Transformation in technology determines the transformation of our world.
The ‘speed’ in which we transform does not matter;
The ‘direction’ of transformation is the key.
IITP is Korea’s ICT R&D institute spearheading the country’s digital transformation and striving to create a better world for everyone.
Q. What does IITP do?

A. The Institute of Information & Communications Technology Planning & Evaluation, or IITP, sets orientations for national ICT R&D and selects the right projects and partners to achieve their intended goals.

IITP was established in 2014 by integrating ICT R&D functions scattered across different organizations. Marking its nine anniversary this year, IITP is the only ICT R&D specialist in Korea. We at IITP are dedicated to developing expertise and bringing innovation to the nation’s digital transformation. We strive to create a growth force for the Korean economy by developing core ICT technologies. We are committed to developing the ICT industry and contributing to society and the economy by developing hyper-advanced technologies and fostering talents. In addition, we are working to improve the quality of research outcomes and disseminate them to ensure that our R&D activities have a tangible impact on people’s lives.

Q. What’s so special about IITP compared with other ICT institutions?

A. There are many institutions that play roles in ICT, for example, some carry out R&D projects, and others are involved in ICT funding management, informatization, or ICT industrial promotion. However, their roles were mostly siloed; hence, there are limitations in planning and designing R&D policies with a farsighted view for the development of ICT and relevant industries in Korea. That was why these functions were integrated into IITP.

The most important feature of IITP is that we play roles in ICT R&D planning, evaluation, and management, which is our raison d’être, and at the same time, we take responsibility for the life-cycle management of R&D policies. From fostering future talents for the nation’s ICT to building research infrastructure and pursuing technical commercialization. We also aim to improve systems and procedures in research management, such as agreements, evaluations, and settlements, and build environments to reward outstanding researchers so that they can focus on what they do best: creative research. In addition, we will work with working-level R&D personnel to foster software-ICT convergent talents that have both creative and field-ready skills.

Q. What values and orientations are of prime importance to IITP?

A. To develop humanity and make people’s lives better. To make this happen, we aim to create a virtuous cycle where we listen to researchers and keep an eye on ICT trends and reflect the researchers’ voices and our findings in ICT policies.

Doing so requires that we ensure efficient organization management, bring innovation to how we work, and be true to our social responsibility as a public institution. We harnessed the power of ICT to overcome the COVID-19 pandemic, as we did for many other previous crises, and we saw silver linings of opportunities and hope from it. The world is in fierce competition to take the lead in the era of the Fourth Industrial Revolution where the economy goes digital. We at IITP will play leading roles in the ICT digital transformation in the coming decade.

We are an ICT life-cycle management specialist that makes the best of outcomes from ICT R&D. Your interest in and support for our journey will be greatly appreciated.
ROLE & RESPONSIBILITIES

IITP IS KOREA’S ICT R&D SPECIALIST

PLANNING

We design future ICT for a brighter future.

- R&D strategic planning in response to digital transformation
  - We monitor and predict ICT trends, industrial metrics, and fact-finding reports to develop technical and industrial innovation policies for future ICT.
  - We plan mid- and long-term national strategic R&D programs with the aim to respond to changes in technological environments and promote new convergent industries.
  - We conduct ICT-area-specific technical roadmap building, competitive landscape analysis, and open technology demand planning to identify projects eligible for R&D support.

TECHNOLOGY

We develop ICT to underpin the nation’s competitiveness.

Support for core technological development to create growth drivers

- We focus on developing hyper-advanced technologies for digital innovation, such as AI semiconductors, quantum computing and cybersecurity, as well as world-leading future ICT technologies.
- We support technical development to achieve carbon neutrality by pursuing smart energy for ICT-industry convergence, high energy efficiency, and low energy loss.
- We support cooperative R&D, for example, technical development projects to tackle public and social problems using ICT, challenging R&D projects to resolve pain points in technical development by encouraging competition among researchers, and international joint R&D projects.
**PEOPLE**

We foster creative talents to grow Korea as an ICT powerhouse.

Future-ready human resources development in ICT and software

- We foster graduate-level talents in promising ICT disciplines and strive to grow convergent talents by developing industry-university cooperative curricula and pursuing innovative education for regional intellectualization.
- We bring innovation to college software education by strengthening field-oriented software education to foster software professionals that will play leading roles in information society and offering convergent software education to those who have no software background.
- We work with leading countries in ICT, offer short- and mid-term project mentoring, and run internship programs to facilitate field-ready capacity building and help young talents build their career.

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**CREATE**

We build foundations to grow global ICT businesses.

