

## Survey response for Korea

### OECD database of governance of public research policy

This document contains detailed responses for Korea to the survey on governance of public research policy across the OECD. It provides additional background information to the OECD database of governance of public research policy as described in Borowiecki, M. and C. Paunov (2018), "How is research policy across the OECD organised? Insights from a new policy database", *OECD Science, Technology and Industry Policy Papers*, No. 55, OECD Publishing, Paris, <https://doi.org/10.1787/235c9806-en>. The data was compiled by the OECD Working Party on Innovation and Technology Policy (TIP). Data quality was validated by delegates to OECD TIP Working Party the in the period between March 2017 and May 2018. Additional references that were used to fill out the questionnaire are indicated.

The data is made freely available online for download at <https://stip.oecd.org/resgov>.

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## Abbreviations and acronyms

ACE	Advancement of College Education
BK21 PLUS	Brain Korea 21 Program for Leading Universities and Students
CK	University for Creative Korea
CORE	Initiative for College of Humanities Research and Education
GRIIs	Government Research Institutes
HEIs	Higher Education Institutions
ICT	Information and Communications Technology
ISTK	Korean Research Council of Industrial Science and Technology
KCC	Korean Communications Commission
KEIT	Korean Evaluation Institute of Industrial Technology
KEITI	Korean Environment Industry and Technology Institute
KETEP	Korean Institute of Energy Technology Evaluation and Planning
KHIDI	Korean Health Industry Development Institute
KIAT	Korea Institute for Advancement of Technology
KICOS	Korean Foundation for International Cooperation of Science and Technology
KISTEP	Korean Institute of Science and Technology Evaluation and Planning
KOSEF	Korean Science and Engineering Foundation
KRCF	Korean Research Council of Fundamental Science and Technology
KRF	Korean Research Foundation
LINC	Leaders in Industry-University Cooperation
MEST	Ministry of Education, Science and Technology
MKE	Ministry of Knowledge Economy
MOE	Ministry of Education
MOSF	Ministry of Strategy and Finance
MOTIE	Ministry of Trade, Industry and Energy
MSIP	Ministry of Science, ICT, and Future Planning
MIST	Ministry of Science and Information and Communication Technologies
MSS	Ministry of SMEs and Start-ups
NRF	National Research Foundation
NST	National Research Council for Science and Technology
NSTC	National Science and Technology Council
PACST	Presidential Advisory Council for Science and Technology
PRIME	Programme for Industrial Needs-Matched Education
PRIs	Public Research Institutes
R&D	Research and development
STI	Science, technology and innovation

## Survey of public research policy

### Topic 1: Institutions in charge of priority setting, funding and evaluations

**Table 1. Questions on institutions in charge of priority setting, funding and evaluations of universities and PRIs**

Question	Response
<p><b>Q.1.1. Who mainly decides on the scientific, sectoral and/or thematic priorities of budget allocations for a) HEIs and b) PRIs?</b></p> <p>c) Which are the main mechanisms in place to decide on <b>scientific, sectoral and/or thematic priorities of national importance</b>, e.g. digital transition, sustainability? Please describe who is involved and who decides on the priorities (e.g., government, research and innovation councils, sector-specific platforms including industry and science, etc.).</p> <p><i>(This question does not refer to who sets overall science, technology and industry priorities. This is usually done by parliaments and government. The question refers to decisions taken after budgets to different ministries/agencies have been approved. Scientific priorities refer to scientific disciplines, e.g. biotechnology; sectoral priorities refer to industries, e.g. pharmaceuticals; and thematic priorities refer to broader social themes, e.g. digital transition, sustainability, etc.)</i></p> <p>d) From 2005-16, were any significant changes introduced as to how decisions on scientific, sectoral and/or thematic orientation of major programmes are taken (e.g. establishment of agencies that decide on content of programmes)?</p>	<p>a and b) The Ministry of Science and Information Technologies (MSIT) sets scientific, sectoral and/or thematic priorities of budget allocations for HEIs and PRIs. It develops the S&amp;T Basic Plans which set out strategic goals and specific tasks to implement research policy (EC/OECD STI Policy Survey 2016, response A2). The Ministry also coordinates STI policy across ministries with STI agendas and evaluates R&amp;D programmes (EC/OECD STI Policy Survey 2016, response B4).</p> <p>c) In Korea, the National Science and Technology Council (NSTC) decides on broad policy priorities for (see also responses 2.1 to 2.4). The Ministry of Science and Information Technologies acts as the secretariat for the NSTC. For more details, see response annex.</p> <p>d) <i>Changes over 2005-16</i> In 2017, MSIT received its current name. Prior, it was the Ministry of Science, ICT and Future Planning (MSIP). MSIP was established in 2013. It was created by incorporating S&amp;T part of the Ministry of Education, Science and Technology (MEST), the Secretariat of the National S&amp;T Council (NSTC), the ICT part of the Korea Communications Commission (KCC) and the R&amp;D part of the Ministry of Knowledge Economy (MKE). In 2013, responsibilities for STI policy coordination were moved from the National S&amp;T Council (NSTC) to the newly created MSIP in order to bundle STI policy coordination functions within one ministry (EC/OECD STI Policy Survey 2016, response B4).</p> <p>In Sep. 2015, the Office for Science and Technology Strategy was established inside the MSIP. The Office for Science and Technology Strategy acts as the secretariat for the National Science and Technology Council (NSTC) which decides on broad policy priorities for STI in Korea (see responses 2.1 to 2.4).</p>
<p><i>References:</i> EC/OECD STI Policy Survey 2016 for Korea. Responses A2, B1, B4.</p>	

**Q.1.2.** Who allocates **institutional block funding** to a) HEIs and b) PRIs?

*(Institutional block funds (or to general university funds) support institutions and are usually transferred directly from the government budget.)*

c) Who allocates **project-based funding** of research and/or innovation for HEIs and PRIs?

