Republic of the Philippines

Regional Development Council
Region IV-A (Calabarzon)

RDC RESOLUTION NO. IV-A-61-2018

“APPROVING THE CALABARZON INFORMATION AND COMMUNICATIONS TECHNOLOGY PLAN 2018-2022”

WHEREAS, the RDC recognizes the importance of Information and Communications Technology (ICT) in the development of the Calabarzon region;

WHEREAS, The RDC through the Regional Information and Communications Technology Committee (RICTC) formulated the Calabarzon ICT Plan 2018-2022 to sustain efforts in ICT and improve the Region's competitiveness as ICT investment destination;

WHEREAS, the Calabarzon ICT Plan 2018-2022 aims to make the Calabarzon region the center of ICT development enabling industries, government and society;

WHEREAS, the RICTC during its second semester meeting last November 21, 2017 endorsed the plan to the Sectoral Committee on Macroeconomy and Development Administration (SCMDA);

WHEREAS, the SCMDA during its meeting on February 8, 2018 endorsed to RDC the approval of the Calabarzon ICT Plan 2018-2022;

NOW THEREFORE, on motion duly seconded, BE IT RESOLVED, AS IT IS HEREBY RESOLVED, to approve Calabarzon ICT Plan 2018-2022.

SIGNED, this 14th day of March 2018 at the Diamond Hall, Paseo Premiere Hotel, Greenfield City, Santa Rosa City, Laguna.

Certified Correct:

GINA T. GACUSAN
RDC Secretary

Attested by:

HERMILANDO I. MANDANAS
RDC Chairperson

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Message by the RDC Chairperson

Information and Communications Technology (ICT) plays an important role in socioeconomic development. It influences the growth of all industries and the efficiency even of government, as such, it serves as a medium to attain our development goals.

As the highest policy-making body in the Region, the Regional Development Council (RDC) Calabarzon sets the economic and social development agenda and the Calabarzon Information and Communications Technology (ICT) Plan 2018-2022 supports the RDC’s agenda in promoting technological innovations, to address the Region’s development challenges.

The RDC is grateful to the Regional Information and Communications Technology Committee, a sub-committee of the Sectoral Committee on Macroeconomy and Development Administration, for crafting the Calabarzon ICT Plan 2018-2022. This Plan envisions the Region as the center of ICT development in the country.

I hope that with this plan, the local government units and other agencies will prepare their own ICT plans so that we can achieve our goals through the use of technology.

HERMILANDO I. MANDANAS
Governor, Batangas Province
RDC Chairperson
Message by the NEDA Regional Director

Information and Communications Technology (ICT) is known to have a huge impact to economic development. Technologies and Innovations brought by ICT favorably affect economic performance and success of individual firms including entrepreneurs. Calabarzon as the country’s industrial hub would benefit greatly from ICT development and improve the Region’s competitiveness as premier ICT investment destination.

In support of Calabarzon’s Regional Development Plan 2017-2022, the Calabarzon Information and Communications Technology Plan 2018-2022 was formulated to make Calabarzon the country’s center of ICT development enabling industries, government and society.

Given the ongoing and fast paced ICT development, the plan considers the current trends in technological and political landscape as well as new prospects in ICT. It presents the priorities of the Region for ICT by adopting four pillars or growth drivers of ICT development which include: 1) human resource, 2) infrastructure, 3) enabling environment and 4) promotion. The pillars are interrelated and work together harmoniously to achieve the goal.

I thank all government agencies who contributed in crafting of the Calabarzon ICT Plan 2018-2022 and I invite all stakeholders including local government units and concerned government agencies to actively participate in the Plan’s implementation for the continuous socio-economic development of Calabarzon.

