties with the Netherlands.</p> <p>“... as do challenges in society ...</p> <p>“Societal developments like an aging population, the increasing scarcity of raw materials, climate change and diminishing biodiversity are often seen as threats to growth and welfare. However, these challenges provide opportunities in abundance for innovative enterprises. After all, only innovation – the technology of tomorrow – can bring ground-breaking, affordable solutions closer. Sustainable economic growth will enable us to embrace these challenges. Innovation, creativity and enterprise is the key.</p> <p>“... this requires a new approach ...</p> <p>“If we wish to seize the opportunities described above we will need a new approach. R&D investment by the Dutch business sector is lagging behind. Businesses, particularly SMEs, are deriving too little benefit from the research in public knowledge institutes. We are missing the opportunity to exploit our world class scientific knowledge. Dutch subsidy policy has not delivered tangible results in the areas of knowledge and innovation and SMEs still have difficulty in finding funding for relatively high-risk</p>

		<p>innovative projects. Moreover, entrepreneurs do not go into business for the subsidies, but because they have a good idea and see potential in developing it successfully. This is certainly true for SMEs, where subsidies go hand in hand with relatively high implementation and perception costs. The Dutch private sector sees government policy as being incoherent and unclear. The government is organised along the lines of policy dossiers drawn up in The Hague, rather than according to Dutch private sector structure. Our task is to position the Netherlands firmly in the fast growing markets and to find innovative solutions to societal problems.</p> <p>“... towards a new enterprise policy ...</p> <p>“Against this background the key objectives of the new business sector policy are:</p> <p>“A sector approach ...</p> <p>“... more demand-driven input by the private sector ...</p> <p>“... fewer specific subsidies, more generic deregulation ...</p> <p>“... more scope for entrepreneurs ...”</p> <p>(“Ambition and vision”, NAAR DE TOP, p.1-2.)</p> <p>Netherlands.Naar.De.Top.pdf Netherlands.To.the.Top.pdf</p>
<p>An innovative, competitive and enterprising economy... Coalition agreement dated 7 February 2007</p>	2007 onwards	<p>“A vital, innovative economy is the basis of sustainable development and prosperity. The Netherlands will have to continue to work on maintaining and strengthening its competitiveness. Our ability to compete increasingly depends on our capacity to innovate and produce added value and quality. The essential requirements are a well-educated and well-equipped labour force, high-quality knowledge and information, an entrepreneurial spirit, a favourable business climate and wage restraint. Creativity is the source of innovation.”</p> <p>Netherlands.CoalitionAgreement2007.pdf</p>
<p>A new integrated step towards stimulating innovation: “Pôle de Compétitivité [Competitiveness Clusters]”</p>	2006 onwards	<p>“The purpose of the <i>Pôle de Compétitivité</i> is to optimise the innovative and commercial ability of our nation’s talent in nanotech and embedded systems. The essence of the <i>Pôle</i> is an interactive and -above all- inspiring community of people from industry, SME’s and science. The <i>Pôle</i> will become a unique ecosystem of excellence with broad benefits to society and our economy.”</p> <p>L. J. Brinkhorst Minister van Economische Zaken, Speech in Eindhoven, 14 juni 2006</p> <p>Nl.Brinkhorst.Speech.2006.pdf</p>
<p>A new innovation policy</p>	2005 onwards	<p>“The Netherlands has drafted in 2005 a new innovation policy, consisting of a basic package for all entrepreneurs and a programme-based package aimed at supporting the Dutch industry in achieving global excellence, in a limited number of (business) areas. The programme-based package is characterized by an integral approach, resulting in user-driven public-private innovation programmes, thereby creating focus and critical mass. A unique aspect of the new approach is that industrial foresight processes are integrated with actual policy implementation. The total</p>

		annual budget for the innovation programmes is to be at least EUR 200 million." NL.NewInnovationPolicy.2005.pdf
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New Zealand

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Draft National Statement of Science Investment 2014–2024 [Draft for Consultation] and Summary of Submissions on the Draft National Statement of Science Investment 2014–2024</p>	<p>2014-2024</p>	<p>“New Zealand’s economic and social wellbeing depends on the productivity and competitiveness of our economy and the knowledge we have to make informed decisions as a society. Science provides that knowledge and informs those decisions.</p> <p>“Over the past five years, the New Zealand science system has seen significant change. Seeking to better understand and capitalise on our science and innovation strengths, and to identify priority areas for improvement, one of our first steps has been to map our system against international best practices and areas of high growth or high need in the New Zealand context.</p> <p>“This has resulted in ambitious initiatives. The National Science Challenges are aimed at generating better science faster, and at getting results directly to the areas where the knowledge can benefit New Zealand the most. Callaghan Innovation will help our companies maximise their benefits from New Zealand sciences. We have strengthened the role of science in Government’s own decision making through the appointment of the Prime Minister’s Chief Science Advisor and now a number of departmental science advisors.</p> <p>“It is now time to take stock. Over the next five- to ten-year horizon, the science system will take on an increased prominence as it both shapes and is shaped by an economy that is increasingly innovation-led, and a population that is more engaged with science in their daily lives than ever before.</p> <p>“This draft National Statement of Science Investment sets out the Government’s proposed future direction for, and coordination of, science investment in New Zealand. It is vital that our science system can respond to the unique economic, environmental and cultural challenges that face New Zealand now and in the future.</p> <p>“This consultation considers the structure of our science investment system to ensure it is appropriate and focuses effort in the right areas. It assesses the objectives for, and shape of, the science system, the balance of investment mechanisms, the inter-relationships between funds and institutions, and how we better evaluate effectiveness. I am also proposing improvements to our science contestable funding mechanism to improve its flexibility and responsiveness to business needs, and reduce complexity.</p> <p>“I want your feedback to assist us in focusing our efforts. I encourage you to engage with government to give us your views on our future direction.”</p> <p>Hon Steven Joyce Minister of Science and Innovation May 2014</p> <p>NewZealand.Draft.Nat.Statement.of.Science.Invest.pdf</p> <p>You will find the ‘Summary of Submissions on the Draft National Statement of Science Investment 2014-2024 below: NewZealand.summary.of.submissions.on.the.draft.pdf</p>

<p>Igniting Potential: New Zealand's Science and Innovation Pathway</p>	<p>2009...</p>	<p>"Science and innovation create new opportunities for economic growth, improve our quality of life and help us make sense of the world we live in. For science and innovation to create these opportunities, it is necessary to have a robust science and innovation system that is responsive to national needs and opportunities. The Government is taking steps to improve</p> <p>"New Zealand's system, empower the people working within it, get better returns from public investment and direct government support where it can make the most difference. Igniting Potential describes the new, simpler and more direct system and other changes the Government is making in this area.</p> <p>"An important initiative has been to restructure government funding to clarify priorities and provide a more direct pathway for implementing them. The priority outcome areas are:</p> <ul style="list-style-type: none"> • High-value manufacturing and services • Biological industries • Energy and minerals • Hazards and infrastructure • Environment • Health and society <p>"There are also generic outcomes, such as excellent people, investigator-led research, national infrastructure, international relationships and Vision Mātauranga*. The Government has also defined funding tools that focus on different kinds of activity within each outcome area – from science-led funding to technology transfer and commercialisation. This allows the Government to focus funding where it can make a difference.</p> <p>"Business research and development (R&D) are essential; both in their own right and because businesses performing their own research are better able to make use of public sector research. New Zealand ranks poorly on international benchmarks for business R&D. The Government is responding to this by increasing its support for business R&D and introducing changes to give business better access to public research and enable users of research, including business, to have a greater influence on Crown Research Institute (CRI)** research strategies. Changes will take place in the delivery of business R&D support – rather than firms having to search out the most appropriate R&D programmes; government agencies will do this, as part of a one-stop shop approach."</p> <p>(<i>Executive Summary</i>", Igniting Potential, p. 3-4)</p> <p>.....0.....</p> <p>[*] mātauranga: Exploring indigenous knowledge and science and innovation. "Vision Mātauranga" aims to strengthen connections between Māori and the science and innovation system.</p> <p>[**]The CRIs occupy central positions within New Zealand's broader science and innovation system.</p> <p style="text-align: right;">NewZealand.Igniting.Potential.pdf</p>
<p>Statement of Intent 2008-2011 / MoRST Strategy 2008-2011</p>	<p>2008-2011</p>	<p>'Statement of Intent (SoI)' is the guiding document for the work of the Ministry of Research, Science and Technology (MoRST). It sets out the activities they will engage in over the next three to five years, and explains why they have selected some activities as their key priorities. It also provides the standard by which they measure their progress and achievements.</p> <p>Statement of Intent 2008-2011 emphasises outcomes for the Research, Science and Technology system (RS&T) – presenting six key attributes that characterise a "world's best" small-country RS&T</p>

		<p>system.</p> <p>'MoRST Strategy 2008-2011' put forward the strategic direction for MoRST for the same period.</p> <p>NewZealand.Statement.of.Intent.2008-2011.pdf NewZealand.MoRSTStrategy.2008-2011.pdf</p>
Roadmaps for Science	2007 onwards	<p>'Roadmaps for Science', are a series of documents designed to guide New Zealand's science and research activity. They are a type of strategy, providing broad context and high level directions on a particular area of science from a New Zealand perspective.</p> <p>The Ministry of Research, Science and Technology (MoRST) has developed Roadmaps in four areas:</p> <ul style="list-style-type: none"> - Energy Research Roadmap (Published December 2006) NewZealand.Energy.Research.Roadmap.pdf - Nanoscience and Nanotechnologies Roadmap (Published February 2007) NewZealand.Nanotechnology.Roadmap.pdf - Biotechnology Research Roadmap (Published March 2007) NewZealand.Biotechnology.Roadmap.pdf - Environment Research Roadmap (Published June 2007) NewZealand.Environment.Research.Roadmap.pdf