*(Project-based funding provides support for research and innovation activities on the basis of competitive bids.)*

d) Is there a transnational body that provides funding to HEIs and PRIs (e.g. the European Research Council)?

e) What is the importance of such funding relative to national funding support?

f) From 2005-16, were any changes made to way programmes are developed and funding is allocated to HEIs and PRIs (e.g. merger of agencies, devolution of programme management from ministries to agencies)?

a) In Korea, there is almost no institutional block funding for HEIs. HEIs receive financial support programmes from the Ministry of Education (MOE), the MSIT and other ministries. The salary and operation cost are covered by the MOE but do not fund their research and education activities. Most of public funding from the MOE is project-based. The only exception is Seoul National University that receives block grants.

b) The MIST and the Ministry of Strategy and Finance (MOSF) allocate institutional block funding to PRIs based on performance evaluations carried out by MSIT.

c) The National Research Foundation (NRF), the Korean Evaluation Institute of Industrial Technology (KEIT), the Korean Institute of Energy Technology Evaluation and Planning (KETEP), the Korean Institute for Advancement of Technology (KIAT), the Korean Health Industry Development Institute (KHIDI), the Korea Environment Industry and Technology Institute (KEITI), among other agencies, provide project-based funding. Moreover, most ministries have their own R&D agency that provides grants to public research institutes.

d and e) HEIs and PRIs do not receive significant funds from any transnational body.

f) Korean policy has realised the need to adapt HEIs' curricula to the changing needs of the digital transformation. Therefore, there have been several government initiated funding programmes for HEIs since 2010 (see also response to question 1.3). They provide funding for HEIs and are performance based, i.e. they include a contract between the Ministry and the institution that defines targets that HEIs have to meet against public funding. Their impact is currently under debate and impact assessments are under way.

The institutional funding schemes for PRIs has not changed since 2005. The most prominent change affecting PRIs was their management. Each ministry established R&D management agencies that supervise PRIs' research activities in their respective sectoral domains. The agencies help their strategic planning but at the same time they hinder better coordination between different PRIs and their alignment with cross-sectoral, national STI priorities has become weaker. The government has realised policy coordination within government as a weakness. It gave coordination powers to the MSIT that coordinates nation-wide R&D efforts across sectors and industries, including PRIs' research.

Regarding funding agencies, the National Research Foundation (NRF) was established as a merger of Korean Science and Engineering Foundation (KOSEF), the Korean Research Foundation (KRF), and the Korean Foundation for International Cooperation of Science and Technology (KICOS) in 2009.

In 2009, the funding agencies Korean Evaluation Institute of Industrial Technology (KEIT), the Korean Institute of Energy Technology Evaluation and Planning (KETEP), and the Korean Institute for Advancement of Technology (KIAT) were also established.

**References:**

OECD (2014), *Industry and Technology Policies in Korea*, OECD Publishing, Paris. pp. 40-44. DOI: <http://dx.doi.org/10.1787/9789264213227-en>

**Q.1.3.** Do **performance contracts** determine funding of a) HEIs?

*Institutional block funds can be partly or wholly distributed based on performance. (Performance contracts define goals agreed between ministry/agency and HEIs/PRIs and link it to future block funding of HEIs and PRIs.)*

b) What is the share of HEI budget subject to performance contract?

c) Do performance contracts include quantitative indicators for monitoring and evaluation?

d) What are the main indicators used in performance contracts? Which, if any, performance aside from research and education is set out in performance contracts?

e) Do HEIs participate in the formulation of main priorities and criteria used in performance contracts?

f) Do the same priorities and criteria set in performance contracts apply to all HEIs?

g) Are any other mechanisms in place to allocate funding to HEIs and PRIs?

h) From 2005-16, were any changes made to funding of HEIs and PRIs?