Business innovation and technical commercialization support

- We provide research infrastructure such as devices, equipment, testing, verification, and demonstration to help local enterprises respond to changes in technical environments in a timely manner, for example, 5G, 6G, artificial intelligence, and ICT convergence.
- To facilitate the growth of ICT startups and their global advancement, we work with large enterprises to discover promising startups and provide technical development support, mentoring, and market development services.
- We offer R&D Innovation vouchers to help small and medium enterprises acquire the necessary technologies for commercialization and provide support to help them publicize their ICT R&D achievements through exhibitions and technical marketing activities.

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**SOLUTION**

We build immersive environments for ICT R&D.

- We introduce evaluation methods tailored to R&D projects in consideration of project-specific evaluation conditions, for example, on-site, remote, or collective evaluations, and pursue qualitative improvement and reliability of evaluations by engaging top experts, employing a responsibility evaluation system, and introducing preliminary reviews.
- We make improvements in project management roles and systems to create stable researcher-centered environments, operate channels to get feedback from those in the research field, and ensure comprehensive data management.
- We improve transparency in research fund management with self-conducted research fund execution tests (R&D Check), constant fund management monitoring (Ez-Check), and preventive and consulting initiatives.

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**Researcher-centered R&D management**

Institute of Information & Communications Technology Planning & Evaluation
R&D PROCESS

ICT R&D Project Process

- Define project directions and room for improvement
- Confirm annual plans including eligible areas and budget
- Put notices on the website and advertise on media
- Organize project briefings (if needed)
- Receive project applications
- Develop evaluation plans including evaluation methods and the number of projects
- Conduct preliminary, expert, and comprehensive evaluations
- Review the evaluation results, deliberate on and confirm project selection
- Announce selected organizations
- Conclude agreements and pay research funds
- Progress check and phase-specific/final evaluations
- Settle research expenses and collect royalty
- Study and analyze outcomes such as patents and papers
- Share and disseminate notable achievements

ACHIEVEMENTS

ICT Achievements in Comparison with Overall National R&D Achievements (2019–2021)

<table>
<thead>
<tr>
<th></th>
<th>ICT R&amp;D</th>
<th>National R&amp;D</th>
<th>% share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget</td>
<td>USD 2.13 billion</td>
<td>USD 52.6 billion</td>
<td>4%</td>
</tr>
<tr>
<td>Royalties</td>
<td>USD 70.6 million</td>
<td>USD 593 million</td>
<td>11.9%</td>
</tr>
<tr>
<td>Domestic patent</td>
<td>20,969 cases</td>
<td>157,874 cases</td>
<td>13.3%</td>
</tr>
<tr>
<td>International patent</td>
<td>3,819 cases</td>
<td>22,394 cases</td>
<td>17.1%</td>
</tr>
<tr>
<td>Top 100 achievements</td>
<td>42 projects</td>
<td>300 projects</td>
<td>14.3%</td>
</tr>
</tbody>
</table>

Quantitative Achievements of ICT R&D

- The number of patents pending and registered

<table>
<thead>
<tr>
<th></th>
<th>Domestic (34,590 cases in total)</th>
<th>Overseas (6,369 cases in total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1,276</td>
<td>1,274</td>
</tr>
<tr>
<td>2018</td>
<td>6,696</td>
<td>8,968</td>
</tr>
<tr>
<td>2019</td>
<td>6,917</td>
<td>6,817</td>
</tr>
<tr>
<td>2020</td>
<td>6,488</td>
<td>6,488</td>
</tr>
<tr>
<td>2021</td>
<td>6,488</td>
<td>6,488</td>
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</tbody>
</table>
Major ICT & R&D Achievements (2021)

- The world’s most powerful algorithm for core problems in big data graph analysis
- Developed the world’s highest GaAs power amplifier with 30% efficiency and 88W saturation output power in the 5G FR2 77GHz band, expected to help improve 5G FR2 bands, core components and develop technologies scalable to the 6G band.
- Worked with three mobile carriers to develop technologies to protect 20.92 million users of 5G communications services as of December 2021 (from hacking, and to detect and block hacking attempts targeting 5G communications networks); technologies transferred to security companies and deployed by mobile carriers.
- Developed human motion analysis and evaluation technology based on visual artificial intelligence; signed a technology transfer contract ($300, June 2021); adopted by the Ministry of Health and Welfare’s next-generation social security information system; generated $122,900 in revenue from commercialization; source technologies for world leading robot artificial intelligence specialized for the elderly.
- Developed an open 5G base station radio technology based on Open RAN and non-proprietary technology to base station radio equipment, and promote commercialization by developing technology tailored to operators’ needs.
- Implemented a universal and scalable MIR-IoT/ANI convergence platform structure and developed artificial intelligence technologies specialized in disaster response; expected to facilitate the development of urban disaster response training systems.
- Developed original technologies to address the five blockchain challenges: data, file, content, behavior, and smart contract, and contributed to the development of a blockchain framework and consensus mechanism.