Norway

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Norwegian research priorities for 2016</p>	<p>2016</p>	<p>The Research Council's eight priority focus areas:</p> <ul style="list-style-type: none"> • Climate change will require social transformation • Towards a new energy mix • Marine and maritime research and innovation • Effective health and care services • ICT for societal and industrial development • World-leading research groups • Enhancing the use and value of research • Taking better advantage of EU research funding <p>Norwegian.research.priorities.for.2016.pdf</p>
<p>Thematic strategies and policy documents</p> <p>The Research Council of Norway</p> <p>[Last updated: 26.11.2014]</p>	<p>2014-2020</p>	<p>Thematic strategies and policy documents:</p> <p>In its role as an advisory body on research policy issues, a central task of the Research Council is to initiate and prepare strategic plans and policy documents for individual disciplines, subject areas and research topics. Such documents may be drawn up to stipulate specific research-policy priorities, or may be formulated in response to an evaluation of the relevant research community.</p> <p>Norwegian.Research.Council.Thematic.Strategies.pdf</p> <p>Thematic strategies and policy documents have been listed below:</p> <ul style="list-style-type: none"> • The Research Council's policy for basic research 2015-2020 • The Research Council's strategy for the research institute sector 2014-2018 • The Research Council's policy for R&D at university colleges 2014-2018 • Regional policy 2014-2018 • Norwegian polar research, Research Policy 2014-2023 • Innovation Strategy for the Research Council of Norway 2011-2014 <p>Norway.Innovation.Strategy.for.RCN.pdf</p> <ul style="list-style-type: none"> • Research strategy for the Northern Areas • National strategy for research infrastructure • The Research Council's principles for open access to scientific publications
<p>Strategy for International Cooperation 2010 - 2020</p> <p>The Research Council of Norway</p> <p>18 November 2010</p>	<p>2010-2020</p>	<p>This document sets out a strategy for the Research Council's efforts to achieve greater internationalisation of Norwegian research. This strategy specifies what the Research Council will do to:</p> <ul style="list-style-type: none"> - encourage and support international cooperation among researchers; - cooperate with and support the internal international strategies drawn up by institutions and companies; - help to achieve the internationalisation objectives of the Government and various ministries. <p>In addition, this document outlines how the Research</p>

		<p>Council itself will take part in international cooperative efforts.</p> <p>Norwegian.Research.Council.Int.Stra.2010-2020.pdf</p>
<p>An Innovative and Sustainable Norway Short version of the White Paper, Report No. 7 to the Storting [Norwegian Parliament] (2008–2009) [St.meld.nr.7 (2008-2009) Et nyskapende og bærekraftig Norge]</p>	2008-2009	<p><i>"We must act now so that Norway shall be among the world's best countries to live in, not just for us, but for our children and grandchildren too. We must be successful in achieving renewal through development of new technology, new products and new solutions. We must lay the basis for more innovation in both the private and the public sectors."</i></p> <p style="text-align: right;"><i>Sylvia Brustad</i> Minister of Trade and Industry</p> <p>The report, entitled "Report No. 7 (2008-2009) to the Storting [Norwegian Parliament]: An Innovative and Sustainable Norway", was presented by the Ministry of Trade and Industry in December, 2008.</p> <p>That is the first Report presented to the Storting [Norwegian Parliament] on Innovation. With this report, it is promised to create a framework for facilitating innovation and cooperation in the public and private sectors alike. It is said: "An important component of achieving this lies in strengthening industry-oriented research."</p> <p>Norway.Innovative.SustainableNorway.ShortVersion.pdf Norway.Et.nyskapende.og.bærekraftig.Norge.pdf</p>
<p>In the Vanguard of Research Strategy for the Research Council of Norway 2009 - 2012</p>	2009-2012	<p>The Research Council's main strategy for the 2009-2012 period was entitled <i>"In the Vanguard of Research."</i> It was the result of collaboration among the Council's governing bodies and a review process that gathered viewpoints from throughout the entire Norwegian research community. Its four key challenges aforesaid have remained in force in the years of 2013 and 2014.</p> <p>"In the Vanguard of Research sets out the strategy for the Research Council of Norway's activities for the period from 2009 to 2012. This strategy revolves around four key challenges facing the Norwegian research establishment. These are:</p> <ul style="list-style-type: none"> <input type="checkbox"/> To ensure adequate capacity and quality: There must be greater investment in research activity and the overall quality must be enhanced to help researchers, trade and industry and society at large to develop and compete in an increasingly globalised world. <input type="checkbox"/> To meet the changing needs of society: Research must seek to respond more directly to specific social and industrial challenges, especially in relation to welfare and industrial development, as well as global climate and energy problems. <input type="checkbox"/> To create a sounder structure: The structure of the Norwegian research system, its national partnerships and its international participation must be upgraded to achieve optimum utilisation of Norway's overall R&D resources. <input type="checkbox"/> To promote new learning: Research must generate results that can be applied by the private and public sectors alike, as well as provide a framework for learning that will benefit the national knowledge culture." <p>("Introduction" In the Vanguard of Research)</p> <p>Norway.In.the.Vanguard.of.Research.2009-2012.pdf</p>

<p>Commitment to Research</p> <p>Report No. 20 (2004-2005) to the Storting [St.meld. Nr. 20 (2004-2005) Vilje til forskning]</p>	<p>2004-2010</p>	<p>This report, presented to the Storting (Norwegian Parliament) by the Norwegian Ministry of Education and Research, provides frameworks and shows the way forward for Norwegian research up to the year 2010. At the same time it paves the way for strengthening Norwegian research in the longer term.</p> <p>"... The Government's goal is to ensure that Norway occupies a leading position internationally in terms of new technology, skills and knowledge"</p> <p>"... To enable Norway to become a leading research nation, the Government aims for an increase in the total investment in research to three per cent of the GDP by 2010. Public sources will account for one per cent of the GDP. The Government proposes to increase the capital in the Research and Innovation Fund to NOK 50 billion from 1 January 200"</p> <p>"... Priority will be given to research funds; international research cooperation; and strengthening of research in mathematics, the natural sciences and technology."</p> <p>Norway.Researh.in.Norway.08.pdf Norway.Commitment.to.Research.pdf</p>
<p>Research expands frontiers</p> <p>Strategy for the Research Council of Norway</p>	<p>2004-2010</p>	<p>"The primary aim of the Research Council of Norway is to promote top quality research in response to the needs of society. This strategy document focuses primarily on areas in which a need to chart out a new course is seen in relation to the existing situation, and describes the actions that the Research Council will take to fulfil the objectives set out in the Norwegian Government's existing research policy. The Research Council also serves as an advisory body in the formulation of national research policy."</p> <p>Norway.ResearchExpandsFrontiers.Strategy.2004-10.pdf</p>

Poland

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
Building on Knowledge Reform of Science in the Poland	2010 onward	<p>“On 1 October 2010 a major reform regarding the administration of Polish science, prepared by the Ministry of Science and Higher Education, became law.</p> <p>“A package of six acts under the title “Building on Knowledge – a Reform of Science for the Development of Poland” was created in close cooperation with people and institutions representing scientific, academic and economic circles. As a result, the reform is a group of modern and consistent regulations answering to the real, current needs of science and facilitating the inclusion of our scientists’ work in the main current of global scientific research.</p> <p>“It is vitally important that the scientific and academic communities should not only be aware of the concepts behind the reform and its goals, but above all know exactly what opportunities are now open for scientists, universities and scientific institutions. This publication is a special presentation of the new face of Polish science. We present here the new regulations concerning the authority of scientific bodies, the principles of their financing and of assessing the quality of research work. We also explain the new possibilities and rules concerning applications for research funds and the responsibilities of new scientific bodies and institutions.”</p> <p>Prof. Barbara Kudrycka Minister of Science and Higher Education</p> <p>Poland.Reform.of.Science.in.Poland.pdf</p>
Higher Education Reform	2011 onward	<p>“Never in the history of man have changes come so fast. The last decades have brought innovations we had never dreamt of before and the last years – changes we had been awaiting for so long. And even though it remains true that “the fate of Poland depends on proper education of its youths,” the great changes require constant deliberation on what and how to teach in the dynamically changing times; how to give young Polish Masters of Arts or Science the same opportunities that their European peers get, how to give their careers a boost and how to make education – regardless of life changes – a trustworthy anchorage. This is what the higher education reform is for. It focuses on giving Polish students top quality education, on enabling scientists to participate in the most important international research projects and on providing our higher education schools with the possibility of continuous development.”</p> <p>(Higher Education Reform, p. 3)</p> <p>Poland.Higher.Education.Reform.pdf</p>
Kierunki zwiekszenia innowacyjnosci gospodarki na lata 2007-2013 [Directions for increasing innovativeness of the	2007-2013	<p>“The document shows the directions and states the needs to create positive conditions to improve the innovativeness of the Polish research system.</p> <p>“The main priority of the document stated is the improvement of the innovativeness of Polish firms through strengthening the National Innovation System.”</p>

economy for 2007-2013]		(ERAWATCH; 14 February, 2009) Poland.Directions.for.2007-2013.outlines.pdf Poland.ErawatchReport.2009.pdf
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Portugal