*(In case performance contracts are in place that bind funding of PRIs, please provide information about them.)*

a) Almost all funding for research is project based funding. Since 2010, there have been several government initiated funding programmes for HEIs to help them adapt their curricula to the changing needs of the digital transformation. They provide funding for HEIs and are performance based, i.e. they include a contract between the Ministry and the institution that defines targets that HEIs have to meet against public funding. There are several programmes for the HEIs and all of them are subject to performance contracts:

- Advancement of College Education (ACE)
- Brain Korea 21 Program for Leading Universities and Students (BK21 PLUS)
- University for Creative Korea (CK)
- Initiative for College of Humanities Research and Education (CORE)
- Leaders in Industry-university Cooperation (LINC)
- Program for Industrial Needs-Matched Education (PRIME)

For more details on the programmes and performance contracts attached to them, see annex.

b) 100%

c and d) They include innovation-related indicators, socio-economic challenges related indicators, and indicators to measure HEIs' local economy support. The LINC programme, for instance, uses the measures student employment, number of patents filed by professors, and student enrolment to measure research capacities of HEIs. It also makes use of the indicators number of professors with industry experience, experts employed in university-industry collaboration centres, completion rates of on-the-job training of students, the number of start-ups by students and researchers, and revenues from research contracts to measure university-technology technology transfer capacity. The weight attributed to the indicators for research capacity is 30% while the weight attributed to university-industry technology transfer is 70%.

e) HEIs do not participate in the formulation of criteria and targets. Usually, an expert panel sets the performance targets and indicators.

f) The same criteria apply to all HEIs.

g) Most research funding of HEIs is project-based in Korea.

h) All funding for research is performance-based. Since 2010, government programmes to support HEIs to better adapt to the digital transformation come along with performance contracts between MOE and HEIs.

<p><b>Q.1.4.</b> Who decides on the following key <b>evaluation</b> criteria of HEIs and PRIs?</p> <p>Who is responsible for setting criteria to use when evaluating performance of a) HEIs? Who is responsible for b) evaluating and c) monitoring HEIs' performance?</p> <p>Who is responsible for setting criteria to use when evaluating performance of d) PRIs? Who is responsible for e) evaluating and f) monitoring PRIs' performance?</p> <p>h) From 2005-16, was any institution created for evaluating HEIs and PRIs or were any changes made to criteria applied for evaluations of HEIs and PRIs?</p>	<p>a) The MOE sets criteria of reevaluations of HEIs.</p> <p>b and c) The NRF evaluates and monitors the performance of HEIs.</p> <p>d) The National Research Council for Science and Technology (NST) is the preliminary evaluation body while MSIT carries out meta-evaluation of PRIs. MSIT provides R&amp;D standard performance indicators, develops Basic Plans for performance evaluation (every 5 years) as well as Action Plans for R&amp;D evaluation (annually) of PRIs. Currently, the 3rd Basic Plan for Evaluation and Management of Performance of National R&amp;D Programmes is in place (2016-2020).</p> <p>e and f) MSIT is responsible for both specific and meta evaluations of PRIs while each Ministry and the National Research council for Science and Technology (NST) is in charge of evaluating the R&amp;D projects associated with its PRIs. PRIs, under the supervision of MSIT, conduct a managerial evaluation once a year (OECD, 2014, pp. 50-51). The NST monitors the performance of PRIs.</p> <p>h) <i>Changes over 2005-2016</i> The current evaluation and monitoring system of Korean HEIs and PRIs is in place since 2005; it is regulated by the Law on the Evaluation and Management of Performance of National R&amp;D Programmes (OECD, 2014, p. 50).</p> <p>The current 3rd Basic Plan for Evaluation and Management of Performance of National R&amp;D Programmes has led to some changes:</p> <ul style="list-style-type: none"> <li>- Shift towards the use of qualitative performance indicators;</li> <li>- Streamlining of application processes for research grants;</li> <li>- Mid-term evaluations during the research project replace yearly evaluations</li> <li>- Enhanced in-depth evaluations for strategically important R&amp;D projects</li> </ul>
<p><i>References:</i> OECD (2014), Industry and Technology Policies in Korea, OECD Publishing, Paris. p. 50-53. DOI: <a href="http://dx.doi.org/10.1787/9789264213227-en">http://dx.doi.org/10.1787/9789264213227-en</a>.</p>	
<p><b>Q.1.5.</b> Which <b>recent reforms</b> to institutions that are in charge of priority setting, budget allocations, and evaluations of HEIs and PRIs were particularly important?</p>	<ul style="list-style-type: none"> <li>- Establishment of the STI Office for whole of government S&amp;T coordination inside MSIT in 2015</li> <li>- Establishment of the MSIT and the MSS (Ministry of SMEs and Start-ups) in 2017</li> <li>- Stronger role of the Presidential Advisory Council for Science and Technology in 2017</li> </ul>

*Note:* a) In case of multiple levels being responsible for the above listed policy-making decisions, indicate which institutions have higher responsibilities than others, e.g., final decision-making power or veto power? b) Please indicate if any of the answers above are difficult to provide and, if so, why (e.g. because governance is shared by several institutions). c) Please indicate if different regions within a country have their own vertical governance arrangements and how these differ.