LUIS G. BANUA
Regional Director
RDC Vice Chairperson
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<td>DRRM</td>
<td>Disaster Risk Reduction and Management</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>Gpbs</td>
<td>Giga bits per second</td>
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<tr>
<td>GRDP</td>
<td>Gross Regional Domestic Product</td>
</tr>
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<td>HEI</td>
<td>Higher Education Institutions</td>
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<td>ICT</td>
<td>Information and Communications Technology</td>
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<td>IE</td>
<td>Information Economy</td>
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<td>Mbps</td>
<td>Mega bits per second</td>
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<td>MITHI</td>
<td>Medium-term Information &amp; Communications Technology Harmonization Initiative</td>
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<td>Philippine Development Plan</td>
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<td>Philippine Statistical Authority</td>
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<td>RDC</td>
<td>Regional Development Council</td>
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<td>Regional Information and Communications Technology Committee</td>
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<td>S&amp;T</td>
<td>Science and Technology</td>
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<td>STEM</td>
<td>Science, technology, engineering and mathematics</td>
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ACKNOWLEDGEMENT

Government Agencies
Commission on Higher Education Region IV-A
Department of Budget and Management Region IV-A
Department of Education, Region IV-A
Department of Information and Communications Technology – FOO LC2
Department of Interior and Local Government Region IV-A
Department of Labor and Employment Region IV-A
Department of Science and Technology Region IV-A
Department of Trade and Industry, Region IV-A
Department of Transportation – Land Transportation Office Region IV-A
National Economic and Development Authority Region IV-A
National Telecommunications Commission Region IV-A
Philippine Information Agency Region IV-A
Philippine Statistics Authority Region IV-A
Technical Education and Skills Development Authority Region IV-A

State Universities and Colleges
Batangas State University
Cavite State University
Laguna State Polytechnic University
Southern Luzon State University
University of the Philippines at Los Baños
University of Rizal System

Local Government Units
Batangas
Cavite
Laguna
Quezon
Rizal

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Dr. Hernando B. Perez, UB
Mr. Emerson B. Atanacio, NCST
Ms. Teresita M. Leabres, PCCI-Cavite
I. INTRODUCTION
I. Introduction

Information and Communications Technology (ICT) permeates all parts of the economy and society. It is an enabler of development and contributes to both social and economic growth through innovations and technologies that reinforce the economy, social inclusion and culture. According to World Bank and academic studies, every 10 percent increase in broadband penetration boosts Gross Domestic Product (GDP) by an average of 1.3 percent, and every 10 percent increase in mobile density correlates with a 0.7 percent increase in GDP. Thus, the government is integrating ICT to improve the quality of its services and creating a business environment conducive for growth.

Background

The Calabarzon Regional Development Council (RDC) through its special committee, the Regional Information and Communications Technology Committee (RICTC), recognizes the importance of ICT in the development of the Region. The RICTC formulated the Calabarzon ICT Roadmap to sustain efforts in ICT; thus improving the Region’s competitiveness as ICT investment destination.

The ICT plan presents the priorities of the Region in harnessing its potential as the center of ICT development. It aims to make the Region globally competitive given the current trends in political and technological landscape and new prospects in ICT such as the Association of Southeast Asian Nations or ASEAN which promotes economic and political cooperation among its member states.
The Region aims to be a model on ICT development enabling all sectors for growth and promoting regional development. This is aligned with the Regional Development Plan (RDP) 2017-2022 and the Philippine Development Plan (PDP) 2017-2022.

The PDP is geared towards the Ambisyon Natin 2040, a 25-year vision for Filipinos and the Philippines summarized into “strongly rooted, comfortable and secure life for all”. The PDP same with the RDP seeks to vigorously advance science, technology, and innovation. The government will promote and accelerate technology adoption and innovation in all sectors.

**The Pillars**

The plan adopts four pillars as main drivers of ICT development. The four pillars are human resource, infrastructure, enabling environment and promotion.