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Estratégia de Investigação E Inovação Para Uma Especialização Inteligente 2014-2020</p> <p>VERSÃO DE JULHO DE 2014</p> <p>[Research and Innovation Strategy for Smart Specialisation]</p>	2014-2020	<p>The National Strategy for Smart Specialisation</p> <p>“The Innovation Union and the new European Cohesion Policy flagship initiative, part of the Multiannual Financial Framework (2014-2020), require Member States to develop strategic planning and programming at multiple levels, towards the formulation of a Research and Innovation Strategy for Smart Specialisation, – a prerequisite for using Structural Funds and essential to the dimension of Smart Growth.</p> <p>“Given its privileged position in the national scientific and innovation context, FCT [Fundação para a Ciência e a Tecnologia (Foundation for Science and Technology)] is committed to promoting a broad and collective discussion on this issue to allow coordinated action among key stakeholders from both the public (universities, research institutions and national and regional administrations) and the private sectors, with the aim of identifying themes and strategic objectives for Portugal in 2020.</p> <p>With that in mind, FCT set up a taskforce in 2012, which includes representatives of the <i>Secretaria de Estado da Ciência</i> to foster activities that will contribute to the development of a coordinated, regionally based, strategy.</p> <p>“FCT also created an interdepartmental working-group that carried out a diagnosis of the national research and innovation system, including a SWOT study, published in May 2013. This report formed the basis for foresight analyses and the organisation of - thematic workshops - aimed at opening the debate to the research community and other actors in the system.”</p> <p>(Fundação para a Ciência e a Tecnologia; http://www.fct.pt/suporte-politicas-IeD/estrategia2020/, 23rd December, 2014)</p> <p>Portugal.Estratégia.de.Investigação.E.Inovação.2014-2020</p>
<p>An Analysis of the Portuguese Research and Innovation System Challenges, strengths and weaknesses towards 2020</p> <p>May 2013</p>	2013-2020	<p>“As the national funding agency for science and technology, the Fundação para a Ciência e a Tecnologia (FCT) is a key actor in the national Research and Innovation System (R&I). It is currently the main source of funding not only for the public research sector, but also for the most basic and strategic forms of R&I activities in the business sector. The FCT also plays a crucial role in promoting the visibility and integration of national science into the European Research Area, while also contributing to the formulation of policies and programmes at European and transnational levels, and with the countries with which we have agreements. These crucial functions of the FCT are supported by the quality and professionalism of its staff, the ample coverage and remit of its work and the active role it plays in constructing both European and transnational R&D policy agendas. This work builds on the collective efforts of several decades, while adapting it to the current needs of the system.</p> <p>“It is in this context that our vision for the FCT includes a return to a once prominent role as an organiser of forums</p>

		<p>for collective discussion of national strategies for research and innovation. Additionally the FCT embraces the challenge of defining future directions, together with the scientific and business communities and, as of now, with the national and regional organisations responsible for the formulation and implementation of research and innovation policies. This report is the first small step in that direction, helping to provide the foundations for a productive dialogue between all the relevant actors. This work encourages increased strategic collaboration and interconnection across key players in the run up to 2020, building upon an R&D and innovation system growing in strength and competitiveness at an international level."</p> <p>Miguel Seabra President of the Fundação para a Ciência e a Tecnologia (FCT) May, 2013 ("Opening Remarks", An Analysis of the Portuguese Research and Innovation System, p. 4)</p> <p>Portuguese.Research.and.Inno.System.SWOT.pdf</p>
<p>Plano Tecnológico - Uma estratégia de crescimento com base no Conhecimento, Tecnologia e Inovação [Technological Plan: A growth strategy based on Knowledge, Technology and Innovation]</p>	<p>2006 onwards</p>	<p>"This time of change is a time of opportunity for countries like Portugal, with its ambition to make up for its structural delays and return to the front line of progress and development."</p> <p>"... The Technological Plan is an idea to trigger change, a priority agenda and a political commitment which aims to promote Portugal's development and competitiveness through a pledge focused on knowledge, technology and innovation."</p> <p>(Presentation to the Advisory Council of the Technological Plan; 19 July, 2006)</p> <p>Portugal.PlanoTecnologico.Documento.de.apresentação.pdf Portugal.TechnologicalPlan.PresentationDocument.pdf Portugal.TechnologicalPlan.MonitoringSys.pp.presentation.pdf</p>

Russian Federation

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Russian Research Policy [Last update: March 2014]</p>	<p>2013-2020</p>	<p>It will be found some short explanations about the science and technology policy of Russian Federation and also some remarks on the main policy documents listed below, in this paper.</p> <p style="text-align: right;">Russia.Research.Policy.March.2014.pdf</p> <ul style="list-style-type: none"> • Federal Law (No. 127-FZ of August 23, 1996) “On Science and State Science and Technology Policy” (with changes of November 3, 2013; version put in force from January 1, 2014). • Governmental Decree (№2433-p of December 20, 2012) “On Approving the State Programme of the Russian Federation ‘Development of Science and Technology 2013-2020” The list of ‘thematic priority areas’ for financing basic and applied research includes: <ul style="list-style-type: none"> •New materials and nanotechnologies •Information and telecommunication technologies •Biotechnologies •Medicine and health •Rational use of natural resources •Transport and space systems •Energy efficiency and energy conservation •Interdisciplinary studies in sociology, economics and humanities • Presidential Decree (№ 899 of July 7, 2011) “On Approving Priority Areas of Science and Technology Development in the Russian Federation and the List of Critical Technologies of the Russian Federation” “The list of priority areas in science, technology and engineering is aimed at promoting modernisation and technological development of the Russian economy and improving its competitiveness, and includes: security and counter-terrorism; nanosystems; information and telecommunications systems; life sciences; advanced weapons, military and special technology; environmental management; transport and space systems; energy efficiency, energy saving, and nuclear power. “In addition, a list of 27 critical technologies has been approved.” • The Concept for Long-term Social and Economic Development of the Russian Federation 2020 (approved by the Decree of the Government of the Russian Federation № 1662-h of November 17, 2008) • The Strategy for Innovative Development of the Russian Federation 2020 “Innovative Russia – 2020” (approved by the governmental decree № 2227-p of December 8, 2011) • Science and Technology Foresight of the Russian Federation 2030 • Federal Targeted Program: “Research and Development in Priority Fields of S&T Complex of

		<p>Russia in 2014-2020" (approved by the Governmental Decree № 426 of May 21, 2013) Russia.Targeted.Prog.for.R&D.2014-2020.pdf</p> <ul style="list-style-type: none"> • Federal Targeted Program: "Scientific and Scientific-Pedagogical Personnel of Innovative Russia for 2014-2020" (approved by the Governmental Decree № 424 of May 21, 2013) Russia.Targeted.Prog.for.Sci.Personal.2010-2020.pdf
Strategy for Developing Science and Innovation for the period to 2015	2007-2015	<p>"To regain its former position in global science and technology, the government has adopted a strategy for the development of science and innovation to 2015 in order to improve government funding programmes and to foster science and industry linkages. New government funding programmes have been established to support R&D in priority industries, including space and aviation, nanotechnology, biotechnology and software, and to support the development of HRST."</p> <p>"The main target indicators and milestones are:</p> <p><i>i)</i> To raise domestic R&D spending to 2% of GDP by 2010 and to 2.5% by 2015;</p> <p><i>ii)</i> To enhance the prestige of Russian science by attracting young people to science and technology and raising the share of researchers under 39 years of age to 36% by 2016;</p> <p><i>iii)</i> To increase innovation so that the share of enterprises introducing technological innovations reaches 15% by 2011 and 20% by 2016; and to see business expenditure for R&D reach 10% a year."</p> <p>(OECD Science, Technology and Industry Outlook 2008) Russia.Science.and.Inno.Strategy.2015.pdf Russia.Science.and.Inno.Strategy.2015.2.pdf</p>

Slovak Republic

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>The Fenix Strategy: Update of the Long-Term Objective of the State Science and Technology Policy up to 2015</p>	<p>2011-2015</p>	<p>“The strategy recognises several risks Slovakia faces in the long-term view: (a) increasing deficit of high quality human resources; (b) poor level of knowledge transfer between academia and industry sectors and inadequate support to innovations; (c) losing touch with global knowledge pool; and (d) lacking knowledge for solutions of some specific Slovak problems.</p> <p>“The Fenix strategy suggests a range of institutional reforms for increasing quality of higher education and research, including. (i) more efficient and transparent evaluation techniques; (ii) reforming some key research performer institutions (higher education institutions, the Research and Development Agency and the Slovak Academy of Sciences); (iii) re-allocating finance provided by the Operational Programme Research and Development towards large-scale projects with strategic importance and removing administrative hurdles related to calls and projects supported by the Structural Funds; (iv) internationalisation of the Slovak R&D system; (v) defining national priorities in building large-scale R&D infrastructure compatible with the ESFRI roadmap; (vi) creating national system for technology transfers.”</p> <p>(ERAWATCH; 26th December, 2014)</p> <p>Slovakia.LongtermObjectives.S&TPolicy.update.pdf</p>
<p>Dlhodobý zámer štátnej vednej a technickej politiky do roku 2015</p> <p>[Long-term Objective of the State S&T Policy up to 2015]</p>	<p>2007-2015</p>	<p>“The Objective sets three broad targets:</p> <ul style="list-style-type: none"> - Higher involvement of the S&T in development of Slovakia and more intensive participation by S&T in solving economic and social problems in Slovakia. - Better conditions for S&T development inside Slovakia and also for Slovakia’s activities within the European Research Area. - Setting targets for S&T development in the further mentioned areas (1) – (10) <p>“Particular policy areas are specified in 10 chapters:</p> <ol style="list-style-type: none"> (1) <i>S&T Policy coordination.</i> (2) <i>R&D infrastructure.</i> (3) <i>Systemic priorities of R&D.</i> (4) <i>Thematic priorities</i> include: health, new materials and technologies, biotechnologies, ICT, social infrastructure, energy, civilisation challenges, culture and art heritage, defence, environment and efficient use of domestic raw materials. (5) <i>Support to S&T.</i> (6) <i>Framework model of organisation of financing Slovak science and technology up to 2010.</i> (7) <i>International cooperation in R&D.</i> (8) <i>R&D evaluation.</i> (9) <i>Popularising R&D.</i> (10) <i>Monitoring State S&T Policies.</i>”