## Topic 2: Policy co-ordination mechanisms

**Table 2. Questions on research and innovation councils**

Question	Response
<p><b>Q.2.1.</b> a) Is there a <b>Research and Innovation Council</b>, i.e. non-temporary public body that takes decisions concerning HEI and PRI policy, and that has explicit mandates by law or in its statutes to either?</p> <ul style="list-style-type: none"> <li>– provide policy advice (i.e. produce reports);</li> <li>– and/or oversee policy evaluation;</li> <li>– and/or coordinate policy areas relevant to public research (e.g. across ministries and agencies);</li> <li>– and/or set policy priorities (i.e. strategy development, policy guidelines);</li> <li>– and/or joint policy planning (e.g. joint cross-ministry preparation of budgetary allocations)?</li> </ul> <p>b) What is the name of the main research and/or innovation Council/Committee? Are there any other research Councils/Committees?</p> <p>c) Are there any other research Councils/Committees?</p> <p><i>References:</i> EC/OECD STI Policy Survey 2016 for Korea. Response B4. Schwaag Serger, S., Wise, E. and Arnold, E. (2015) National Research and Innovation Councils as an Instrument of Innovation Governance. Verket för innovationssystem - VINNOVA. pp. 62-64. Available at: <a href="http://www.vinnova.se/en/Publications-and-events/Publications/Products/National-Research-and-Innovation-Councils-as-an-Instrument-of-Innovation-Governance/">http://www.vinnova.se/en/Publications-and-events/Publications/Products/National-Research-and-Innovation-Councils-as-an-Instrument-of-Innovation-Governance/</a> (Accessed: 19 October 2016). NSTC (2016), website, <a href="http://www.nstc.go.kr/eng/major.jsp">http://www.nstc.go.kr/eng/major.jsp</a> (accessed 10 October 2016)</p>	<p>a and b) The National Science and Technology Council (NSTC) is the main research and innovation council in Korea.</p> <p>c) National Research Council for Science and Technology (NST) has mostly policy implementation functions (e.g. evaluations of PRIs) with small policy and strategy research.</p> <p>There are two additional bodies that deal with midterm to long-term STI-related issues and which are located under the presidential office. The Presidential Advisory Council for Science and Technology (PACST) advises the President on mid- and long-term policies regarding national science and technology in accordance with Article 127 of the Constitution and the Presidential Advisory Council on Science and Technology Act. In May 2017, it underwent reforms and has a more active role for S&amp;T policy. Then there is also the Committee for the 4th Industrial Revolution which was newly established in September 2017 to provide policy advice for digital transformation.</p>
<p><b>Q.2.2.</b> With reference to Q.2.1, does the Council's <b>mandate</b> explicitly include a) policy coordination; b) preparation of strategic priorities; c) decision-making on budgetary allocations; d) evaluation of policies' implementation (including their enforcement); e) and provision of policy advice?</p> <p><i>References:</i> EC/OECD STI Policy Survey 2016 for Korea. Response B4. OECD (2009), Reviews of Innovation Policy: Korea, pp. 40 &amp; 44-45, Paris, OECD Publishing. NSTC (2016), website, <a href="http://www.nstc.go.kr/eng/major.jsp">http://www.nstc.go.kr/eng/major.jsp</a> (accessed 10 October 2016)</p>	<p>a to e) The NSTC is responsible for analysis, policy formulation, strategy and priority setting, and overall coordination of all policy areas related to science and technology policy. It has significant control over the government's R&amp;D budget (Schwaag et al., 2015, p. 62). It decides on research programmes and related budgets, innovation programmes and related budgets, as well as policies supporting framework conditions of innovation.</p>
<p><b>Q.2.3.</b> With reference to Q.2.1, <b>who formally participates</b> in the Council? a) Head of State, b) ministers, c) government officials (civil servants and other representatives of ministries, agencies and implementing bodies), d) funding agency representatives, e) local and regional government representatives, f) HEI representatives, g) PRI representatives, h) private sector, i) civil society, and/or j) foreign experts</p> <p><i>References:</i> OECD (2009), Reviews of Innovation Policy: Korea, p. 44, Paris, OECD Publishing. NSTC (2016), website, <a href="http://www.nstc.go.kr/eng/major.jsp">http://www.nstc.go.kr/eng/major.jsp</a> (accessed 10 October 2016)</p>	<p>a to j) The Prime Minister, ministers, government officials, funding agency representatives, HEI and PRI representatives, and representatives from the private sector take part in the Council.</p> <p>The NSTC consists of a steering committee, eight expert committees, four special committees (at present), and two consultation committees. The entire structure encompasses more than 300 high-level representatives from government and academia, as well as individuals from industry (Schwaag et al., 2015, pp. 63-64).</p>

**Q.2.4.** With reference to Q.2.1.b., does the Council have its own a) **staff** and/or its own b) **budget**? If so, please indicate the number of staff and the amount of annual budget available.

c) From 2005-16, were any **reforms** made to the mandate of the Council, its functions, the composition of the Council, the budget and/or the Council's secretariat? Was the Council created during the time period?

a and b) The Council does not have its own staff and budget. The Office for Science and Technology of the MSIT serves as the Secretariat of the Council while Korean Institute of Science and Technology Evaluation and Planning (KISTEP) provides technical and operational assistant.

c) In 2013, responsibilities for STI policy coordination were moved from the National S&T Council (NSTC) to the newly created MSIT in order to bundle STI policy coordination functions within one ministry (EC/OECD STI Policy Survey 2016, response B4).

In Sep. 2015, the Office for Science and Technology Strategy was established inside the MSIP. The Office for Science and Technology Strategy acts as the secretariat for the National Science and Technology Council (NSTC) which decides on broad policy priorities for STI in Korea.

