

# The Philippine ICT Statistics Portal: From Concept to Reality

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*ITU/NBTC Regional Forum and Training Workshop on Telecommunication/ICT Indicators:  
Measuring the Information Society and ITU/ASEAN Meeting on Establishing National ICT Statistics Portals  
13-16 October 2014, Bangkok, Thailand*



# From Concept to Reality

- Conceptualization
- Design and Implementation
- Deployment and Training
- Challenges
- Moving Forward



*The last decades of the 20<sup>th</sup> Century gave birth to a new ICT that changed the modern society in many ways which is known as digital revolution.*

# CONCEPTUALIZATION



# Global Influences of Measuring Progress through ICTs

- Tunis Agenda sets a target of 2010 for the formulation and elaboration of sustainable national e-strategies as an integral part of national development plans and poverty reduction strategies (Para 85 of Tunis Agenda).
- It also encourages governments, with the participation of all stakeholders and bearing in mind the importance of an enabling environment, to set up a national implementation mechanism (Para 100)

# Regional Influences of Measuring Progress through ICTs

- e-ASEAN Framework Agreement promotes cooperation to develop, strengthen and enhance the competitiveness of the ICT sector in the region; promotes cooperation to bridge the digital divide within individual AMS and amongst AMSs; cooperation between public and private sector; promotes the liberalization of ICT products and services, Art. 2(a), (b), (c)
- It also facilitates the establishment of AII and promotes the use of ICT applications for the delivery of government services (e-Government), Art. 3(a), (f)
- ASEAN ICT Masterplan 2015, launched in 2011 at TELMIN 11, KL, Malaysia, is a strategic framework that seeks to work towards an empowering and transformational ICT in order to help create an inclusive, vibrant and integrated ASEAN

# National Influences of Measuring Progress through ICTs

- Government Information Systems Plan (GISP) or Philippine Government Online, envisioned an electronic bureaucracy that is widely and readily accessible to the Filipino people.
- Philippine ICT Roadmap (2006-2010) outlined the guiding principles for the use of ICT for socio-economic development in the Philippines.
- It also discussed strategic programmes and initiatives for ICT related to: ensuring universal access to ICT; developing human capital; e-governance to promote efficiency and transparency in government; strategic business development to enhance competitiveness in the global ICT market; and the legal and policy agenda for the Philippine ICT sector.

# Policy Framework for Measuring Progress through ICT

PDS 2011-2016, a strategic national framework that looks at how ICT can make a difference in key areas such as government and governance, in education, PH economy, etc.

THE PHILIPPINE  
**DIGITAL STRATEGY**  
TRANSFORMATION 2.0: DIGITALLY EMPOWERED NATION

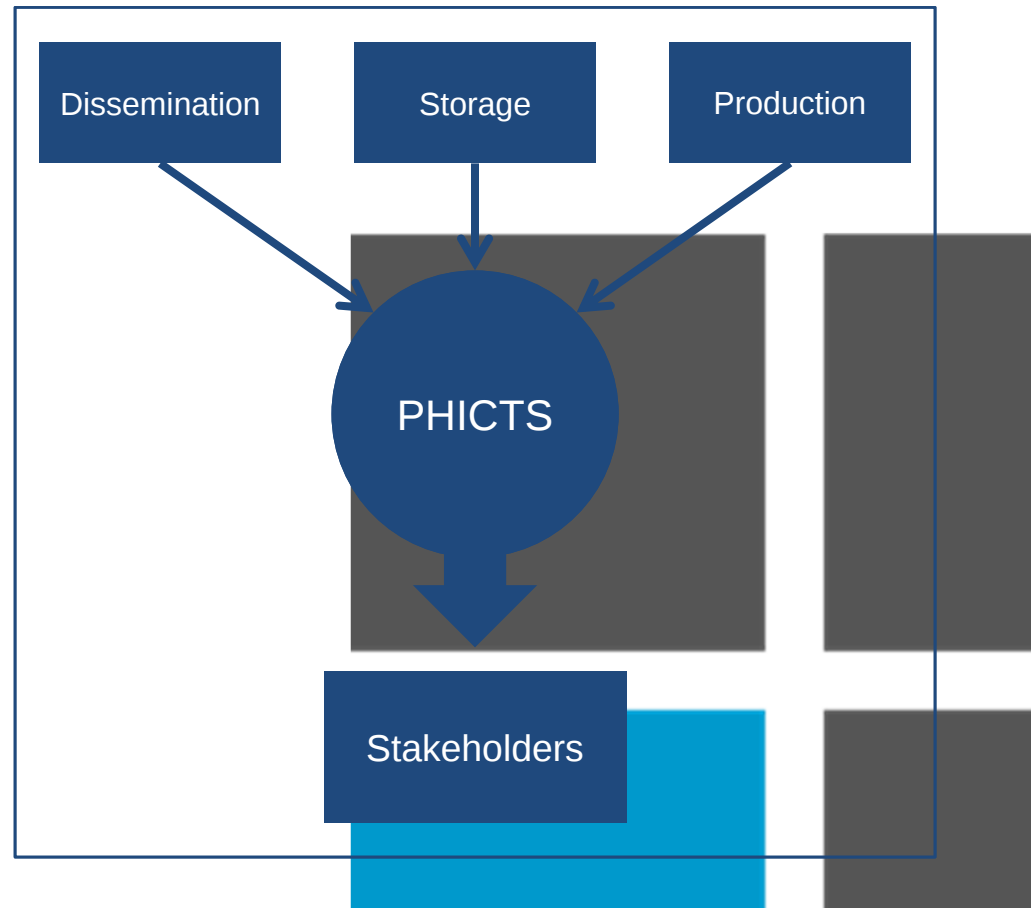
*Institutional restructuring through Executive Order No. 47, s. 2011 (Section 5.a) mandates the Information and Communications Technology Office (ICTO) under the Department of Science and Technology to prepare a medium-term development plan for ICT research and development and its linkages to the ICT industry, and an e-governance infrastructure and information systems plan in order to support improvements in the global competitiveness of the Philippine economy.*