		(ERAWATCH; 14 February; 2009) Slovakia.LongtermObjectives.S&TPolicy.by2015.presentation.pdf Slovakia.LongtermObjectives.S&TPolicy.by2015.outlines.pdf
Competitiveness Strategy for the Slovak Republic until 2010	2006-2010	"Slovakia must become, both at home and abroad, an outstanding country in science and technology, where exceptionally educated and creative people produce high-quality innovative goods and services." Slovakia.Competitiveness.Strategy.2010.pdf

Slovenia

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Resolution on Research and Innovation Strategy of Slovenia 2011-2020</p>	<p>2011-2020</p>	<p>“Vision</p> <p>“By 2020, a responsive research and innovation system, co-created by all stakeholders and open to the world, will be established. This system will be firmly entrenched in society, be in its service, will respond to the needs and ambitions of the citizens and enable the resolution of major social challenges of the future, such as climate change, energy, lack of resources, health and aging. As a result, the work of researchers, developers and innovators will gain greater acclaim influence in society. By adapting legislation, a legal framework for the operation of the system will be established in 2012.</p> <p>“It will ensure open space for dialogue, while its governance will be democratic and economic. The involvement of stakeholders will prevent duplication while promoting and achieving relevant synergies. All actors will fully enjoy the benefits and advantages of the free flow of knowledge and technology between sectors, and promotion and dissemination of scientific knowledge will encourage responsible behaviour and social consciousness of the common good. The gaps between research, education and innovation will be overcome, and their common denominators will include partnership, lifelong learning, deeper awareness, and sustainable development.”</p> <p>(Resolution on Research and Innovation Strategy of Slovenia, p.3)</p> <p>Slovenia.Research.and.Inno.Strategy.2011-2020.pdf</p>

South Africa

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>The South African Strategy for the Palaeosciences Incorporating Palaeontology, Palaeo-anthropology and Archaeology [20.03. 2013]</p>	<p>2013 Ongoing</p>	<p>"The palaeosciences are the scientific disciplines that tell us the story of life on Earth, including the story of humankind. This is a complex tale, with many layers of knowledge. South Africa is one of the countries which hold the key to advancing our understanding of many parts of the story of life on Earth; it has evidence of how plant and animal life evolved through geographical time, how modern humans originated, and how human culture began and grew to become the modern societies we know today.</p> <p>"...This strategy is intended to provide a holistic framework for the development of palaeosciences..."</p> <p>("Executive summary", The South African Strategy for the Palaeosciences, p. 4)</p> <p>S.Africa.Paleosciences.Strategy.pdf</p>
<p>ICT RDI Roadmap [07.05. 2013]</p>	<p>2013-2023</p>	<p>"Vision: Our Vision is for a South Africa that has overcome the Digital Divide; by leveraging advances in ICT to address socioeconomic challenges, it has created Digital Advantage. "Through sound investment and effective coordination of ICT R&D and innovation activities, we have established these conditions:</p> <ul style="list-style-type: none"> • Advanced human capital and strong and institutional capacity, enabling critical mass for research in prioritised areas • An industry characterised by tight engagement with research communities, as well as fast uptake and promotion of research results and indigenous innovation • A healthy innovation ecosystem, in which research results flow unencumbered to government and industry to achieve impact in and for society • Advanced ICT infrastructure connecting South Africa internally and with the world • Local content and applications that address local needs and also create export opportunities." <p>("Vision", ICT RDI Roadmap, p. 7)</p> <p>"Strategy: South Africa has taken control of its own destiny with respect to Research Development and Innovation in ICT. The basis of this new control is an investment portfolio approach that constantly, consistently and rigorously evaluates market opportunities in order to identify potential winners. This approach provides direction and a coordinating framework for attracting and optimising local and international investment, both public and private."</p> <p>("Strategy", ICT RDI Roadmap, p. 9)</p> <p>"Strategy: Impact Pathways: The ultimate intention of R&D is to create impact for society: research only has relevance if it addresses need that exists at the individual, societal or economic level."</p> <p>("Strategy: Impact Pathways", ICT RDI Roadmap, p. 10)</p> <p>"The 10-year ICT RDI Roadmap: The ICT RDI Roadmap provides a strategic national direction, a set of action-plans</p>

		<p>and an implementation framework to guide, plan, coordinate and manage South Africa's portfolio investment for the next ten years in the associated programmes of research, technology development and innovation activity." <i>("The 10-year Roadmap", ICT RDI Roadmap, p. 14)</i> S.Africa.ICT.RDI.Roadmap.pdf</p>
<p>Information and Communication Technology Research & Development and Innovation Strategy (Final Draft) [Published Date: February 2007]</p>	2007-2015	<p>"Its vision for ICT in 2015 follows: "South Africa is an inclusive information society where ICT-based innovation flourishes. Entrepreneurs from historically disadvantaged population groups, rural communities and the knowledge-intensive industry benefit and contribute to the well-being and quality of life of our citizens. South Africa has a strong national ICT brand that captures the vibrancy of an industry and research community striving for excellence, characterised by innovative approaches to local and global challenges, and recognised for its contribution to the economic growth and well-being of our people and the region.</p> <p>"In line with this vision, the following outcomes are intended:</p> <ul style="list-style-type: none"> • Achieving global leadership in identified key scientific and technological domains • Developing multi-disciplinary technologies, skills and methodologies to address areas of market neglect, especially to eradicate the digital divide • An indigenous ICT sector that is developed, growing, innovative and competitive • The smart proliferation of ICT within other sectors of the economy." <p><i>("Executive Summary", ICT RDI Strategy, p. 2)</i> S.Africa.ICT.RDI.Strategy.2007.pdf</p>
<p>National Space Strategy [20.11.2010]</p>	Target: 2017	<p>"The South African Government recognises the potential role of space science and technology to deliver on a wide spectrum of our national priorities including job creation, poverty reduction, resource management and rural development. Given the relative importance and role of space technology in transforming our economic and social landscape, we need transforming strategies that could help leverage these assets to assist our nation in every facet of its economic and social endeavour.</p> <p>"To date, South Africa has primarily been a consumer and a net importer of space technologies. There is a need to develop systems and sub-systems to support our requirements and to grow the local industry. In particular, we would like to see this technology platform deliver on a wide array of our national priorities relating to our socio-economic development. With this in mind, there are three key and these are:</p> <p>"1. A space programme that helps South Africa to understand and protect the environment, and develop its resources in a sustainable manner.</p> <p>"2. A space programme that strengthens developmental efforts through ensuring the health, safety and security of South Africa's communities.</p>

		<p>"3. A space programme that stimulates innovation, while leading to increased productivity and economic growth through commercialization." <i>("Executive Summary", National Space Strategy, p. 4)</i> S.Africa.National.Space.Strategy.pdf</p>
<p>Nanoscience and Nanotechnology 10 Year Research Plan [26.09.2009]</p>	<p>2009 ongoing</p>	<p>"Purpose of the Research Plan "To ensure the successful implementation of the the National Nanotechnology Strategy, a 10-year plan has been developed. The plan identifies programmes to be pursued for the advancement of this area of research. Furthermore, it calls for the development of a research plan to focus research on the attainment of strategic goals. This research plan, therefore, is a key component of the implementation of the National Nanotechnology Strategy. "The purpose of the research plan is to:</p> <ul style="list-style-type: none"> • provide strategic foresight for nanoscience and nanotechnology research in South Africa; • steer research efforts to deliver on the goals of the strategy; • ensure high-impact research in nanoscience/nanotechnology in the areas identified in the strategy; • help advance the goals of other national strategies, such as the metals sector development strategy, and the Department of Science and Technology's (DST) 10-year Innovation Plan; • facilitate the development of human capital in nanotechnology and nanoscience; • stimulate credible research outputs such as publications and patents; innovative products, and processes." <p><i>("Purpose of the Research Plan", Nanoscience and Nanotechnology 10 Year Research Plan, p. 5)</i> S.Africa.NanoS&T.10Year.Research.Plan.pdf</p>
<p>The National Nanotechnology Strategy [18.01.2006]</p>		<p>"The vision of the strategy is to draw upon the existing strengths of the national system of innovation while addressing the need to enhance its research infrastructure and to create a workforce for advanced technology businesses that support the country's future competitiveness and enhanced quality of life. The main objectives of the strategy are to:</p> <ul style="list-style-type: none"> • Support long-term nanoscience research that will lead to the fundamental understanding of the design, synthesis, characterisation, modelling and fabrication for nanomaterials. • Support the creation of new and novel devices for application in various areas. • Develop the required resources human and supporting infrastructure to allow the development • Stimulate new developments in technology missions such as advanced materials for advanced manufacturing, nano-bio materials or biotechnology, precious metal-based nanoparticles for resource-based industries, and advanced materials for information and communication technologies." <p><i>("Executive Summary", The National Nanotechnology Strategy, p. 5)</i> S.Africa.NationalNanotechStrategy.pdf</p>