*Figure 1: Four Pillars of the Plan*

Each pillar refers to essential components in ICT development. Human resource refers to sufficiency and quality of the workforce. It deals with providing the necessary manpower required by industries while infrastructure refers to roads, telecommunication, power,
buildings and other backbone services. The Region also recognizes the value of an enabling environment to support ICT development by improving good governance, access to finance and peace and security situation among others. Promotions pillar on the other hand is concerned on marketing the Region to investors both local and foreign. Each pillar are interrelated and work together harmoniously to achieve the goal.
II. ASSESSMENT
II. Assessment

**Human Resource**

Calabarzon has the second highest number of higher education institutions (HEIs) with 328 next to National Capital Region’s 350 based on the Regional Distribution of Higher Education Institutions by Sector, AY 2013-14. The Region is also among the top 5 regions with the most number of graduates produced by its state universities and colleges (SUCs) with 18,235 graduates.

The human resource is also being strengthened through the K to 12 program of the Department of Education. Through the program, capacity of the graduates in science and technology (S&T) is being strengthened by the inclusion of S&T in the K to 12 tracks of Senior High Schools and higher education institutions. This is to enhance innovation and creative capacity of graduates towards self-sustaining and inclusive development. Scholarships in the science and technology sector are also being prioritized through the various scholarships program provided by the government.

**Infrastructure**

Calabarzon has four out of the seven operational cable landing stations in the country. The Philippines’ international connectivity is supported mainly by these submarine cable systems. Globe Telecom operates a landing station in Nasugbu, Batangas while PLDT operates two landing stations also in Batangas Province. There is a landing station being operated by Telstra/Pacnet in Cavite and Batangas.
Table 1. International Submarine Cable Systems with Landing Stations in the Philippines

<table>
<thead>
<tr>
<th>Cable System</th>
<th>Route</th>
<th>Landing Station</th>
<th>Host</th>
<th>System Capacity (Gbps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEA-ME-WE-3</td>
<td>39,000</td>
<td>Batangas</td>
<td>PLDT</td>
<td>Lit 410, Design 460</td>
</tr>
<tr>
<td>EAC-C2C</td>
<td>19,000</td>
<td>Cavite &amp; Batangas</td>
<td>Telstra/Pacnet</td>
<td>Lit 3,260, Design 30,550</td>
</tr>
<tr>
<td>APCN-2</td>
<td>19,000</td>
<td>Batangas</td>
<td>PLDT</td>
<td>Lit 3,840, Design 21,120</td>
</tr>
<tr>
<td>TGN-IA</td>
<td>6,700</td>
<td>Cagayan</td>
<td>Globe</td>
<td>Lit 1,900, Design 9,600</td>
</tr>
<tr>
<td>AAG</td>
<td>20,318</td>
<td>La Union</td>
<td>PLDT</td>
<td>Lit 1,880, Design 6,000</td>
</tr>
<tr>
<td>ASE</td>
<td>7,800</td>
<td>Camarines Norte</td>
<td>PLDT</td>
<td>Lit 2,986, Design 15,360</td>
</tr>
<tr>
<td>SJC</td>
<td>8,900</td>
<td>Nasugbu</td>
<td>Globe</td>
<td>Lit 1,200, Design 28,000</td>
</tr>
</tbody>
</table>

Source: UNESCAP-Terabit Consulting, APEC-Detecon, Telegeography.com

The number of cell sites with broadband or internet connection in Calabarzon has been rising for the past six years from 214 in 2012 to 1,704 in 2016 or close to 70 percent increase due to the increasing demand for internet connection. According to Asia Briefing Magazine in 2014, the Philippines is estimated to have the fastest growing internet population in the world with 530 percent growth from 2010 to 2014. Close behind the Philippines in global rankings are other Asian countries such as Indonesia in second place with 430 percent growth over the same period, India in fourth place at 230 percent, and Vietnam in seventh with 82 percent growth.