# Platforms for Measuring Progress through ICT

## Philippine MDGs

- Goals
  - Goal 1: Eradicate extreme poverty and hunger
  - Goal 2: Achieve universal primary education
  - Goal 3: Promote gender equality and empower women
  - Goal 4: Reduce child mortality
  - Goal 5: Improve maternal health
  - Goal 6: Combat HIV/AIDS, malaria and other diseases
  - Goal 7: Ensure environmental sustainability
  - Goal 8: Develop a global partnership for development

- Sector
  - Education
  - Employment
  - Environment
  - Governance
  - Health
  - Housing
  - ICT**
  - Nutrition
  - Poverty



# Defining PHICTS Portal

*Information/Database system (both production and dissemination database systems) for effective storage and dissemination of Information and Communications Technology (ICT) statistics that can be used by the different agencies involved in the collection and dissemination of the data.*



# PHICTS Portal Database

## ITU ICT Core Indicators

 ICT infrastructure and access (10 indicators)

 ICT access and use by households and individuals (12 indicators)

 ICT access and use by enterprises (12 indicators)

 ICT sector and trade in ICT goods (4 indicators)

 ICT in education (8 indicators)

 ICT in government (7 indicators)



# Opportunities for sustaining ICT measurement

- PHICTS portal initiative builds on relevant WSIS action lines, especially C1 to C7 and C11, and regional programs
- Philippine agencies led by ICTO collaborated with ITU for the establishment of PHICTS portal



# PHICTS Portal Timeline

| Date           | Activity                                                                           |
|----------------|------------------------------------------------------------------------------------|
| August 2010    | ITU Workshop on Philippine ICT Statistics Stocktaking and Assessment               |
| 05 May 2011    | Office Order on the Creation of the CICT Working Group on ICT Statistics           |
| August 2011    | Start of PHICTS Portal Project (ICTO, ITU and NSCB with UP-ITDC)                   |
| July 2012      | Signing of MOU between ICTO and NSCB on the use of PC-Axis Statistical Software    |
| 31 August 2012 | Special Order on the Creation of the Philippine ICT Statistics Data Producers Team |



# DESIGN AND IMPLEMENTATION



# UP System Information Technology Foundation (UPSITF) Inc.

- Non-government organization focused on the application of Information and Communication Technology for development
- Partners with UP Information Technology Development Center in providing various services, which include:
  - Education Development
  - IT Human Capital Development
  - Research & Development
  - Software Engineering
  - ICT Policy Development and Planning
  - IT Project Management.