<p>Ten-Year Innovation Plan [18.04.2008]</p>	<p>2008-2018</p>	<p>“The primary focus of the Department of Science and Technology (DST) has been on implementing the National Research and Development Strategy (NRDS) which provides an integrated approach to human resource development, knowledge generation, investment in science and technology (S&T) infrastructure, and improving the strategic management of the public S&T system towards achieving the twin objectives of wealth creation and an improved quality of life. In July 2007, Cabinet approved the DST’s plan for South Africa from 2008 to 2018, Innovation towards a Knowledge-Based Economy (the Ten- Year Innovation Plan). This aims to help drive South Africa’s transformation towards a knowledge-based economy in which the production and dissemination of knowledge leads to economic benefits and enriches all fields of human endeavour. To this extent, success will be measured by the degree to which S&T play a driving role in enhancing productivity, economic growth and socio-economic development.</p> <p>“The Ten-Year Innovation Plan proceeds from government’s broad socio-economic mandate – particularly the need to accelerate and sustain economic growth – and is built on the foundation of the National System of Innovation (NSI). It recognises that while the country’s S&T system has made important progress, there is a tremendous gap between South Africa and the countries identified as knowledge-driven economies. To close this gap, the NSI must, among other things, urgently confront South Africa’s failure to commercialise the results of scientific research, and our inadequate production (in both a qualitative and quantitative sense) of knowledge workers capable of building a globally competitive economy.”</p> <p>(Corporate Strategy 2008-2009, p. 2)</p> <p>S.Africa.TenYearInno.Plan.2008-2018.pdf</p>
<p>Corporate Strategy 2008-2009 [10.03.2008]</p>	<p>2008-2009</p>	<p>“VISION</p> <p>“To create a prosperous society that derives enduring and equitable benefits from science and technology.</p> <p>“MISSION</p> <p>“To develop, coordinate and manage a National System of Innovation that will bring about maximum human capital, sustainable economic growth and improved quality of life for all.</p> <p>“AIM</p> <p>“To realise the full potential of science and technology in social and economic development through the development of human resources, research and innovation.”</p> <p>(Corporate Strategy 2008-2009)</p> <p>S.Africa.DST.CorporateStrategy.2008-2009.pdf</p>
<p>A National Advanced Manufacturing Technology Strategy For South Africa [31.03.2005]</p>		<p>“The goals and objectives of the National Advanced Manufacturing Technology Strategy are to:</p> <ul style="list-style-type: none"> • Develop a vision of the technological profile of the industrial sector in the year 2014 • Identify priority sectors which have the greatest potential

		<p>for supporting relevant goals contained in the Integrated Manufacturing Strategy (IMS) and the National Research and Development Strategy (NRDS). These goals include national and social goals such as job creation and equity</p> <ul style="list-style-type: none"> • Stimulate technological upgrading in industry • Facilitate the flow of technological resources to industry through new knowledge networks to foster innovation • Facilitate the building of an environment conducive to innovation, particularly through the supply of skilled manpower, technology infrastructure and funds." <p>(A National Advanced Manufacturing Technology Strategy, p. 10)</p> <p>S.Africa.AdvancedManufacturingTechno.Strategy.pdf</p>
<p>South Africa's National Research and Development Strategy August 2002</p>	2002-2012	<p>"Science and technology is critical to the future of South Africa. Government recognises the key role it plays in providing an enabling environment for innovation and research and in building the human capital that we require for the future knowledge economy.</p> <p>"... In this regard, it is critical that government develops a strategic view of all actors, stakeholders and participants of the National System of Innovation through a single responsible department. This will allow better governance, more effective resource allocation and better outcomes in the short, medium and long term.</p> <p>"This strategy represents a milestone for the National System of Innovation in South Africa. It coincides with the establishment of the Department of Science and Technology, which will be charged with giving effect to this strategy. However, a more effective innovation system is a partnership developed between all institutions involved in creating new knowledge, producing innovations and diffusing them to the benefit of the people of South Africa and our region. Therefore, I encourage positive and proactive engagement with this strategy in order to rapidly and effectively implement its key programmes."</p> <p>(Message from the Minister of Arts, Culture, Science and Technology, the Honourable Dr Ben Ngubane)</p> <p>S.Africa.NationalR&DStrategy.2002-2012.pdf</p>
<p>A National Biotechnology Strategy For South Africa [June 2001]</p>		<p>"The first century of the new millennium will belong not only to communications, or information technologies, but also to biotechnology, which will bring unprecedented advances in human and animal health, agriculture and food production, manufacturing and sustainable environmental management.</p> <p>"To embrace biotechnology is to further embrace our commitment to the realisation of our national imperatives and specifically:</p> <ul style="list-style-type: none"> • To improve access to and affordability of health care. • To provide sufficient nutrition at low cost. • To create jobs in manufacturing. • To protect and cherish our rich environment. <p>"To achieve our objectives, we will be required to assimilate biotechnology skills rapidly in order to commercialise</p>

	<p>country-specific applications and reduce the economic gap between developed and developing countries.</p> <p>"...We will need to ensure that the potential risks to human health and the environment arising from the commercial use of genetically modified organisms in food production are properly managed.</p> <p>"...We will need to establish suitable regulatory systems in order to participate as exporters and importers in the international trade in biotechnology products.</p> <p>"...In many respects we are fortunate: new advances in biotechnology promise to make the path of progress a great deal easier and shorter. We stand at the crossroads and our response to this opportunity will shape our future."</p> <p>Minister of Arts, Culture, Science and Technology, Dr Ben Ngubane 11 June 2001 ("Foreword", A National Biotechnology Strategy, p. V-VI) S.Africa.NationalBiotechnologyStrategy.2001.pdf</p>
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Spain

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Spanish Strategy for Science and Technology and Innovation 2013-2020</p>	<p>2013-2020</p>	<p>“The SPANISH STRATEGY ON SCIENCE, TECHNOLOGY AND INNOVATION promotes the capacities of the Spanish Science, Technology and Innovation System and enables collaboration between all the stakeholders of the System while increasing the social and economic returns from investment in RDI. The SPANISH STRATEGY envisages RDI from a general and multi patterned perspective through different forms of interaction among all the stakeholders in the System. Related to this, the SPANISH STRATEGY ON SCIENCE, TECHNOLOGY AND INNOVATION defends the importance of scientific and technological progress as an indisputable element of social progress. Although this is a necessary condition, it is not sufficient; one must also have the backing of society, a society open to innovation and that welcomes the development and adoption of new ideas and their inclusion in new processes, products and services. It is, therefore, a STRATEGY that is open to all stakeholders, one that fosters collaboration among them, encouraging them to internationalise, and, above all, inspiring them to seek solutions to the principal challenges facing the Spanish society, which mostly coincide with major global challenges.”</p> <p>(“OVERVIEW”, Spanish National Plan for Scientific and Technical Research and Innovation, p.3)</p> <p>Spain.Strategy.for.S&T.and.Inno.2013-2020.pdf</p>
<p>Spanish National Plan for Scientific and Technical Research and Innovation 2013-2016</p>	<p>2013-2016</p>	<p>“The SPANISH STRATEGY ON SCIENCE, TECHNOLOGY AND INNOVATION 2013-2020 defines the main objectives during 2013-2020. The NATIONAL PLAN defines the funding instruments on the RDI activities during the 2013-2016 period such as established in the document.</p> <p>“The SPANISH NATIONAL PLAN FOR SCIENTIFIC AND TECHNICAL RESEARCH AND INNOVATION for 2013-2016 enables a simultaneous, continuous approach to the design of actions to foster and coordinate the RDI process, which encompasses everything from generating new ideas to their incorporation in the market in the form of new products and/or processes, improving quality of life, the well-being of citizens and contributing to economic development. It is aimed at all stakeholders in the Spanish Science, Technology and Innovation System responsible for: (a) execution of RDI activities; (b) management of RDI RDI activities; and (c) provision of RDI services for progress in science, technology and innovation in Spanish society and the economy as a whole.</p> <p>“Therefore, public funds are assigned through public tenders and proposals to be funded are selected taking scientific and technical criteria into account, as well as criteria of technological viability, entrepreneurial and commercial criteria backed by internationally validated principles, in accordance with standardised, transparent evaluation processes based on peer evaluation committees.</p> <p>“At the same time, due to their horizontal nature, the public RDI activities must be supported and strengthened by</p>

		<p>sectorial policies. Therefore, the Spanish Ministry of Economy and Competitiveness through the State Secretariat for Research, Development and Innovation coordinates the actions of those ministerial departments whose policies contribute to the achievement of the scientific, technical and innovation objectives established.”</p> <p>(Spanish National Plan for Scientific and Technical Research and Innovation, p. 3)</p> <p>Spain.RDTI.Plan.2013-2016.pdf</p>
<p>Estrategia Nacional de Ciencia y Tecnología (ENCYT)</p> <p>[National Strategy for Science and Technology]</p>	<p>2007-2015</p>	<p>“The National Strategy for Science and Technology (ENCYT) was elaborated by the Spanish Government in 2006, as the backbone and the integration mechanism for the main guidelines that should govern research and innovation policies and programmes.</p> <p>“The ENCYT is the reference framework for future National and Regional R&D Plans and its temporary horizon is 2015.</p> <p>“This strategy stems from experience gained from previous National Plans and the outcomes of the PROGRAMA INGENIO 2010, which has given major impetus to science and technology in Spain.</p> <p>“The ENCYT is a document of consensus. It has been drawn up in conjunction with the key players in the Spanish Science and Technology System, representing the State Government, the Regional Autonomous Communities, R&D and Innovation actors (scientists and technical experts), social partners (unions and employers), etc.</p> <p>“Basic Principles:</p> <ul style="list-style-type: none"> - To place R&D and Innovation at the service of citizens, social welfare and sustainable growth, with the full and equal integration of women in public life; - To make R&D and Innovation a mean for enhancing business competitiveness; and - To acknowledge and promote R&D as a key factor for creating new knowledge. <p>“Strategic Targets:</p> <ul style="list-style-type: none"> - To put Spain at the forefront of knowledge; - To promote a highly-competitive business sector; - To integrate the regions within the Science and Technology System; - To boost the international scope of the Science and Technology System; - To create a favourable climate for R&D and Innovation investment; and - To establish suitable conditions for disseminating science and technology.” <p>Spain.ENCYT.2007-2015.pdf</p> <p>“...As can be observed, the targets are general and sometimes very abstract. However, Programa Ingenio and Plan Nacional de I+D+I, mentioned below, have been included quantitative objectives.”</p>