Since 2017, the Presidential Advisory Council for Science and Technology (PACST) has received more power for strategic alignment of research and innovation policies. The PCST also has its own staff and budget.

*References:*

EC/OECD STI Policy Survey 2016 for Korea. Responses B1 and B4.

NSTC (2016), website, <http://www.nstc.go.kr/eng/major.jsp> (Accessed 10 October 2016)

Schwaag Serger, S., Wise, E. and Arnold, E. (2015) National Research and Innovation Councils as an Instrument of Innovation Governance. Verket för innovationssystem - VINNOVA. p. 64. Available at: <http://www.vinnova.se/en/Publications-and-events/Publications/Products/National-Research-and-Innovation-Councils-as-an-Instrument-of-Innovation-Governance/> (Accessed: 19 October 2016).

*Note:* a) In the event of differences in the way the above listed co-ordination activities target public/private HEIs and PRIs, please indicate these differences. b) Please indicate if any of the above answers are difficult to provide and, if so, why.



**Table 3. Questions on national STI strategies**

Question	Response
<p><b>Q.2.5.</b> a) Is there a national non-sectoral <b>STI strategy</b> or plan?</p> <p>b) What is the name of the main national STI strategy or plan?</p>	a and b) The 4th S&T Basic Plan (2018-2022)
<p><b>Q.2.6.</b> Does the national STI strategy or plan address any of the following priorities?</p> <p>a) Specific themes and/or <b>societal challenges</b> (e.g. Industry 4.0; “green innovation”; health; environment; demographic change and wellbeing; efficient energy; climate action) - Which of the following themes and/or societal challenges are addressed?</p> <ul style="list-style-type: none"> <li>– Demographic change (i.e. ageing populations, etc.)</li> <li>– Digital economy (e.g. big data, digitalisation, industry 4.0)</li> <li>– Green economy (e.g. natural reReferences, energy, environment, climate change)</li> <li>– Health (e.g. Bioeconomy, life science)</li> <li>– Mobility (e.g. transport, smart integrated transport systems, e-mobility)</li> <li>– Smart cities (e.g. sustainable urban systems urban development)</li> </ul> <p>b) Specific <b>scientific disciplines and technologies</b> (e.g. ICT; nanotechnologies; biotechnology) - Which of the following scientific research, technologies and economic fields are addressed?</p> <ul style="list-style-type: none"> <li>– Agriculture and agricultural technologies</li> <li>– Energy and energy technologies (e.g. energy storage, environmental technologies)</li> <li>– Health and life sciences (e.g. biotechnology, medical technologies)</li> <li>– ICT (e.g. artificial intelligence, digital platforms, data privacy)</li> <li>– Nanotechnology and advanced manufacturing (e.g. robotics, autonomous systems)</li> </ul> <p>c) Specific <b>regions</b> (e.g. smart specialisation strategies)</p> <p>d) <b>Supranational</b> or transnational objectives set by transnational institutions (for instance related to European Horizon 2020)</p> <p>e) <b>Quantitative targets</b> for monitoring and evaluation (e.g. setting as targets a certain level of R&amp;D spending for public research etc.)</p> <p>f) From 2005-16, was any STI strategy introduced or were any changes made existing STI strategies?</p>	<p>a and b) The 4th S&amp;T Basic Plan has 78 specific measures in 19 policy areas for advancing five overall societal challenges (no order of preference): Expanding national R&amp;D investment and improving its efficiency; developing strategic technologies; strengthening mid- and long-term creative capabilities of the population; identifying and supporting new industries; and creating S&amp;T related jobs. It addresses the societal challenges of demographic change, health, sustainable growth, digital transformation, mobility and smart cities. It also addresses specific technologies, including agricultural technologies, environment, food, health and healthcare, ICT, nanotechnology, and advanced manufacturing.</p> <p>c) There are separate 5-year Regional S&amp;T Strategic Plans in place and a new Smart City initiative will be launched soon.</p> <p>d) The national STI strategy does not address transnational objectives.</p> <p>e) The Plan sets out quantitative targets for the contributions of R&amp;D expenditures to GDP; the creation of S&amp;T related jobs; and Korea’s overall innovation performance as measured by scoreboards.</p> <p>f) The 4th S&amp;T Basic Plan is in place since 2018.</p> <p>Since 2002, the formulation of national STI strategies takes the form of 5-year plans. Policy took on a more holistic, innovation system perspective as compared to a linear, R&amp;D-based focus that it had before 2002.</p>
<p><b>Q.2.7.</b> What <b>reforms</b> to policy co-ordination regarding STI strategies and plans have had particular impact on public research policy?</p>	No major reforms made.

*Note:* a) In the event of differences in the way the above listed co-ordination activities target public/private HEIs and PRIs, please indicate these differences. b) Please indicate if any of the above answers are difficult to provide and, if so, why.