# Who will use the portal?



## General Public

- Search for statistical data
- Browse portal for other relevant information



## Data Producers

- Submit data for publication
- Update existing statistics



## System Administrators

- Manage submitted data
- Create new user accounts

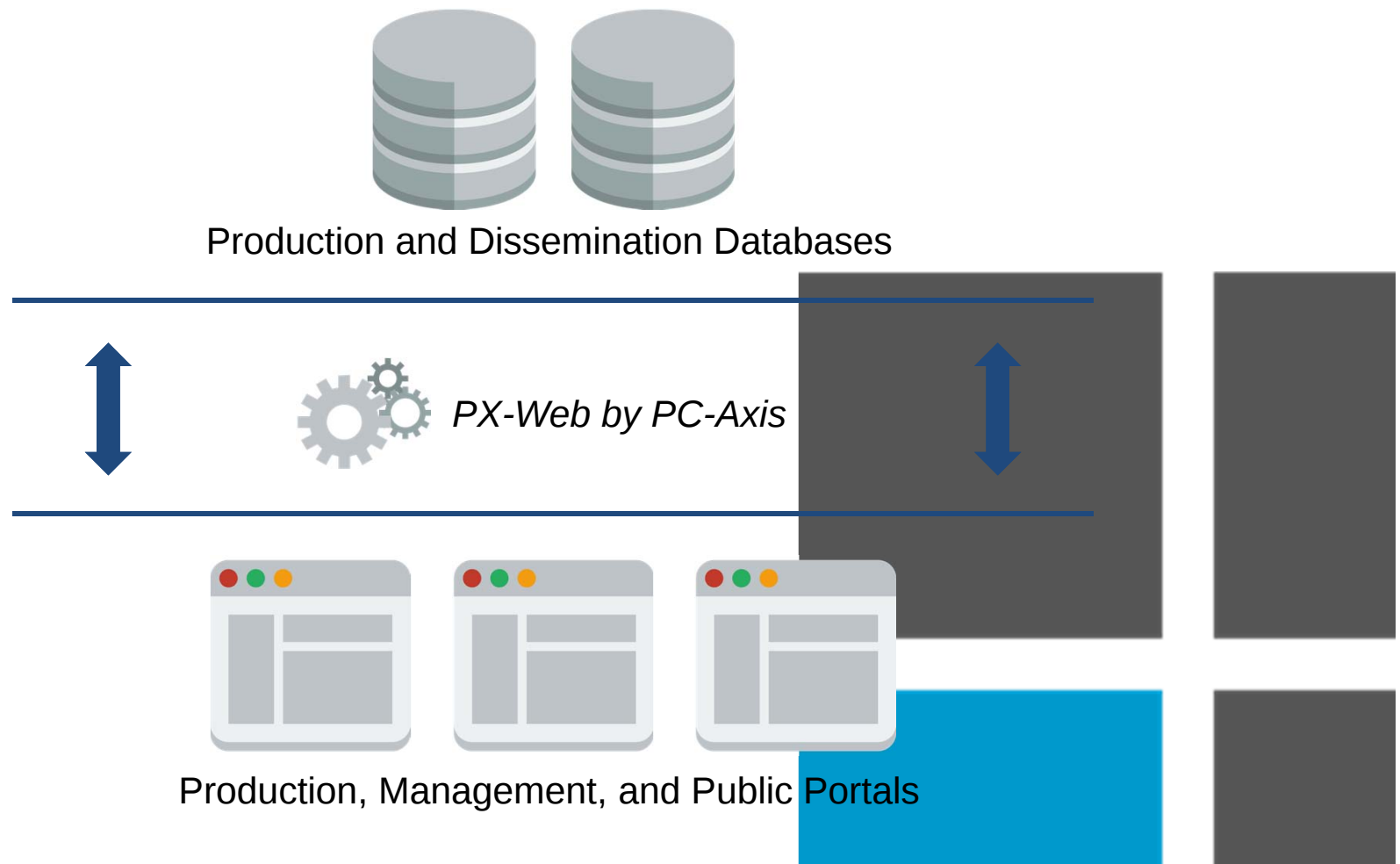


# How do we display statistical data?

- PC-Axis Software Suite <http://www.scb.se/pc-axis>
- Owned by Statistics Sweden and used by over 50 statistical agencies and international organizations
- Free to download, but requires a license when used in disseminating data
- Uses its own file format a.k.a. the PC-Axis file (PX-file) in representing statistical data
- Software suite includes various software for creating and working with PX-files



# What are the system components?



# DEPLOYMENT AND TRAININGS



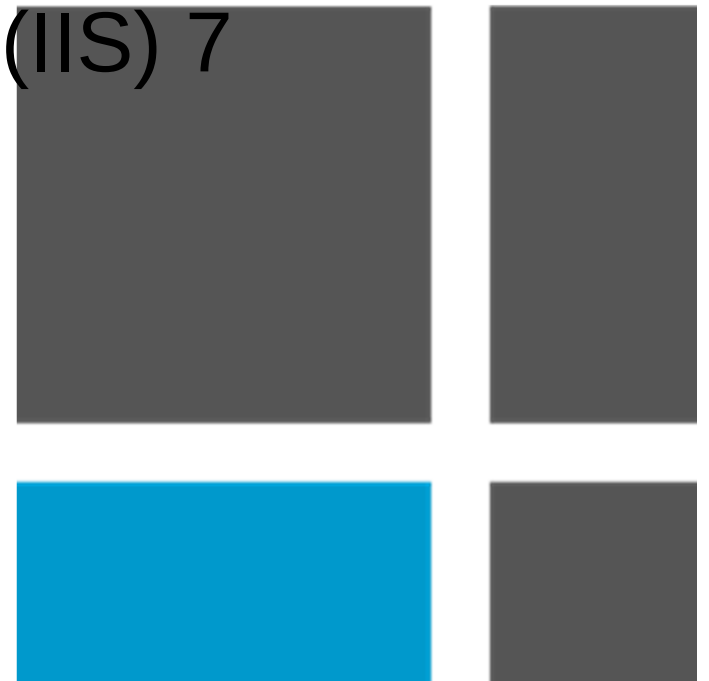
# PC-Axis License

- One license per country
- Philippines already had an existing license with the National Statistics Coordination Board (NSCB)
- Memorandum of Understanding (MOU) between NSCB and DOST-ICTO



# Current Set-up

- PX-Web 2008
- Windows Server 2008 R2
- Internet Information Server (IIS) 7
- 8 GB RAM
- 4 CPU Core
- 1 TB Storage



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THE PHILIPPINE ICT STATISTICS PORTAL

<http://phicts.icto.dost.gov.ph>





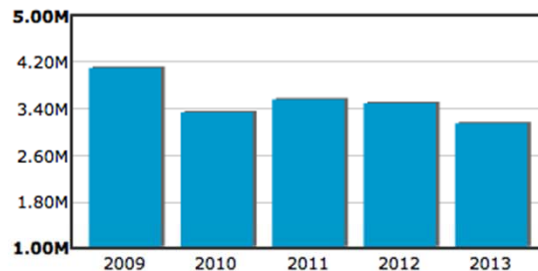
## THE PHILIPPINE ICT STATISTICS PORTAL

The Philippine Information and Communications Technology Statistics (PHICTS) Portal is a web-based system that consolidates ICT-related statistics in the country. With just a click of the mouse, anyone from the government, private sector, and the general public can now access government-approved statistics. The portal also promotes proper management of statistical data that can be used for policy research, plans and projects development and implementation, and analysis of the ICT sector.

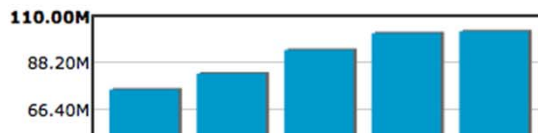
The PHICTS Portal was created by the Information and Communications Technology Office (ICTO) under the Department of Science and Technology (DOST) with the help of the International Telecommunication Union (ITU).