- An innovative personalized healthcare platform to improve the survival of cancer patients
- Transferred an AI-based Android malware analysis platform technology patent to a top US U.S. security company
- Developed an ARM-based Android malware analysis platform technology to analyze increasingly sophisticated malware.
- ETRI and KT have co-edited and co-published of the 22 standard proposals and played a leading role in the development of 25 standard proposals; are now pushing the world’s first international standard in the field of quantum key distribution networks.
MANAGEMENT GOALS

MISSION
ICT R&D planning, evaluation, and innovation to create future growth drivers

VISION
An ICT R&D specialist leading the digital transformation
Develop core competencies for future-proof ICT policies
Support ICT R&D innovation to lead digital transformation
Strengthen open and autonomous R&D governance
 Fulfill corporate innovation and social responsibility

CORE VALUE
Customer orientation | Creativity | Expertise | Fairness

BUDGET

Human Resources Development
USD 0.25 billion
20%

Technology Development
USD 0.82 billion
66.4%

Foundation building, commercialization, etc.
USD 0.17 billion
13.6%

2 departments, 8 divisions, 1 office, 2 foundations, 42 teams / 360 people

ORGANIZATION

Strategy and Planning Department
Private R&D Experts (PM)
Auditor General
Audit Office
Audit Team
President

Future Policy Division
Policy Planning Team
Future Strategy Team
Global Cooperation Team
Trade Analysis Team
Industry Promotion Team

Management Planning Division
Planning and Coordination Team
HR Management Team
Administration and Accounts Team
Public Relations and Cooperation Team
Safety and Environment Team

Infrastructure Management Division
Program Coordination Team
Evaluation Planning Team
R&D Performance Management Team
Legal Affairs Team
Intelligent Information Team
Information Security Team
Intelligent Information Management Team

Digital HR Development Division
Digital HR Planning Team
ICT Advanced HR Team
Digital Innovation HR Team
ESS HR Team
Digital Consumption HR Team

AI/SW Semicon Haltor Division
Technology Planning Team
Semiconductor Technology Team
AI Team
5G Computing Team
Autonomous Driving Team
Cloud Data Team

Network-Security Division
5G-6G Team
Cyber Security Team
Network Team
Radio Wave and Satellite Team
Quantum Technology Team

Digital Convergence Division
Metaverse Team
Media Contents Team
ICT Device Team
Digital Social Innovation Team
ICT Convergence Team

National Defense ICT Division
National Defense ICT Planning Team
National Defense ICT Policy Team
National Defense ICT Evaluation Team

*PM (Program Manager)
1. Digital Society Innovation
2. Telecommunications Network
3. Broadcasting Radio Wave-Satellite
4. Big Data
5. SW-Autonomous Driving
6. Contents Media
7. Cyber Security-Block Chain
8. Semicon Haltor Quantum
9. ICT Convergence Technology
1. ICT R&D Support Programs
   Technology and Innovation
   ICT is technology for the people, by the people.

2. Human Resources Development Programs
   Technology and People
   ICT is completed by people.

3. Infrastructure and Standardization Support Programs
   Technology and Growth
   We grow as a world-leading digital powerhouse.

4. Commercialization Support Programs
   Technology and Experience
   With meaningful experience, technology becomes sustainable.
WEBSITE & PUBLICATIONS

IITP Website

- www.iitp.kr

ICT R&D Project System

- Integrated R&D Information System (IRIS) (announcements, applications, evaluations, agreements, etc.): www.iris.go.kr

IITP Periodicals

[ Weekly ]
- Weekly Technology Trend
- ICT Brief

[ Monthly ]
- Monthly ICT Industry Trend
- ICT SPOT ISSUE
- S&T and ICT Policy and Technology Trend

[ Annual ]
- ICT Insight (Top 10 Issues)
- Annual Reports on the Promotion of ICT Industries
- International ICT R&D Policy Trends (6 times annually)

*Available on IITFIND (www.iitfind.co.kr) and the IITP homepage.

IITP SNS Channels

- YouTube: youtube.com/iitp
- Naver TV: tv.naver.com/iitp
- Facebook: facebook.com/iitpkr
- Instagram: instagram.com/iitp.kr
- Blog: blog.naver.com/iitp-1