<p>Programa Ingenio 2010 [Invention Program 2010]</p>	<p>2005-2010</p>	<p>"The strategic objectives of INGENIO 2010 are:</p> <ul style="list-style-type: none"> - Increase public and private expenditure in R&D and Innovation: Increase total R&D spending to 2% of the GDP by 2010. For this purpose, public expenditure will increase in the rate of 25% in the following two years. - Increase entrepreneurial participation in R&D activities: Increase total R&D spending of the private sector to 55% of the GERD by in 2010. For this purpose, resources will be focussed in priority areas that will promote the cooperation between the public and the private sectors..." <p>Spain.Programa.Ingenio2010.Summary.pdf Spain.Programa.Ingenio.2010.inSpanish.pdf</p>
<p>Plan Nacional de I+D+I 2008-2011 [National Plan for Scientific Research, Development and Technological Innovation: 2008-2011]</p>	<p>2008-2011</p>	<p>"The National R&D and Innovation Plan is the programming instrument of the Spanish Science and Technology System in which the medium-term objectives of and priorities for research, development and innovation are defined.</p> <p>"Currently, this planning exercise falls within the frame of reference provided by the National Science and Technology Strategy. It sets out the basic principles for guiding all R&D and technological innovation activities until 2015 and, consequently, activities financed under the National Plan."</p> <p>Spain.NationalPlan.for.R&D&I.2008-11.pdf</p>

Sweden

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>The Swedish Innovation Strategy [15.11.2012]</p>	<p>Target: 2020</p>	<p>"A good innovation climate lays the foundations for more jobs, a more sustainable society with better quality of life for all inhabitants and growth throughout the country. The following vision for the innovation climate in Sweden 2020 serves as guidance for the national innovation strategy: "Sweden is a creative country characterised by pioneering ideas and new ways of thinking and doing in order to shape our future in a global community. People in all parts of Sweden can and want to contribute to creating value for people, the economy and the environment through new or improved solutions. "A strong innovation climate by 2020 will enable: "People and actors, by being more innovative, to contribute solutions to big societal challenges, in Sweden as well as globally. "Businesses and environments, by being more innovative, to create value, increase their competitiveness and attract expertise, investments and cooperation partners from around the world. "Actors in the public sector and their partnership with private and civil society organisations, by being more innovative, to supply public services of a high quality and efficiency." (The Swedish Innovation Strategy, p. 13) Sweden.innovation.strategy.target2020.pdf</p>
<p>The Research and Innovation Bill 2013-2016</p>	<p>2013-2016</p>	<p>Every four years, the Swedish Government presents a research and innovation bill that deals with the Government's priorities for the following four year period. On Thursday 11 October the Government put forward a bill to the Riksdag entitled Research and Innovation (2012/13:30), which contains priorities for the period 2013-2016. SEK [Swedish Krona] 4 billion to boost Swedish research: Initiatives described in the bill entail an increase in the resources allocated to research and innovation of SEK 4 billion by 2016. Along with the increase of SEK 5 billion presented in the previous research and innovation bill, this means an increase of around SEK 9 billion over eight years. Sweden.Memo.SEK.4.billion.for.life.scences.pdf</p>
<p>Sweden's Policy on Research and Innovation [14.09.2009]</p>	<p>2009 ongoing</p>	<p>"A scientific tradition with strong historical foundations: "Sweden is for its size one of the world's leading research nations. Today some 80 000 researchers are working here. Many of them belong to international leaders in their respective fields. Total investment in research and development on a per capita basis is the highest in the world after Israel. An analysis from New Zealand recently showed that no country has as many top-ranked universities in the world in relation to population as Sweden."</p>

		<p>[Sweden's Policy on Research and Innovation, p.1]</p> <p>"Goals of research policy:</p> <p>"The overall policy of the Swedish Government is to strengthen Sweden's position as a research nation and thereby increase its scientific competitiveness in a globalised world. This is primarily to be achieved in three ways.</p> <ul style="list-style-type: none"> • Strengthening independent research • Promoting research of the highest quality • Ensuring that research is increasingly leveraged" <p>(Sweden's Policy on Research and Innovation, p. 3)</p> <p>Sweden.Policy.on.Research.and.Inno.2009.pdf</p>
<p>Innovativa Sverige - en strategi för tillväxt genom förnyelse</p> <p>[Innovative Sweden: A strategy for growth through renewal]</p>	<p>2005 onwards</p>	<p>"The 'Innovative Sweden' strategy, which stakes out a path for further work, has been drawn up by a working group comprising representatives of the Ministry of Industry, Employment and Communications, the Ministry of Education and Science and the Ministry for Foreign Affairs, in cooperation with other relevant ministries. In the course of the work, the group has canvassed the views of the business sector and the trade union movement, as well as representatives of the research and education community and public agencies. The strategy is intended for gradual implementation in such forms as Government measures set out in bills presented to the Swedish Parliament and instructions to central government agencies. Consultation and contacts with different sectors of society will continue during the implementation phase."</p> <p>Main Target of the Strategy:</p> <p>"Sweden has a good starting point...</p> <p>"Few countries today are in as good a position as Sweden to do well in the knowledge-based economy and benefit from internationalisation. In leading international surveys of conditions for business, innovation and future growth, Sweden ranks first or among the best in the world.</p> <p>"... but conditions are changing</p> <p>As a result, we will be increasingly required to further concentrate our strengths and bolster areas in which Sweden is or may become vulnerable in the future."</p> <p>(Innovative Sweden: A strategy for growth through renewal)</p> <p>Sweden.InnovativeSweden.pdf</p>

Switzerland

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Energioperspektiven 2050</p> <p>Zusammenfassung</p> <p>05 Oktober 2013</p> <p>[Energy Strategy 2050 Summary]</p>	<p>Target 2050</p>	<p>“In 2011, the Federal Council and Parliament decided that Switzerland is to withdraw from the use of nuclear energy on a step-by-step basis. The existing five nuclear power plants are to be decommissioned when they reach the end of their safe service life, and will not be replaced by new ones. As a result of this decision and various other profound changes that have been observed for a number of years, in particular in the international energy arena, the Swiss energy system will require successive restructuring in the period up to 2050. In view of this, the Federal Council has developed a long-term energy policy ("Energy Strategy 2050") based on the revised energy perspectives. And at the same time, it has produced an initial package of measures aimed at securing the country's energy supply over the long term.</p> <p>“In the initial stage, the Federal Council's new strategy is to focus on the consistent exploitation of the existing energy efficiency potentials and on the balanced utilisation of the potentials of hydropower and new renewable energy sources. Then at a later stage, the Federal Council wants to replace the existing promotion system with a steering mechanism.”</p> <p>(Swiss Federal Office of Energy – SFOE, 26.08.2014)</p> <p>Switzerland.Energioperspektiven.2050.Zusammenfassung.pdf</p> <p>Switzerland.Energioperspektiven.2050.Anhang.pdf</p>
<p>2013–2016</p> <p>The Commission for Technology and Innovation (CTI) Multi-year Programme</p>	<p>2013-2016</p>	<p>“Switzerland has a leading position in education, research and innovation”</p> <p>“This is one of the Federal Council’s primary objectives in the current 2011 to 2015 legislative programme. With regard to innovation, the Federal Council decided to ‘consolidate activities to promote competitiveness at a high level and continue to strengthen Switzerland’s international competitiveness.’ The Federal Council explicitly supports ‘the strengthening of collaboration between the scientific and business sectors’ and the ‘enhanced promotion of young talent in the scientific and business communities.’</p> <p>“The Commission for Technology and Innovation (CTI), as the federal government’s innovation promotion agency, has a key role to play in the achievement of this objective. As it strengthens the economy’s innovation processes, it plays a central role in the federal government’s economic policies.</p> <p>...</p> <p>“The CTI’s mandate is to promote knowledge-based innovation in Switzerland with financial, advisory and network support for the benefit of the Swiss economy. In doing so it helps to turn scientific research into economic output, making sure that unique innovations are developed in Switzerland for Switzerland.</p> <p>...</p> <p>“The CTI has three main activities:</p> <ul style="list-style-type: none"> • Project promotion (research and development

		<p>projects)</p> <ul style="list-style-type: none"> • Promotion of entrepreneurship and start-ups • KTT (Knowledge and Technology Transfer) support” <p>(2013–2016 CTI Multi-year Programme, p. 4)</p> <p>Switzerland.CTI.Multiyear.Prog.2013-2016.pdf</p>
<p>Mehrjahresprogramm 2012 – 2016 Planungseingabe zuhanden der Bundesbehörden [Multi-Year Programme: 2012-2016 Swiss National Science Foundation (SNSF)]</p>		<p>“The Swiss National Science Foundation (SNSF) promotes research in Switzerland on behalf of the government. Its present strategic plan for 2012-2016 focuses on the aim of strengthening research and to contribute to Switzerland’s top position in research.</p> <p>“With its research policy the SNSF intends to optimise the framework conditions for researchers in Switzerland. To this end, it is forging close ties of co-operation and coordination with all partner organisations and political authorities. By having an efficient national funding strategy it intends to strengthen the competitiveness of Swiss researchers; through in-depth international cooperation it hopes to secure Switzerland’s position in shaping international research activities.</p> <p>“This involves the following challenges:</p> <ul style="list-style-type: none"> • Increasing demand from researchers for support funds • Dwindling attractiveness of academic careers for young scientists in Switzerland • Increasingly multi-faceted needs in research, in particular application-oriented basic research • Increasing demands by society and politics for tangible scientific results, recording their benefits and communicating them.” <p>(Multi-Year Programme 2012-2016 Executive Summary)</p> <p>Multi-Year Programme 2012-2016 Executive Summary in English: Switzerland.snf.MultiYear.Prog.2012-2016.summary.pdf</p> <p>Entire version in German: Switzerland.snf.mehrijahresprogramm.2012-2016.pdf</p>
<p>Botschaft über die Förderung von Bildung, Forschung und Technologie in den Jahren 2004–2007 [Statement to the Promotion of Education, Research and Technology 2004-2007]</p>	2004-2007	<p>“More effective and efficient public expenditure on R&D; Grants to public sector research institutions; Strengthen and create centres/networks of excellence; Improving R&D co-operation and technology transfer; Grants to support business R&D, and R&D collaboration; Enhancing the mobility of researchers.”</p> <p>Switzerland.Promotion.Education.R&T.Outlines.pdf Switzerland.Förderung.von.Bildung.Forschung.und.Technologie.pdf</p>
<p>Botschaft über die Förderung von Bildung, Forschung und Innovation in den Jahren 2008–2011 [Statement to the Promotion of Education, Research and Innovation 2008-2011]</p>	2008-2011	<p>Official government programme paper on the education, research and technology policy to be pursued in the period 2008-2011...</p> <p>Switzerland.Bildung.Forschung.und.Inno.2008-2011.Summary.pdf Switzerland.Bildung.Forschung.und.Inno.2008-2011.pdf</p>