### TRENDS

**Fixed Telephone Subscriptions  
Philippines, 2009-2013**



**Mobile Cellular Subscriptions  
Philippines, 2009-2013**



### TIDBITS

**MOBILE-BROADBAND UPTAKE CONTINUES TO GROW AT DOUBLE-DIGIT RATES:** The number of mobile-broadband subscriptions reaches 2.3 billion, with 55% of them in developing countries

**AFRICA LEADS IN MOBILE-BROADBAND GROWTH:** Mobile-broadband penetration in Africa reaches close to 20% in 2014, up from 2% in 2010

**ALMOST 7 BILLION MOBILE-CELLULAR SUBSCRIPTIONS WORLDWIDE:** The developing countries are home to more than three quarters of all mobile-cellular subscriptions

**FIXED-BROADBAND GROWTH SLOWING DOWN IN DEVELOPING COUNTRIES:** 44% of all fixed-broadband subscriptions are in Asia-Pacific, compared with only 0.5% in Africa

**ALMOST 3 BILLION PEOPLE (40% OF THE WORLD'S POPULATION) ARE USING THE INTERNET:** Close to one out of three people in the developing countries are online

 **SEARCH**

### HOME

ICT STATISTICS

CORE ICT INDICATORS

ICT TRENDS

GIS MAPS

FAQS

ABOUT PHICTS

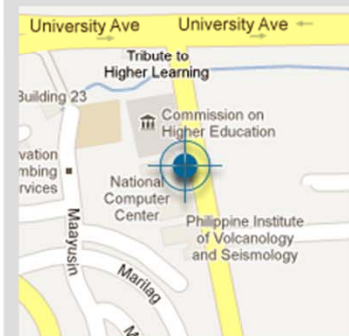
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THE PHILIPPINE ICT STATISTICS PORTAL

## ICT STATISTICS

IT-BPO Revenue FY 2010-2011 (BPO010)

IT-BPO Full-Time Employees (FTEs) FY 2010-2011 (BPO020)

IT-BPO Revenue (2004-2010) by IT-BPO Category, Index and Year (BPO030)

IT-BPO Export Revenue by IT-BPO Category, Index and Year (BPO040)

IT-BPO Export Revenue by IT-BPO Category, Year and Country of Destination (BPO050)

Total Equity (2005-2010) by IT-BPO Category, Index and Year (BPO060)

Foreign Direct Investment (2005-2010) by IT-BPO Category, Index and Year (BPO070)

Foreign Equity by IT-BPO Category, Year and Country of Investor (BPO080)

Employment (2004-2010) by IT-BPO Category, Index and Year (BPO090)

Compensation (2004-2010) by IT-BPO Category, Index and Year (BPO100)

1 2 3 4 5 6 NEXT LAST

HOME

ICT STATISTICS

CORE ICT INDICATORS

ICT TRENDS

GIS MAPS

FAQS

ABOUT PHICTS

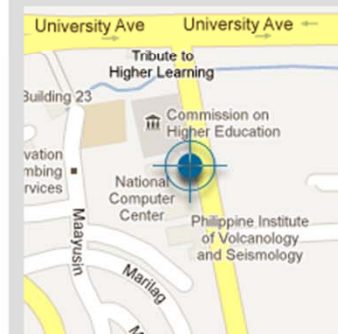
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## CORE ICT INDICATORS

The main purpose of the core list is to help countries produce high quality and internationally comparable data on information and communication technology. To assist in achieving this goal, the indicators have associated statistical standards and guidance.

- Definitions of terms and concepts (e.g. computer, the Internet);
- Derivation of indicators (e.g. use of appropriate denominators for proportions);
- Model questions that can be included on national survey vehicles;
- Classificatory variables (e.g. business size; age ranges for individual ICT use core indicators);
- Collection scope (e.g. by business size or industry, age of individuals); and
- Statistical units (e.g. household, individual).

## CATEGORIES

ICT infrastructure and access

Access to, and use of, ICT by households and individuals

Use of ICT by businesses

ICT (producing) sector

International trade in ICT goods

ICT in education

Source: Core ICT Indicators 2010, International Telecommunication Union

SEARCH

HOME

ICT STATISTICS

CORE ICT INDICATORS

ICT TRENDS

GIS MAPS

FAQS

ABOUT PHICTS

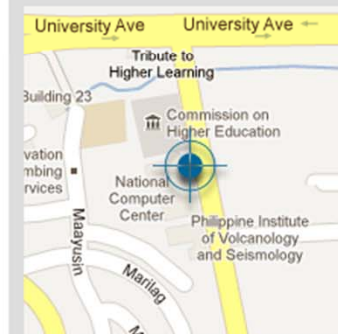
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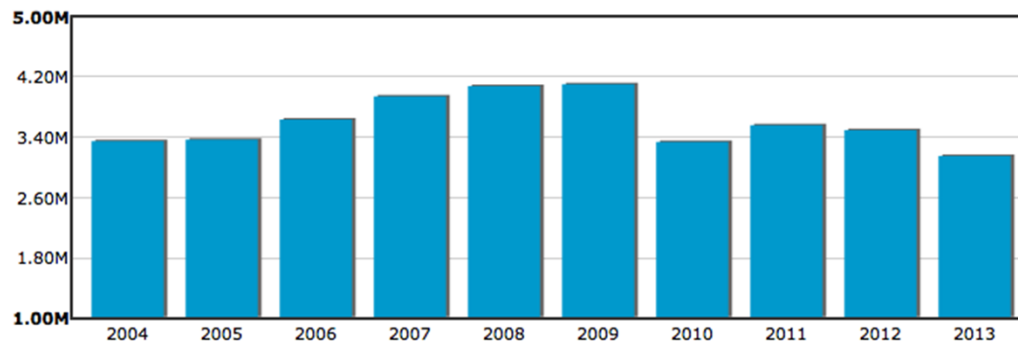