Table 2: Calabarzon ICT Infrastructure, 2012-2016

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of cell sites with Network</td>
<td>2,089</td>
<td>2,518</td>
<td>2,782</td>
<td>2,343</td>
<td>2,026</td>
</tr>
<tr>
<td>No. of cell sites with Broadband</td>
<td>214</td>
<td>1,201</td>
<td>1,159</td>
<td>1,433</td>
<td>1,704</td>
</tr>
</tbody>
</table>

Source: Regional Development Plan 2017-2022
Based on the 2013 Survey on Information and Communication Technology by the Philippine Statistical Authority (PSA) that collects and generates information on the access and utilization of ICT among establishments in the country, about 98.6 percent establishments related to the Information Economy (IE) in Calabarzon used computer and other hardware in their business operations. All establishments under content and media sector reported 100 percent computer and other hardware usage. This is slightly higher compared to the 98.5 percent reported by the ICT sector.

Figure 2: Percentage of IE establishments using Computer and Other Hardware: 2013

<table>
<thead>
<tr>
<th></th>
<th>Philippines</th>
<th>CALABARZON</th>
</tr>
</thead>
<tbody>
<tr>
<td>All IE Sectors</td>
<td>98.1%</td>
<td>98.6%</td>
</tr>
<tr>
<td>ICT Sector</td>
<td>98.2%</td>
<td>98.5%</td>
</tr>
<tr>
<td>Content &amp; Media Sector</td>
<td>98.1%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: PSA

Despite the increasing number of broadband connections and a fast growing internet population, slow internet connection is still an issue that needs to be resolved. According to the results of an analysis by ASEAN DNA, Singapore and Thailand currently have the fastest average internet speeds within ASEAN at 61 Mbps and 17.7 Mbps, respectively. The Philippines lags behind other ASEAN countries in terms of internet speed with an average of 3.6 Mbps while
Singapore has 61 Mbps outspeeding even the USA (22.3 Mbps) and Japan (41.7 Mbps).

Figure 3: ASEAN Average Internet Speed, 2014

Source: ASEAN DNA

National Telecommunications Commission Region IV (NTC Region IV) conducted a validation in 2016 on Cellular Mobile Telephone Service (CTMS) and Broadband coverage in Region IV-A. The validation showed that there are still barangays not covered by CMTS or broadband service. Out of 4,018 barangays 88 percent have CMTS coverage and 74 percent have broadband coverage. In the same report, NTC Region IV recorded a minimum broadband speed of 0.01 MHz. in the Region.
Table 3: Summary of the Validation of the CMTS and Broadband Access

<table>
<thead>
<tr>
<th>Province</th>
<th>Municipality With CMTS</th>
<th>Municipality With Broadband</th>
<th>Barangay With CMTS</th>
<th>Barangay With Broadband</th>
<th>Minimum Broadband Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batangas</td>
<td>100%</td>
<td>100%</td>
<td>98%</td>
<td>83%</td>
<td>0.01 MHz</td>
</tr>
<tr>
<td>Cavite</td>
<td>100%</td>
<td>100%</td>
<td>99%</td>
<td>85%</td>
<td>0.01 MHz</td>
</tr>
<tr>
<td>Laguna</td>
<td>100%</td>
<td>97%</td>
<td>95%</td>
<td>85%</td>
<td>0.01 MHz</td>
</tr>
<tr>
<td>Quezon</td>
<td>95%</td>
<td>93%</td>
<td>68%</td>
<td>50%</td>
<td>0.01 MHz</td>
</tr>
<tr>
<td>Rizal</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>99%</td>
<td>0.01 MHz</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99%</strong></td>
<td><strong>97%</strong></td>
<td><strong>88%</strong></td>
<td><strong>74%</strong></td>
<td><strong>0.01 MHz</strong></td>
</tr>
</tbody>
</table>

Source: NTC Region IV

Since Calabarzon is one of the heavy internet users in the country, it requires faster and reliable internet connection for the transmission of large amounts of data for daily personal transactions and business services in the Region.

The lack of internet access in rural and remote areas also needs to be addressed including the low cellular coverage that cause poor mobile phone reception. The bigger challenge is that the internet providers are mainly from the private sector. The government only encourage the private sector to serve rural and remote areas which are not as profitable as in urban areas.