United Kingdom

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>Our plan for growth: science and innovation Presented to Parliament by the Minister of State for Universities, Science and Cities by Command of Her Majesty December 2014</p>	<p>2014...</p>	<p>“...The UK’s ability to capitalise on its cutting edge science base will be critical to our future prosperity and societal wellbeing. There are big opportunities (such as the burgeoning potential of genomics) but also big challenges (such as around antimicrobial resistance). We must rise to these challenges by supporting innovation and the transformation of our cutting edge science into new products and services. This will create new jobs, innovative businesses and allow the UK to take the lead in new markets.</p> <p>“That is why we have prioritised science and innovation spending in difficult times. But for the UK to stay ahead, we must plan ahead. So we are committing £5.9 billion capital to support scientific excellence out to 2021: the most long-term commitment to science capital in decades. And that is why we are strengthening our partnerships between the public and private sector, epitomised by the Industrial Strategy and the 8 Great Technologies.</p> <p>“We are making a conscious choice of priorities for the UK, building on our core strengths. So excellence is at the heart of this strategy. So too are the core principles which will help meet the challenges ahead – agility; collaboration; the importance of place and of openness.</p> <p>“We therefore commit a total of £2.9 billion to fund large scale investments in science. Following the science capital consultation, this grand challenges fund will be used to deliver a first wave of projects worth a total of £800 million. We are funding new facilities in advanced materials centred in Manchester, a new high performance computer collaboration with IBM at the Hartree Centre, and we are taking the lead in the next European Rover mission to Mars. These are just three examples where we are backing our priorities to stay at the cutting edge of world science.</p> <p>“We must also recognise the vital role that commercialisation of science and new technologies play in our future growth. We will continue to provide businesses with the environment and infrastructure necessary to generate large scale innovation in areas where there are higher risks and wider benefits. The investment required to keep us at the forefront globally must be a Government priority, but it must also be a priority for our businesses. So we will expand our network of elite technology and innovation centres with two more Catapult centres in Energy Systems and Precision Medicine next year. We are also providing over £60 million to our established High Value Manufacturing Catapult centre and creating a £28 million National Formulation Centre. We will continue to expand the network gradually as the fiscal position improves. And we are renewing our efforts to help high growth businesses access finance by boosting our flagship British Business Bank with additional funding...”</p> <p>(“Foreword”, Our plan for growth, p. 3-4)</p> <p>UK.Our.plan.for.growth.Science.and.Inno.pdf</p>

<p>Foresight (2013) The Future of Manufacturing: A new era of opportunity and challenge for the UK Summary Report The Government Office for Science, London</p>	<p>2013</p>	<p>"A NEW VISION FOR UK MANUFACTURING</p> <p>"Manufacturing in 2050 will look very different from today, and will be virtually unrecognisable from that of 30 years ago. Successful firms will be capable of rapidly adapting their physical and intellectual infrastructures to exploit changes in technology as manufacturing becomes faster, more responsive to changing global markets and closer to customers.</p> <p>"Successful firms will also harness a wider skills base, with highly qualified leaders and managers whose expertise combines both commercial and technical acumen, typically in science, technology, engineering or mathematics.</p> <p>Constant adaptability will pervade all aspects of manufacturing, from research and development to innovation, production processes, supplier and customer interdependencies, and lifetime product maintenance and repair. Products and processes will be sustainable, with built-in reuse, remanufacturing and recycling for products reaching the end of their useful lives. Closed loop systems will be used to eliminate energy and water waste and to recycle physical waste.</p> <p>"These developments will further emphasise the key role of physical production in unlocking innovative new revenue streams, particularly as firms embrace 'servitisation' and manufacturers make use of the increasing pervasiveness of 'Big Data' to enhance their competitiveness.</p> <p>.....</p> <p>"The key message is that there is no easy or immediate route to success, but action needs to start now to build on existing support, and to refocus and rebalance it for the future. Above all, policy design will need to address entire system effects. This Report sets out many areas where action is needed at both strategic and more detailed levels. However, the following should be particular priorities." (Foresight (2013), p.6)</p> <p>UK.Future.of.Manufacturing.2013.pdf</p>
<p>The Allocation of Science and Research Funding 2011/12 To 2014/15 Investing in World-Class Science and Research Department for Business, Innovation and Skills December 2010</p>	<p>2011-2015</p>	<p>"Funding World-Class Science and Research in the UK</p> <p>"Our world-class science and research base is inherently valuable, as well as critical to promoting economic growth. Investment in science and research creates new businesses and improves existing ones; brings highly skilled people into the job market; attracts international investment and improves public policy and services. The UK's world-class research base will be a key driver in promoting economic growth.</p> <p>"Despite enormous pressure on public spending, funding for science and research programmes has been protected in cash terms demonstrating the Government's commitment to rebalancing the economy and promoting economic growth. For the first time Higher Education research funding in England has been included within this ring-fence, providing stability and certainty to both parts of the dual support system of research funding. Across the country, we have excellent research capabilities with the critical mass to compete globally and the expertise to work closely with</p>

		<p>business, charities and public services. The £4.6 billion per annum resource settlement for science and research will allow us to continue to support them. We will protect the vital components of research infrastructure and maintain membership of international facilities, providing researchers with access to key large scale research infrastructure, both here and abroad.”</p> <p>(“Foreword”, The Allocation of Science and Research Funding 2011/12 To 2014/15, p. 3)</p> <p>UK.allocation.of.S&R.funding.2011-2015.pdf</p>
<p>Innovation and Research Strategy for Growth</p> <p>Presented to Parliament by the Secretary of State for Business, Innovation and Skills</p> <p>by Command of Her Majesty</p> <p>08 December 2011</p>	2011...	<p>“The UK has the potential to be a world leader in innovation. The strength of UK universities and the wider knowledge base is a national asset. Our knowledge base is the most productive in the G8, with a depth and breadth of expertise across over 400 areas of distinctive research strength. The UK produces 14% of the most highly cited papers and our Higher Education Institutions generate over £3 billion in external income each year. The Government is committed to invest in maintaining and strengthening the research base, and to continue to fund a balance of blue skies and applied research projects.</p> <p>.....</p> <p>“The UK has to aspire to be a world leader in research, technology development and innovation. Our future prosperity rests on our ability to compete in a global economy that is increasingly driven by innovation. The UK has great existing strengths in our knowledge base and ability to conduct fundamental and applied research across a range of disciplines. We also have world-class businesses in technology-based sectors, designers and creative industries. These are national assets that form the foundation of our future competitiveness. However, if we are to realise our vision we need to strengthen our innovative capability and encourage greater investment in innovation. The Government is committed to doing this, through: supporting research and innovation in business; providing incentives for companies to invest in high-value business activities; creating a more open and integrated innovation ecosystem; and removing barriers to innovation. We have already taken measures to deliver these objectives: this Strategy sets out the next steps we will take to secure our future.”</p> <p>(“Executive Summary”, Innovation and Research Strategy for Growth, p. 1-4)</p> <p>UK.Inno.and.Research.Strategy.for.Growth.2011.pdf</p>
<p>Innovation Nation:</p> <p>White Paper Presented to Parliament by the Secretary of State for Innovation, Universities & Skills, the Chancellor of the Exchequer and the Secretary of State for Business Enterprise and Regulatory Reform by Command of Her Majesty</p>	2008 onwards	<p>“We want to create an Innovation Nation because Britain can only prosper in a globalised economy if we unlock the talents of all of our people.</p> <p>“We want innovation to flourish across every area of the economy and, in particular, wherever high value added businesses can flourish and grow. We must innovate in our public services too. Innovation is as important to the delivery of healthcare and education as it is to industries such as manufacturing, retail and the creative economy.</p> <p>“Innovation will be the key to some of the biggest challenges facing our society, like global warming and</p>

		<p>sustainable development. We need to ensure that Britain contributes to the innovative solutions and that British business and the British people benefit from the new opportunities and prosperity they create.</p> <p>"In this White Paper, we set out our aim to make Britain the best country in the world to run an innovative business or public service. We can do this by investing in people and knowledge, unlocking talent at all levels, by investing in research and in the exploitation of knowledge and by using regulation, public procurement and public services to shape the market for innovative solutions.</p> <p>"In all this there is an exciting challenge for business, public services, third sector organisations, towns and cities, universities and colleges. Government can foster innovation but only people can create an Innovation Nation."</p> <p>(Rt Hon John Denham MP, Secretary of State for Innovation, Universities and Skills; March 2008.)</p> <p>UK.InnovationNation.2008.pdf UK.InnovationNation.2008.erratum.pdf</p>
<p>Science and innovation investment framework 2004-2014</p> <p>/</p> <p>Science and innovation investment framework 2004-2014: next steps</p>	<p>2004-2014</p>	<p>"Harnessing innovation in Britain is key to improving the country's future wealth creation prospects. For the UK economy to succeed in generating growth through productivity and employment in the coming decade, it must invest more strongly than in the past in its knowledge base, and translate this knowledge more effectively into business and public service innovation. The Government's ambition, shared with its partners in the private and not-for-profit sectors, is for the UK to be a key knowledge hub in the global economy, with a reputation not only for outstanding scientific and technological discovery, but also as a world leader in turning that knowledge into new products and services."</p> <p>UK.Sci.Inno.Invest.Framework.pdf UK.Sci.Inno.Invest.Framework.NextSteps.pdf</p>