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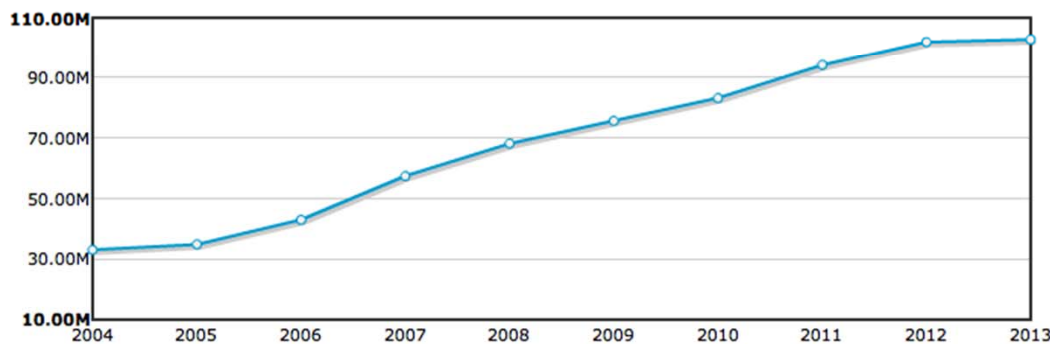
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THE PHILIPPINE ICT STATISTICS PORTAL

## ICT TRENDS

Fixed Telephone Subscriptions  
Philippines, 2004-2013



Mobile Cellular Subscriptions  
Philippines, 2004-2013

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HOME

ICT STATISTICS

CORE ICT INDICATORS

ICT TRENDS

GIS MAPS

FAQS

ABOUT PHICTS

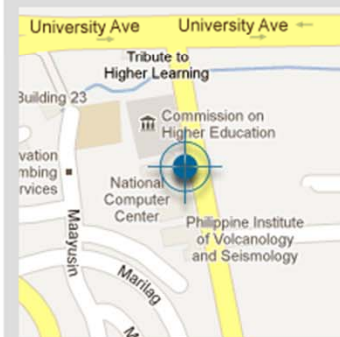
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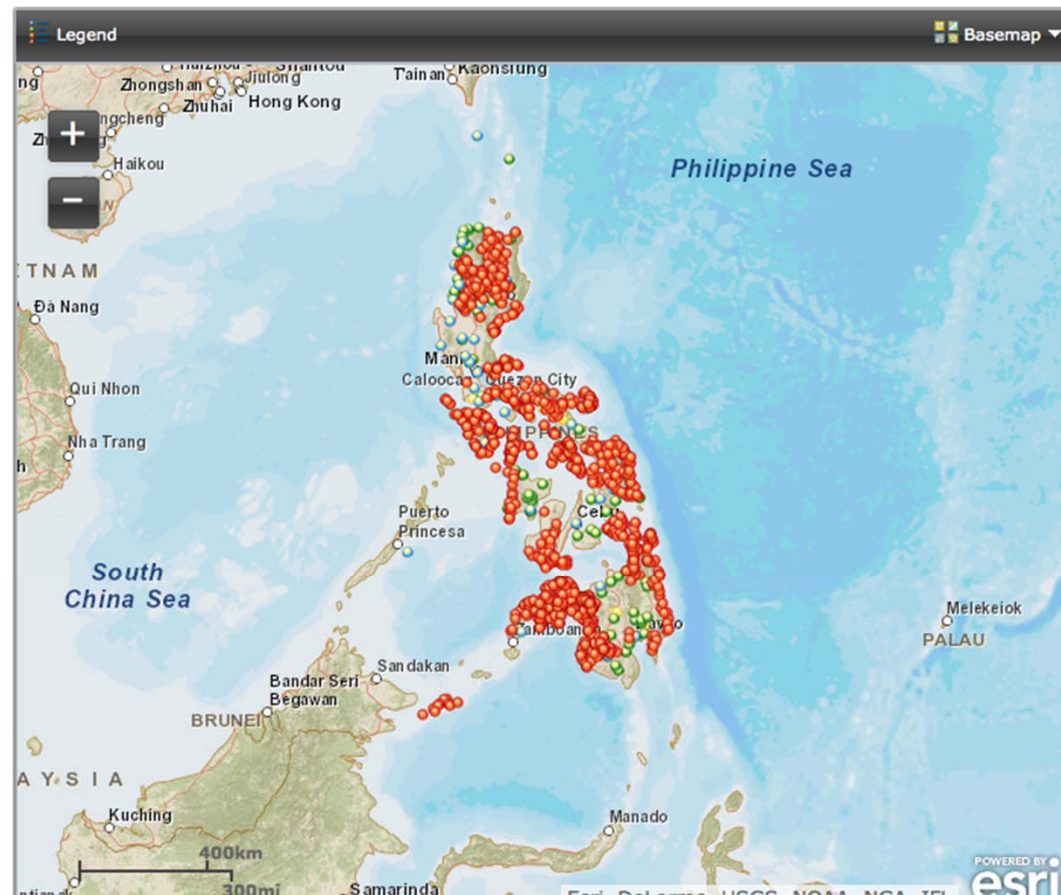


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## GIS MAPS

### NTP STATIONS



SEARCH

HOME

ICT STATISTICS

CORE ICT INDICATORS

ICT TRENDS

GIS MAPS

FAQS

ABOUT PHICTS

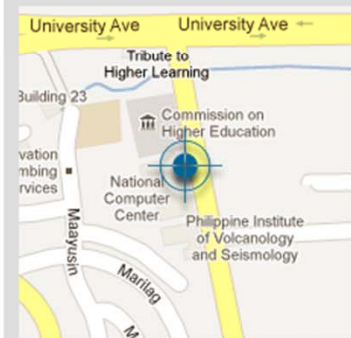
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## FREQUENTLY ASKED QUESTIONS

### WHAT IS PHICTS?

PHICTS is a web-based statistical system that integrates information and communications technology statistical information to ensure harmonization of national data and metadata collections for analysis, as well as, policy formulation and implementation.