**Enabling Environment**

Calabarzon is the second-largest contributor to the national Gross Regional Domestic Product or GRDP accounting for PhP 1.365 trillion or 16.8 percent of the country’s GDP in 2016. Thus, it is regarded as the Philippines’s second-most economically important region after Metro Manila. Its proximity to the National Capital
Region has contributed to its industrial growth and urbanization creating a reliable transportation and communication infrastructure. This makes it attractive to investors specially those who want to escape the troubles of a congested metropolitan area.

The Region houses 13 IT Parks and Centers right in the center of business districts that offer low rental rate and tax incentives to IT-related businesses.

In 2015, four out of the proclaimed ten “next wave” cities are in Calabarzon, namely, Dasmariñas City, Lipa City, Santa Rosa City, Laguna and Taytay, Rizal. Next wave cities are top locations for local and international information technology and business process management (IT-BPM) players identified by the Department of Information and Communications Technology (DICT), Information Technology and Business Process Association of the Philippines, and Leechiu Property Consultants.

The Next Wave Cities scorecard, released every two years since 2009, uses four criteria with varying weights: talent availability (40 percent), infrastructure (30 percent), business environment (20 percent) and cost (10 percent).

Batangas City was also named as among the top 10 Emerging Cities. These are cities that secured the 11th to 20th spots in the scorecard, show high potential in hosting IT-BPM clients and are considered as the next top 10 Next Wave Cities. Dasmariñas City was cited as having the best talent or has the highest number of college graduates within a 25-kilometer radius from the city.

The Region also received various awards in the 5th Annual Regional Competitiveness Summit for ranking top in various categories of the 2017 Cities and Municipalities Competitiveness Index (CMCI), an annual ranking of Philippine cities and municipalities. Its four main pillars are: economic dynamism, government efficiency, infrastructure and resiliency.
The province of Rizal was awarded as the most competitive province for the second straight year owing to the high ranks received by its LGUs. Antipolo City was the most competitive component city for the first time. Cainta, Taytay and Angono, all from Calabarzon and the province of Rizal were the top three overall most competitive municipalities under the category of first and second class municipalities. Cavite province, on the other hand, was the third most competitive province.

For the Government Efficiency pillar, Cainta ranked first and Taytay as third under the first and second class municipalities. First time awardees Cardona and Baras from Rizal province ranked first and third, respectively under third and sixth class municipalities. Antipolo City got third among component cities.

Meanwhile, infrastructure refers to the physical building blocks that connect, expand, and sustain a locality and its surroundings to enable the provision of goods and services. For Infrastructure, Taytay, Cainta and Angono were in the top three among first and second class municipalities while Antipolo City topped the component cities.

Economic dynamism is usually associated with activities that create stable expansion of business and industries and higher employment. Under Economic Dynamism pillar, Cainta and Taytay, Rizal and Sto. Tomas, Batangas topped the first and second class municipalities. The City of General Trias, which became a city in 2016, ranked first in Economic Dynamism under the category of component cities.

The Philippine government also recognizes the role of ICT in development through landmark measures such as the E-Commerce Act, the Philippine Digital Strategy, the National Cybersecurity Plan 2022 and the creation of the DICT among others.
Promotion

With the ASEAN Economic Integration, the Region needs to remain competitive not only within the country but also with other countries. Borders within ASEAN member states will cease to exist to create a single market to ensure the free flow of goods, services, investments and skilled labor. This will have great impact on various sectors in the Philippines including ICT sector.

The creation of the DICT will further promote ICT in Calabarzon. Calabarzon is covered by DICT's Field Operations Office – Luzon Clusters 2 and 3. It is the primary policy, planning, coordinating, implementing, and administrative entity of the Executive Branch of the government that will plan, develop, and promote the national ICT development agenda. The Republic Act No. 10844, otherwise known as the “Department of Information and Communications Technology Act of 2015”, which was signed into law on 23 May 2016, created the DICT.