United States

National Strategies, Plans, Programs, etc.	Period Covered	Main Objectives
<p>A National Strategic Plan for Advanced Manufacturing</p> <p>Executive Office of the President, National Science and Technology Council</p> <p>February 2012</p>	<p>2012</p>	<p>The strategy seeks to achieve five objectives:</p> <p>Objective 1: Accelerate investment in advanced manufacturing technology, especially by small and medium-sized manufacturing enterprises, by fostering more effective use of Federal capabilities and facilities, including early procurement by Federal agencies of cutting-edge products.</p> <p>Objective 2: Expand the number of workers who have the skills needed by a growing advanced manufacturing sector and make the education and training system more responsive to the demand for skills.</p> <p>Objective 3: Create and support national and regional public-private, government-industry-academic partnerships to accelerate investment in and deployment of advanced manufacturing technologies.</p> <p>Objective 4: Optimize the Federal government’s advanced manufacturing investment by taking a portfolio perspective across agencies and adjusting accordingly.</p> <p>Objective 5: Increase total U.S. public and private investments in advanced manufacturing research and development (R&D).</p> <p>USA.Advanced.Manufact.Strat.Plan.2012.pdf</p>
<p>National Nanotechnology Initiative Strategic Plan</p> <p>National Science and Technology Council Committee on Technology Subcommittee on Nanoscale Science, Engineering, and Technology</p> <p>February 2014</p>	<p>2014</p>	<p>“This document updates and replaces the prior NNI Strategic Plan released in February of 2011. As called for in the 21st Century Nanotechnology Research and Development Act (Public Law 108-153, 15 USC §7501), the NNI Strategic Plan describes the NNI vision and goals and the strategies by which these goals are to be achieved, including specific objectives within each of the goals. Also as called for in the Act, the Plan describes the NNI investment strategy and the investment categories, known as the program component areas (PCAs), used in the annual NNI budget crosscut.”</p> <p>(http://nano.gov/node/1113; 08.01.2015)</p> <p>USA.NNI.Nanotech.Strat.Plan.2014.pdf</p>
<p>National Nanotechnology Initiative Strategic Plan</p> <p>National Science and Technology Council Committee on Technology Subcommittee on Nanoscale Science, Engineering, and Technology</p> <p>February 2011</p>	<p>2011</p>	<p>“National Nanotechnology Initiative (NNI) is a major interagency R&D initiative in nanoscale science, engineering, and technology, sharing a vision of ‘a future in which the ability to understand and control matter at the nanoscale leads to a revolution in technology and industry that benefits society.’ The scope of the initiative is broad, ranging from fundamental research to development and commercialization. The NNI is overseen by a subcommittee of the National Science and Technology Council (co-chaired by the Office of Science and Technology Policy - OSTP) and is supported by a National Nanotechnology Coordination Office.”</p> <p>(http://www.whitehouse.gov/administration/eop/ostp/initiatives; 07.01.2015)</p> <p>USA.NNI.Nanotech.Strat.Plan.2011.pdf</p>

<p>National Nanotechnology Initiative Environmental, Health, and Safety Research Strategy</p> <p>National Science and Technology Council Committee on Technology Subcommittee on Nanoscale Science, Engineering, and Technology</p> <p>October 2011</p>	<p>2011</p>	<p>“The NNI 2011 Environmental, Health, and Safety Research Strategy provides guidance to the Federal agencies that produce the scientific information for risk management, regulatory decision-making, product use, research planning, and public outreach. The core research areas providing this critical information are (1) Nanomaterial Measurement Infrastructure, (2) Human Exposure Assessment, (3) Human Health, (4) Environment, (5) Risk Assessment and Risk Management Methods, and (6) Informatics and Modeling. Consideration of ethical, legal, and societal implications (ELSI) of nanotechnology were also woven into the strategy.”</p> <p>(http://nano.gov/node/681; 08.01.2015)</p> <p>USA.NNI.Research.Strategy.2011</p>
<p>Nanotechnology Regulation and Oversight Policy Principles</p> <p>Memorandum for the Heads of Executive Departments and Agencies</p> <p>[08.06. 2011]</p> <p>Executive Office of the President</p>	<p>2011</p>	<p>Policy Principles for the U.S. Decision-Making Concerning Regulation and Oversight of Applications of Nanotechnology and Nanomaterials...</p> <p>“The National Economic Council (NEC), the Office of Management and Budget (OMB), the Office of Science and Technology Policy (OSTP), and the Office of the U.S. Trade Representative (USTR) led a multi-agency consensus-based process to develop a set of principles to guide development and implementation of policies for the oversight of nanotechnology applications and nanomaterials. This document is intended to summarize generally applicable principles relevant to promoting a balanced, science-based approach to regulating nanomaterials and other applications of nanotechnology in a manner that protects human health, safety, and the environment without prejudging new technologies or creating unnecessary barriers to trade or hampering innovation. These principles build on the foundation provided by current regulatory statutes and do not supersede existing legal authorities or hinder Federal agencies from enforcing or applying their existing statutory and regulatory authority as mandated by law. Federal agencies that have regulatory responsibilities, such as the U.S. Environmental Protection Agency, the U.S. Food and Drug Administration, and the Occupational Safety and Health Administration, must continue to implement sound policies to protect public health, safety, and the environment.”</p> <p>(Nanotechnology Regulation and Oversight Policy Principles, p. 29)</p> <p>USA.nanotech.regulation&oversight.principles.2011.pdf</p>
<p>A Strategy for American Innovation Securing Our Economic Growth and Prosperity</p> <p>National Economic Council, Council of Economic Advisers, and Office of Science and Technology Policy</p> <p>February 2011</p>	<p>2011</p>	<p><i>“Innovation is essential to winning the future through long-term growth and competitiveness.”</i></p> <p><i>“The private sector is America’s innovation engine.”</i></p> <p><i>“Government as innovation facilitator.”</i></p> <p>This document updates the Innovation Strategy issued in September 2009, detailing how the Administration, the American people, and American businesses can work together to strengthen United States’ long-run economic growth.</p>

		<p>The 'Strategy' underlines three critical areas:</p> <p>Invest in the Building Blocks of American Innovation.</p> <ul style="list-style-type: none"> • Educate the next generation with 21st century skills and create a world-class workforce. • Strengthen and broaden American leadership in fundamental research. • Build a leading 21st century infrastructure. • Develop an advanced information technology ecosystem. <p>Promote Market-Based Innovation.</p> <ul style="list-style-type: none"> • Accelerate business innovation with a simplified and permanent R&E tax credit. • Support innovative entrepreneurs. • Catalyze innovation hubs and encourage development of entrepreneurial ecosystems. • Promote innovative, open, and competitive markets. <p>Catalyze Breakthroughs for National Priorities.</p> <ul style="list-style-type: none"> • Unleash a clean energy revolution. • Accelerate biotechnology, nanotechnology, and advanced manufacturing. • Develop breakthrough space capabilities and applications. • Drive breakthroughs in health care technology. • Create a quantum leap in educational technologies. <p>US.InnovationStrategy.2011.pdf</p>
<p>National Space Policy of the United States of America June 28, 2010</p>	<p>2010</p>	<p>Space Policy</p> <p>"A key tenet of the President's Space Policy is to encourage and partner with American commercial space companies so that NASA can focus on pushing the frontier of exploration by sending humans to an asteroid and Mars. Just as the early days of government and military air travel paved the way for commercial airliners, one of the goals of the President's Space Policy is to turn space into the next commercial frontier by using innovative contracting methods that enable collaboration between the U.S. Government and the private sector. The Administration's priorities in space include advancing a U.S. commercial crew transportation industry, continuing to fund robust programs in Earth and space science, extending the International Space Station program until at least 2020 to foster scientific and technological advances, and more."</p> <p>http://www.whitehouse.gov/administration/eop/ostp/initiatives; 07.01.2015)</p> <p>USA.National.Space.Policy.2010.pdf</p>
<p>A Strategy for American Innovation: Driving Towards Sustainable Growth and Quality Jobs</p>	<p>2009</p>	<p><i>"History should be our guide. The United States led the world's economies in the 20th century because we led the world in innovation. Today, the competition is keener; the challenge is tougher; and that is why innovation is more important than ever. It is the key to good, new jobs for the</i></p>

<p>Executive Office of the President, National Economic Council, Office of Science and Technology Policy September 2009</p>		<p><i>21st century. That's how we will ensure a high quality of life for this generation and future generations. With these investments, we're planting the seeds of progress for our country, and good-paying, private-sector jobs for the American people."</i> President Barack Obama, August 5, 2009 A Strategy For American Innovation</p>
<p>America Competes Act</p>	<p>2007</p>	<p>To invest in innovation through research and development, and to improve the competitiveness of the United States. America Competes Act Overview America Competes Act Summary USA.AmericaCompetesAct.pdf</p>
<p>A Bill to provide a national innovation initiative</p>	<p>2006</p>	<p>This bill was introduced on January 3, 2006, in a previous session of Congress, but was not enacted. The Bill, based upon the National Innovation Initiative (NII) Report "Innovate America - Thriving in a World of Challenge and Change", has taken place in this list as a very typical example of the national policy approach of innovation for the USA. USA.NationalInnovation.Bill_S.2109.pdf</p>