### WHAT ARE THE FEATURES AND SERVICES OF PHICTS?

PHICTS is an interactive query webpage designed to inform users on how technology is important to ones life. There are several statistic samples that can help the user see the importance of technology and communication to ones life. There are set variables already, the user just need to plug-in which are the ones they wanted to see.

### HOW ARE DATA ORGANIZED?

Data are categorized according to several domains like: the ICT Statistics and the ICT facts and Figures. Under the ICT statistics, the user can view several statistics that have been conducted while user can find facts about the ICT of the country in the ICT facts and figures section.

### WHAT ARE THE TERMS OF USE OF PHICTS?

The informations provided in this site are for the purpose of nationwide awareness and appreciation on the importance and value of the ICT in the country. These informations are being available to the users free.

### HOW CAN I SEND FEEDBACKS OR INQUIRIES, IF I NEED TO CLARIFY DATA OR TABLE IN THE PHICTS?

Feedback and inquiries are welcome! Make an e-form of your inquiry or feedback and send them to [phicts@icto.dost.gov.ph](mailto:phicts@icto.dost.gov.ph).

 **SEARCH**

HOME

ICT STATISTICS

CORE ICT INDICATORS

ICT TRENDS

GIS MAPS

**FAQS**

ABOUT PHICTS

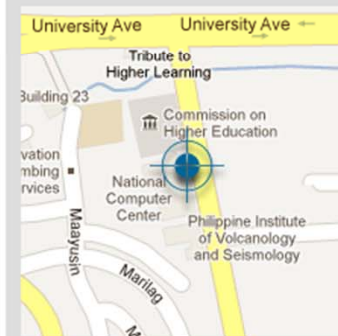
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## ABOUT PHICTS

Acknowledging the importance of statistics as inputs for informed decision-making of private businesses and the government, the Philippines ICT sector saw the need to establish and develop an information system on ICT statistics. Generally, the system is envisioned to contain time series and cross sectional ICT statistics, and it is intended to produce web-based statistical tables that are internet-accessible.

Statistics producers perform essential statistical processes by acquiring data through surveys and other data sources. These data are documented and processed for dissemination to target users.

A prerequisite for effective storage and dissemination of data is to establish a database system that can be used by the different agencies involved in data collection and distribution. This database system should possess the following characteristics: (1) user-friendly, (2) secure, and (3) complete and frequently updated data.

The data gathered by statistics producers are in accordance with the government-approved ICT-related indicators. The statistics generated from these compiled data will be utilized to analyze the competitiveness of the Philippines ICT sector such as in broadcasting, telecommunications, and information technology.

The Philippine Information and Communications Technology Statistics (PHICTS) Portal is a web-based system that consolidates all ICT-RELATED statistics in the Philippines. With just a click of the mouse, the PHICTS Portal has now made it possible for anyone from the private sector, government, and the general public to access these government-approved ICT-related statistics. This Portal was also developed to promote proper management of these informative data. It could be used for policy research, plans and projects development and implementation, and analysis of the ICT sector.

For information on PC-Axis, visit <http://www.scb.se/pc-axis>.

## INFORMATION AND COMMUNICATIONS TECHNOLOGY OFFICE (ICTO)

Executive Order No. 47 has renamed the Commission on Information and Communications Technology (CICT) as the Information and Communications Office (ICTO) and placed it under the supervision of the DOST. The National Computer Center (NCC) and Telecommunications Office (TELOF) are also transferred to DOST as an integral part of the ICTO.

The DOST-ICTO is committed to strengthen the alignment of ICT development with the thrust of the Department to provide continuing innovation as the core of the sustained global competitiveness of the country, especially our ICT industry.