In the Region, there is a strong collaboration among local stakeholders. ICT is being promoted in Calabarzon through the RICTC which is tasked to formulate and implement regional IT plans. Composed of public and private sector, the RICTC regularly conducts meetings to discuss and plan ICT development in the Region.
III. OPPORTUNITIES
III. Opportunities

The following are some of the major opportunities of Calabarzon in ICT development:

1. **Big pool of quality human resource.** Calabarzon is the most populous region with its population reaching 14.414 million as of August 2015, making it the most populous region. The Region’s population together with the presence of HEIs and the efforts of the government to promote quality education through scholarships and K-12 program raise the potential of the Region as good human resource pool.

2. **Established institutions in support to ICT.** The local ICT councils and other ICT-related groups advocate and promote national programs and projects and other initiatives in support to ICT development and champion the Region’s ICT interest to national government.

3. **Improvement of infrastructure interconnectivity among regions.** The national governments priority towards boosting infrastructure development though the Build Build Build strategy shall largely benefit Calabarzon. The strategy contains major infrastructure projects that would improve the Region’s connectivity among neighbor regions.

4. **Efficient Government Service.** The Region remains competitive in providing efficient government service. Two of its municipality got the top 2 in the CMCI’s government efficiency pillar under the 1\textsuperscript{st} to 2\textsuperscript{nd} class municipality category. It is also the priority of the government to improve government efficiency through one-stop shops and decreasing number of steps and signatories in government transactions.
5. *Good information channels.* Four out of the seven Submarine Cable Landing Stations in the Philippines can be found in Calabarzon. Number of cell sites with broadband has also been steadily increasing since 2011.

6. *Growing real-estate development.* Property portal Lamudi Philippines forecasted in 2016 that more developers will seek rural-urban fringes such as Calabarzon for mixed-use projects. This will create an environment conducive to business and the workforce.
III. CHALLENGES
IV. Challenges

Development brings with it challenges, the following are some of the major challenges faced by the Region in spite of its growth and development:

1. *Insufficient communication and transportation infrastructure.* Despite the good communication and transportation infrastructure, Calabarzon’s infrastructure still needs to improve to support its growing economy and population. Same with the rest of the country, the Region suffers from slow internet access. There is no internet access in remote areas and there is a lack of government subsidy for free Wi-Fi connection.

The worsening traffic situation brought by growth in real estate development and establishments among others may require additional roads. The Region would also need more facilities to house ICT-related industries such as IT-BPM and software solution companies. The following infrastructure development was recommended by the Japan International Cooperation Agency (JICA) in their study on Potential Industry and Further Economic Development for Central Luzon and CALABARZON Area:

- Communication network and fiber-optic backbone
- Central business districts with good residential areas
- Mixed-Used Development and commercial areas ready for occupancy

2. *Job-skills mismatch.* The skills and competencies of the human resource do not fit the requirements of the industry. There is also a need for a graduate tracer study to gather employment data such as how much of the graduates are employed, unemployed or underemployed. There is a need for stronger linkages of academe and industry to address job-skills mismatch.
3. **Brain drain.** Migration poses as a challenge in the Region. Out migration which is normally towards Metro Manila, leads to brain drain. Teachers and other skilled workers including ICT professionals opt to work in the metropolitan area due to availability of jobs and better compensation.

4. **Poor services of telecommunication companies.** There are only few players in the telecommunication industry preventing improvement of services in the sector. There is a need to have more consumer friendly telecommunication policies and government incentives that would attract competition. The unprofitability of setting up business and poor business environment in rural and remote part of the region are attributed to unavailability of internet access.

5. **Competition with Metro Manila.** The Region’s proximity to Metro Manila can also be disadvantageous due to the stiff competition it creates.

6. **Insufficient facilities to house ICT-related industries.** The real estate development needs to keep-up with the growing ICT-related industries such as IT-BPM and software solution companies. There is a need to create more facilities to host businesses and new investors coming to the Region as well as housing for the workforce.

7. **Traffic congestion.** The worsening traffic situation brought by development would discourage prospective investors.