**Table 4. Questions on inter-agency programming and role of agencies**

Question	Response
<p><b>Q.2.8.</b> Does <b>inter-agency joint programming</b> contribute to the co-ordination of HEI and PRI policy?</p> <p><i>(Inter-agency joint programming refers to formal arrangements that result in joint action by implementing agencies, such as e.g. sectoral funding programmes or other joint policy instrument initiatives between funding agencies.)</i></p>	<p>Recently, joint programming has been established among the ministries and PRIs. Performance evaluation is still underway to find out their impact.</p>
<p><b>Q.2.9.</b> a) Is co-ordination within the <b>mandate of agencies</b>?</p> <p>b) From 2005-16, were any changes made to the mandates of agencies tasked with regards to inter-agency programming? Were new agencies created with the task to coordinate programming during the time period?</p>	<p>a) Agencies do not have formal coordination functions.</p> <p>b) Since 2017, the government initiated several inter-ministerial R&amp;D Projects to support the development of converging technologies and address societal challenges.</p>
<p><b>Q.2.10.</b> What <b>reforms</b> of the institutional context have had impacts on public research policy?</p>	<p>No major reforms made.</p>

*Note:* a) In case of multiple levels being responsible for the above listed policy-making decisions, indicate which institutions have higher responsibilities than others, e.g., final decision-making power or veto power?

b) Please indicate if any of the answers above are difficult to provide and, if so, why (e.g. because governance is shared by several institutions).

c) Please indicate if different regions within a country have their own vertical governance arrangements and how these differ.

### Topic 3: Stakeholders consultation and institutional autonomy

**Table 5. Questions on stakeholder consultation**

Question	Response
<p><b>Q.3.1. a)</b> Do the following stakeholders participate as formal members in <b>Research and Innovation Councils</b>? (i.e. Formal membership as provided by statutes of Council)</p> <ul style="list-style-type: none"> <li>– Private Sector</li> <li>– Civil society (citizens/ NGOs/ foundations)</li> <li>– HEIs/PRI and/or their associations</li> </ul> <p>b) Do stakeholders participate as formal members in <b>council/governing boards of HEIs</b>? (i.e. Formal membership as provided by statutes of Council)</p> <ul style="list-style-type: none"> <li>– Private Sector</li> <li>– Civil society (citizens/ NGOs/ foundations)</li> </ul>	<p>a) Representatives from the private sector and HEIs/PRI are members of the NSTC and participate in the formulation of national STI priorities and decisions on budget allocations to research and innovation at HEIs and PRI. Private sector representatives include large enterprises and several key industry associations.</p> <p>b) University boards include representatives from civil society but mostly informal, e.g. the teacher's union and others related organisations. The government regards wider participation of stakeholders in governing boards of HEIs as important.</p>
<p><i>References:</i>            Schwaag Serger, S., Wise, E. and Arnold, E. (2015) National Research and Innovation Councils as an Instrument of Innovation Governance. Verket för innovationssystem - VINNOVA. pp. 62-64. Available at: <a href="http://www.vinnova.se/en/Publications-and-events/Publications/Products/National-Research-and-Innovation-Councils-as-an-Instrument-of-Innovation-Governance/">http://www.vinnova.se/en/Publications-and-events/Publications/Products/National-Research-and-Innovation-Councils-as-an-Instrument-of-Innovation-Governance/</a> (Accessed: 19 October 2016).            NSTC (2016), website, <a href="http://www.nstc.go.kr/eng/major.jsp">http://www.nstc.go.kr/eng/major.jsp</a> (Accessed 10 October 2016)</p>	
<p><b>Q.3.2. a)</b> Are there <b>online consultation</b> platforms in place to request inputs regarding HEI and PRI policy? b) Which aspects do these online platforms address (e.g. e.g. open data, open science)?</p> <p>c) From 2005-16, were any reforms made to widen inclusion of stakeholders and/or to improve consultations, including online platforms?</p>	<p>a and b) Online consultation happens on a case by case basis. The open seminar platform is an example of an online consultation platform.</p> <p>c) In October 2017, a public consultation was held on the energy transition towards renewable energies. About 500 citizens participated in the deliberations about new nuclear power plants.</p>
<p><b>Q.3.3.</b> Which <b>reforms</b> to consultation processes have proven particularly important?</p>	<p>No major reforms made.</p>

*Note:* Please indicate if any of the answers above are difficult to provide and, if so, why (e.g. because governance is shared by several institutions).