## DEPARTMENT OF SCIENCE AND TECHNOLOGY (DOST)

HOME

ICT STATISTICS

CORE ICT INDICATORS

ICT TRENDS

GIS MAPS

FAQS

ABOUT PHICTS

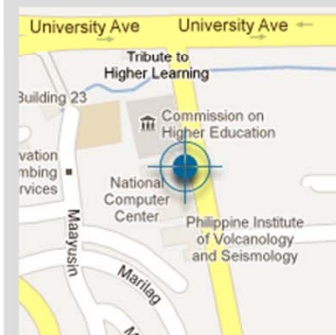
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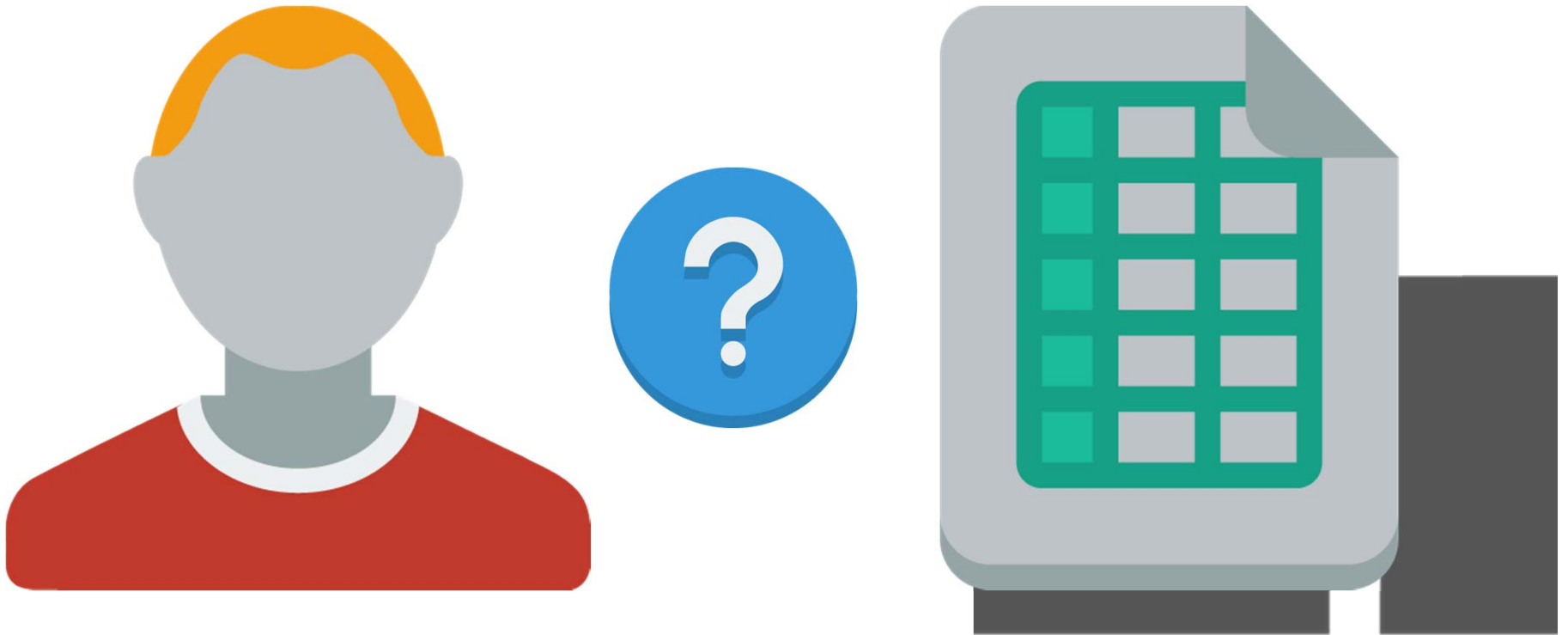
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# How are data published? 1/4



Step 1: Data Producer requests the Admin for permission to upload new data.



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DASHBOARD



NOTIFICATIONS



DATA STUB REQUESTS



DATA STUBS



TOOLS & REFERENCES

Data Stub Requests ▸ New Data Stub Request

CONTENT

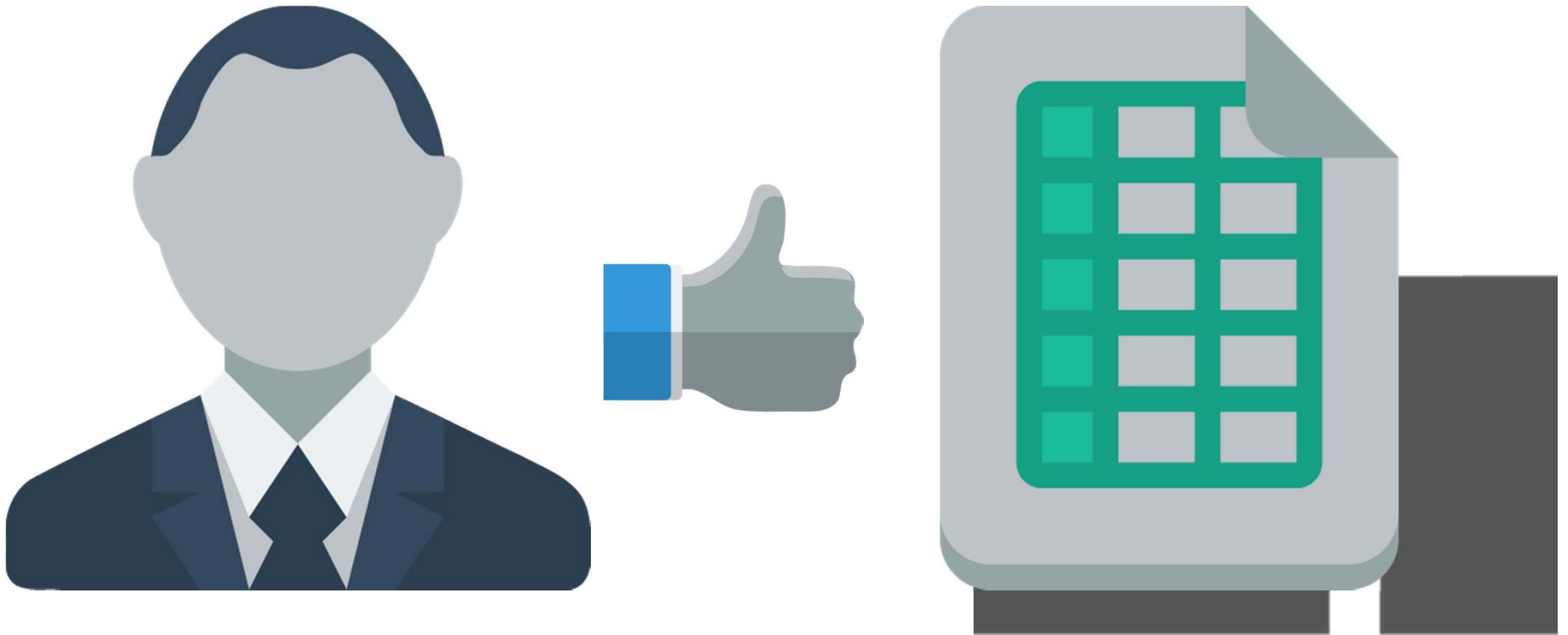
Mobile Cellular Subscriptions

SUBMIT

Step 1: Data Producer requests the Admin for permission to upload new data.