8. **Security and Safety Threats.** The Region still has conflict-affected areas and areas vulnerable to natural hazards/disasters. Internal and external conflicts also pose threats to Cyber Security. A survey in 2017 by Professional Services Firm, SGV & Co, showed that vast number of Philippine firms are unprepared for cyber-attacks.
V. STRATEGIC FRAMEWORK
V. Strategic Framework

**Sector Outcome**
Calabarzon is the center of ICT development enabling industries, government and society

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Objectives

A. Human Resource: By 2022, Calabarzon has globally competitive ICT professionals and with world’s most advanced IT-BPM services.

- *Strengthen Academe-Industry linkages.* To address the problem on job-mismatch and ensure employment of graduates further curriculum development with the collaboration of the industry will be pursued.

- *Promote ICT in HEIs.* Integrate ICT in curriculums and promote science, technology, engineering and mathematics courses to increase competence of the workforce in ICT.
• **Continue capacity building of teachers.** Ensure lifelong learning opportunities to improve teachers’ capability and instruction to meet the demand of the ICT industry.

• **Research and development.** A vibrant research and innovation culture will be pursued specially Research and Development (R&D) relevant to new targeted areas such as product designing, Computer-Aided Engineering and Electronic Design Automation. ICT will be promoted as a research topic or field of study and as a tool for other sectors such as Disaster Risk Reduction or DRR and Environment. Moreover, commercialization and utilization of technologies from publicly funded R&D will be promoted to encourage innovation and facilitate development.

• **Improve employment opportunities in ICT.** Integrate strategies to attract more ICT-related investments that would create employment to ICT-skilled workers in the Region and explore policies to improve welfare of all workers in ICT-related industries. Development of new subsectors on IT-BPM will be explored such as animation, fiber optics and software solutions.

B. **Enabling Environment: Calabarzon to be the center of excellence in providing business- friendly environment.** IT BPO and other ICT related industry for efficiency, innovation and competitiveness.

• **Ensure clean and transparent governance.** To further promote ICT-related businesses and support expansion of IT-BPM, measures to ensure transparency through e-governance and various government programs and projects will be implemented. Graft and corruption slows down development and even results to worsening poverty situation. Citizens’ participation will also be utilized in the fight against corruption.
• **Improve ease of doing business.** ICT will be used to promote ease of doing business through policies and systems that will attract and support new and existing businesses.

• **Encourage competition of Internet Service Providers (ISPs).** Policies that will promote an open market will be pursued to promote competition and encourage ISPs to provide better services.

C. **World-class infrastructure support for next-wave cities and center of development areas.**

• **Expand deployment of ICT infrastructure.** Improve ICT infrastructure and address the gaps in digital connectivity in underserved areas to promote economic activity. Utilize ICT in all sectors such as in Disaster Risk Reduction and Management or DRRM.

• **Support real estate development for business and housing sector.** There is a need to create more facilities to host businesses and new investors coming to the Region as well as housing for the workforce.

• **Improve backbone services.** Telecommunications, transportation, power and other infrastructure services will be improved ensuring efficient and organized road network and backbone services to support ICT.

• **Strengthen regional line agencies in implementing ICT national policies and regulations.** Capacitate and support government agencies in the region in implementing national ICT programs and projects.

• **Improve access to technology.** Establish an inclusive innovation center to promote ICT and encourage innovation and adoption
of new technologies. Free Public Wi-Fi will also be provided and e-services will be further strengthened for a more efficient delivery of services and to support the Region’s development.

- **Implement effective data security and cyber defensive system.** Threats to ICT will be addressed by the Region through promotion and implementation of ICT security measures.

**D. Promotions: Promote the Region as a center of ICT development.**

- **Implement aggressive investment promotions program.** This plan seeks to aggressively promote the Region to attract more foreign direct investments especially those who will bring in new technologies and competition. Various media will be utilized such as multi-media to promote the Region’s ICT initiatives, innovations, and competitive advantage.