**Table 6. Questions on autonomy of universities and PRIs**

Question	Response
<p><b>Q.3.4.</b> Who decides about <b>allocations of institutional block funding</b> for teaching, research and innovation activities at a) HEIs and b) PRIs?  <i>(National/regional level: If HEIs face national constraints on using block funds, i.e. funds cannot be moved between categories such as teaching, research, infrastructure, operational costs, etc. This option also applies if the ministry pre-allocates budgets for universities to cost items, and HEIs are unable to distribute their funds between these.</i>  <i>Institutions themselves: If HEIs are entirely free to use their block grants.)</i></p>	<p>a) There is almost no institutional block funding for HEIs. HEIs receive financial support programmes from the Ministry of Education (MOE), the MSIT and other ministries. The salary and operation cost are covered by the MOE but do not fund their research and education activities. Universities cannot use these funds for other purposes, e.g. research. Most of public funding for research provided by the MOE is project-based and cannot be used for other purposes than the project that it covers. The only exception is Seoul National University that receives block grants.</p> <p>b) PRIs receive institutional funding from MSIT and other sectoral Ministries and cannot freely move funds across categories.</p>
<p><b>Q.3.5.</b> Who decides about <b>recruitment</b> of academic staff at a) HEIs and b) PRIs?  <i>(National/regional level: If recruitment needs to be confirmed by an external national/regional authority; if the number of posts is regulated by an external authority; or if candidates require prior accreditation. This option also applies if there are national/regional laws or guidelines regarding the selection procedure or basic qualifications for senior academic staff.</i>  <i>Institutions themselves: If HEIs are free to hire academic staff. This option also applies to cases where laws or guidelines require the institutions to publish open positions or the composition of the selection committees which are not a constraint on the hiring decision itself.)</i></p>	<p>a and b) HEIs and PRIs can recruit their academic and research staffs freely.</p> <p>c and d) The salaries for PRIs and public HEIs are set by the government. Private HEIs themselves can decide about salaries, reassignment.</p> <p>e and f) Institutions themselves decide about reassignments and promotions.</p>
<p>Who decides about <b>salaries</b> of academic staff at c) HEIs and d) PRIs?  <i>(National/regional level: If salary bands are negotiated with other parties, if national civil servant or public sector status/law applies; or if external authority sets salary bands.</i>  <i>Institutions themselves: If HEIs are free to set salaries, except minimum wage.)</i></p>	
<p>Who decides about <b>reassignments and promotions</b> of academic staff at e) HEIs and f) PRIs?  <i>(National/regional level: If promotions are only possible in case of an open post at a higher level; if a promotion committee whose composition is regulated by law has to approve the promotion; if there are requirements on minimum years of service in academia; if automatic promotions apply after certain years in office, or if there are promotion quotas.</i>  <i>Institutions themselves: If HEIs can promote and reassign staff freely.)</i></p>	

**Q.3.6.** Who decides about the **creation of academic departments** (such as research centres in specific fields) and functional units (e.g. **technology transfer offices**) at a) HEIs and b) PRIs?

*(National/regional level: If there are national guidelines or laws on the competencies, names, or governing bodies of internal structures, such as departments or if prior accreditation is required for the opening, closure, restructuring of departments, faculties, technology offices, etc.*

*Institutions themselves: If HEIs are free to determine internal structures, including the opening, closure, restructuring of departments, faculties, technology offices, etc.)*

Who decides about the creation of legal entities (e.g. **spin-offs**) and **industry partnerships** at c) HEIs and d) PRIs?

*(National/regional level: If there are restrictions on legal entities, including opening, closure, and restructuring thereof; if restrictions apply on profit and scope of activity of non-profit organisations, for-profit spin-offs, joint R&D, etc.*

*Institutions themselves: If HEIs are free to create non-profit organisations, for-profit spin-offs, joint R&D, etc.)*

**Q.3.7.** Who earns what **share of revenues** stemming from IP (patents, trademarks, design rights, etc.) created from publicly funded research at a) HEIs and b) PRIs?

- HEI
- Research unit / laboratory within HEI
- Researchers

c) From 2005-16, were any reforms introduced that affected the institutional autonomy of HEIs and PRIs?

**Q.3.8.** Which **reforms** to institutional autonomy have been important to enhance the impacts of public research?

a) MOE is in charge of the creation and accreditation of academic departments at HEIs. MOE has the power to cut off funding for specific department via government support (e.g. PRIME programmes). Private HEIs enjoy more freedoms. The PRIs are relatively free to create and close down departments and research centres.

b) PRIs decide themselves about the creation of departments and functional units (e.g. technology transfer offices)

c and d) HEIs and PRIs are free to create spin-offs and engage in collaborations with industry.

a and b) The researchers usually receives 50% of revenues from IP. The rest is divided between the institution, the department and the technology transfer office as set out in regulations of the individual HEI/PRI.

c) Recent reforms aim to increase the share of institutional block funding for personnel at HEIs to 70% as a share of overall university expenditures on personnel by 2018.

Regarding PRIs, ministries require mission-oriented research when allocating funding to PRIs.

No major reforms made.

*Note:* Indicate if any of the answers above are difficult to provide and, if so, why. Please describe how much scope HEIs/PRIs themselves have with regard to defining these conditions.

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## Annex. Additional notes on priority setting and performance contracts

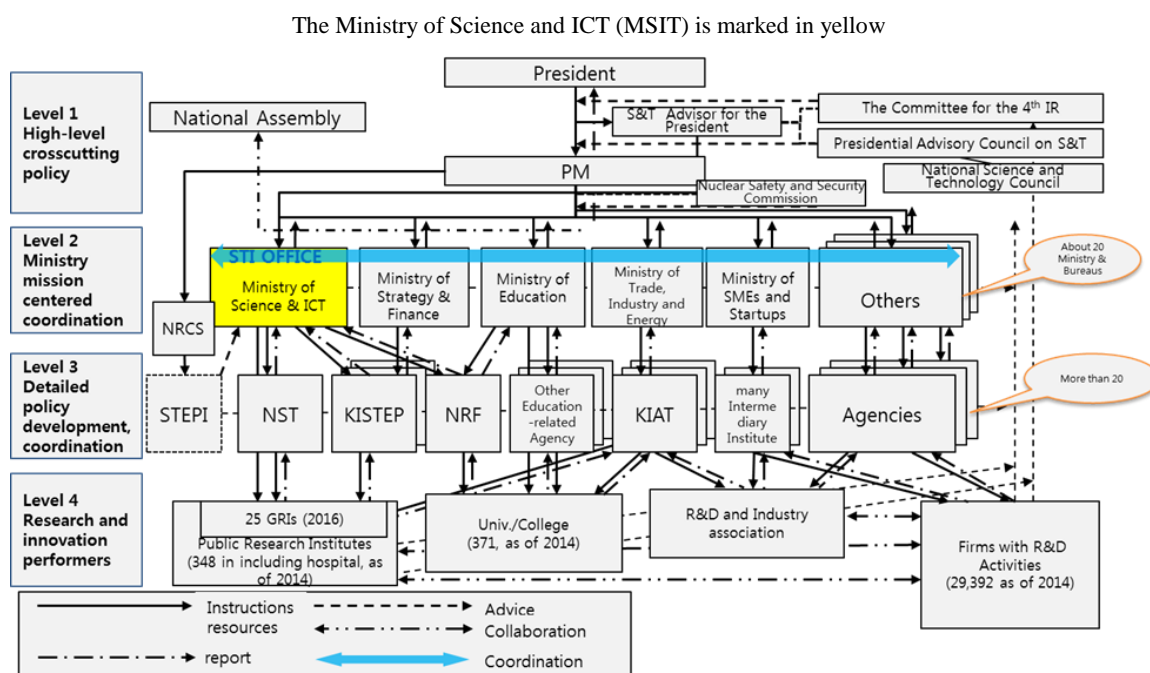
This annex provides additional background information on mechanisms in place to decide on scientific, sectoral and/or thematic priorities of national importance. It refers to question 1.1.c. Additional information is also provided to question 1.3. on performance contracts for HEIs.

*Which are the main mechanisms in place to decide on scientific, sectoral and/or thematic priorities of national importance, e.g. digital transition, sustainability? Please describe who is involved and who decides on the priorities (e.g., government, research and innovation councils, sector-specific platforms including industry and science, etc.). (Question 1.1.c)*

The MSIT takes the major decision on scientific, sectoral and/or thematic priorities of project-based funding of research and innovation for HEIs and PRIs. The STI Office of the Ministry of Science and ICT (MSIT) acts as secretariat for the National Science and Technology Council NSTC.

Two organisations deal with mid- and long-term STI-related issues under the presidential office. The Presidential Advisory Council for Science and Technology advises the President on mid- and long-term policies regarding national science and technology in accordance with Article 127 of the Constitution and the Presidential Advisory Council on Science and Technology Act. Its role for S&T policy was strengthened after the new administration took office in May 2017. The Committee for the 4th Industrial Revolution is new established advisory council that addresses challenges of the digital transformation.

Figure 1. Type the title here



*Do performance contracts determine institutional block funding of HEIs? What share of HEI budget is subject to performance contracts? Do performance contracts include quantitative indicators for monitoring and evaluation? Which, if any, performance aside from research and education is set out in performance contracts? Please specify which performance indicators. (Question 1.3)*

Almost all funding for research is project based funding. The MOE and MSTI provide most funding to HEIs (see Table 7)

**Table 7. Funding provided t HEIs by the MOE and the MSIT**

Values in purchasing power parity USD million at 2017 prices

	R&D programme	Institutional funding
MOE	109.458	26.000
MSIT and other ministries	411.606	3.731
<b>Total</b>	<b>521.064</b>	<b>6.331</b>

*Note:* Institutional funding is provided for personnel and operational costs only.

Since 2010, there have been several government initiated funding programmes for HEIs to help them adapt their curricula to the changing needs of the digital transformation. The provide funding for HEIs and are performance based, i.e. they include a contract between the Ministry and the institution that defines targets that HEIs have to meet against public funding. There are several programmes for the HEIs and all of them are subject to performance contracts:

- Advancement of College Education (ACE)
- Brain Korea 21 Program for Leading Universities and Students (BK21 PLUS)

- University for Creative Korea (CK)
- Initiative for College of Humanities Research and Education (CORE)
- Leaders in Industry-university Cooperation (LINC)
- Program for Industrial Needs-Matched Education (PRIME)

**Table 8. Amount of funding of selected research programmes**

Values in purchasing power parity USD million at 2017 prices

	PRIME	CORE	CK	LINC	ACE	BK21 PLUS
Objectives	Restructuring of departments to match with societal needs	Enhancing liberal art capability	Regional specialisation	Promoting University-industry collaboration	Undergraduate education	Research excellence in post-graduate schools
Budget	229.405 (2016)	39.222 (2016)	281.283 (2015)	281.379 (2015)	67.723 (2015)	308.192 (2015)
Funding period	2016-2018	2016-2018	2014-2018	2012-2016	Since 2010	2013-2030

Basic funding of PRIs has not changed much since 2005. The MIST and the Ministry of Strategy and Finance (MOSF) allocate institutional block funding to PRIs based on performance evaluations carried out by MSIT.