- **Increase Foreign Direct Investments.** Expand promotions to Advanced IT Outsourcer such as Engineering Services Outsourcing in Engineering and IT among others. JICA in its study said that in the future, IT outsourcing sector will contribute to the Internet of Things for manufacturing or for products.

- **Institutionalize an ICT promotions group.** Create an ICT promotions group in Calabarzon that would promote the Region in both local and international market and would also lobby for budget and support from various sources.

- **Encourage use of ICT in all business operations.** Empower businesses including micro, small and medium scale enterprises on the use of ICT such as e-commerce and online marketing in promoting their businesses.
VI. INTERVENTIONS
VI. Interventions

The following are interventions for each of the plan's target outcomes:

A. Human Resource: By 2022, Calabarzon has globally competitive ICT professionals.

- Balik Scientist program
- Service Management Program
- Graduate Tracer Program
- Skills registry and inventory of workers
- Intellectual property rights
- Science, technology, engineering and mathematics or STEM courses
- Curriculum development
- Scholarship programs in ICT courses
- Philippine technology transfer act of 2009
- On-the-job-training in ICT companies
- Regular industry exposure and training of ICT teachers
- Forums and competitions in ICT
- ICT in regional research and development agenda
- Incentives to employees in ICT-related industries

B. Enabling Environment: Calabarzon to be the center of excellence in providing business-friendly environment. IT BPO and other ICT related industry for efficiency, innovation and competitiveness.

- Anti-Red Tape Act
- e-Centers
- Mamamayang Ayaw sa Anomalya Mamamayang Ayaw sa Illegal na Droga
- Open Data Initiatives
- One-stop shops
• Single-window/single-door approach  
• Shared public services  
• Apply ICT in HR Management  
• Citizens’ feedback  
• Full Disclosure Policy, PhilGEPS and Transparency Seal  
• Tax incentives  
• Executive Order No. 2 on Freedom of Information  
• Streamlining of Business Processing and Licensing System  
• Cashless transaction  
• Monitoring and evaluation of ICT programs and projects  
• Project repeal  
• Awarding of ICT- friendly LGUs  
• Local trade summits  
• Make Calabarzon an ISP friendly region

C. **World-class infrastructure support for next-wave cities and center of development areas.**

• Free Public Wi-Fi  
• Medium-term Information & Communications Technology Harmonization Initiative or MITHI  
• DRRM-Climate Change Adaptation  
• Business Continuity Plans  
• Innovation and Knowledge Centers  
• National Plans promoting ICT such as the National Broadband Plan, Cybersecurity Plan and E-Commerce Roadmap  
• Establishment of high-tech monitoring centers with high-tech equipment  
• Establishment of National Privacy Commission and Cybercrime Investigation and Coordinating Center district offices  
• Public One-Stop-Shop Center in every barangay

D. **Promotions: Increase awareness of Calabarzon's capability to attract and encourage ICT enabled investments and to develop the Region as a center of ICT development.**
- ICT brand and campaign
- Local and foreign trade expositions and outbound missions
- Promotion collaterals
- Web presence
- ICT promotion group
- Trainings for Micro Small and Medium Enterprises
- Forums and seminars
VII. PLAN IMPLEMENTATION, MONITORING AND EVALUATION
VII. Plan Implementation, Monitoring and Evaluation

The plan shall be used as a guide in the implementation of ICT initiatives in the Region. The RDC shall spearhead the advocacy of the plan implementation. All concerned agencies and organizations shall ensure timely and efficient implementation of their programs, projects and activities as stated in the plan.

The RICTC together with DICT Field Operations Office Luzon Cluster 2 and 3 shall regularly monitor and evaluate plan implementation. Regular reporting on updates will be conducted every RICTC meeting. The RICTC may update or revise the plan or recommend interventions if it deems necessary based on its assessment and evaluation of the plan and its implementation. Updates on the plan shall be regularly reported by the RICTC to the RDC through the Sectoral Committee on Macroeconomy and Development Administration.