# How are data published? 2/4



Step 2: System Administrator approves the request to upload new data.



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THE PHILIPPINE ICT STATISTICS PORTAL

- DASHBOARD
- PRODUCER ACCOUNTS
- NOTIFICATIONS
- SUBJECT AREAS
- DATA STUB REQUESTS**
- DATA STUBS
- ICT TIDBITS

## Data Stub Requests ▶ Data Stub Request Details

|              |                               |
|--------------|-------------------------------|
| CONTENT      | Mobile Cellular Subscriptions |
| REQUESTED BY | TEST ACCOUNT / TEST           |
| STATUS       | PENDING                       |
| LAST UPDATE  | Fri, Sep 28, 2012, 8:24 am    |

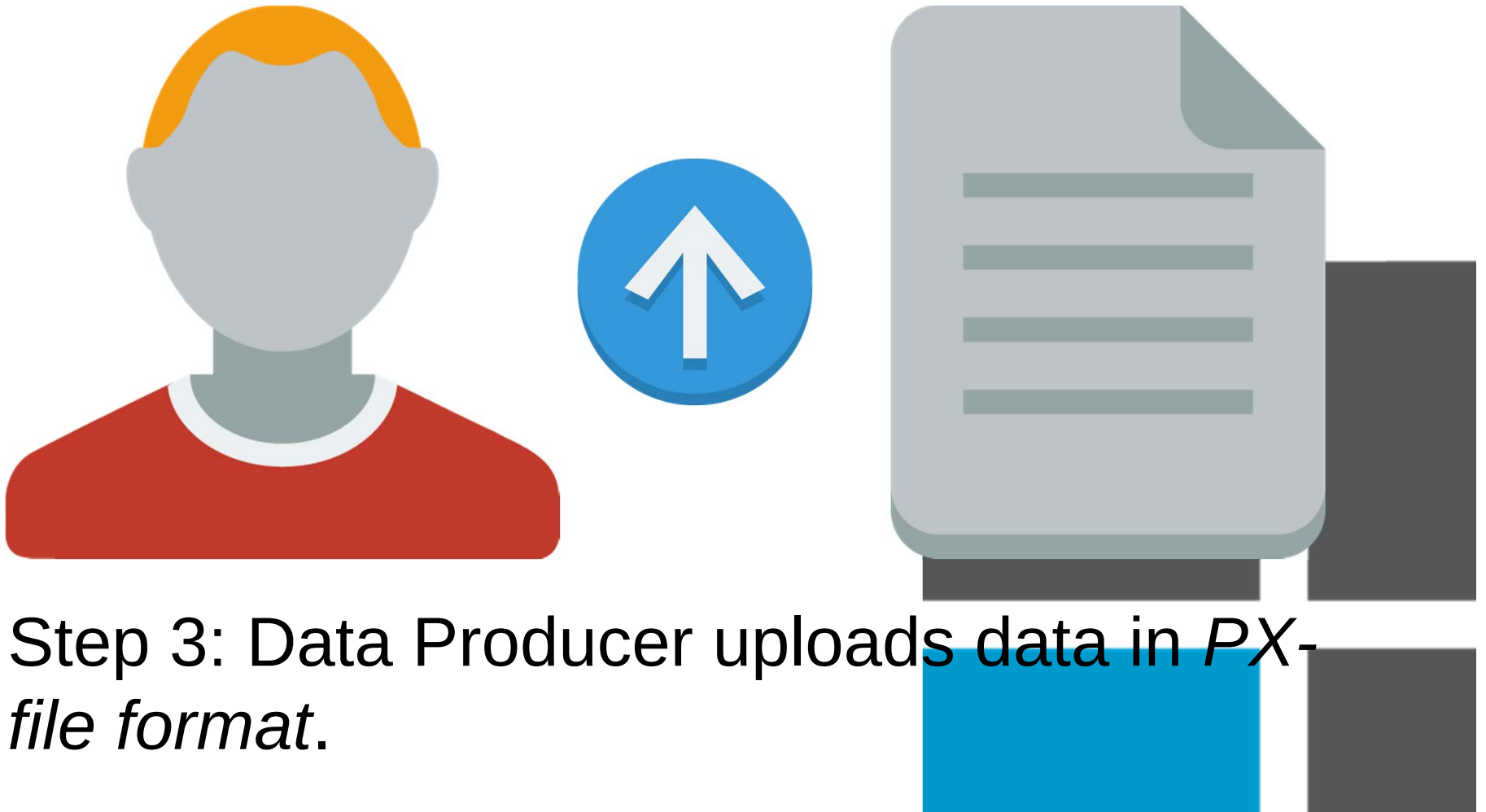
REJECT

APPROVE

Step 2: System Administrator approves the request to upload new data.



# How are data published? 3/4



Step 3: Data Producer uploads data in *PX-file format*.



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THE PHILIPPINE ICT STATISTICS PORTAL

- DASHBOARD
- NOTIFICATIONS
- DATA STUB REQUESTS
- DATA STUBS
- TOOLS & REFERENCES

## Data Stubs ▸ Stub Details

|                     |                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------|
| SUBJECT AREA / CODE | ICT Infrastructure and Access / INF                                                               |
| MATRIX              | INF123                                                                                            |
| CONTENT             | Mobile Cellular Subscriptions                                                                     |
| CURRENT VERSION     | INF123_20120928_145707.px [ <a href="#">Open with PX-Web</a> / <a href="#">Download PX file</a> ] |
| PUBLICATION STATUS  | NOT PUBLISHED                                                                                     |
| LAST UPDATE         | Fri, Sep 28, 2012, 02:57 pm                                                                       |

[UPDATE PX FILE ONLINE](#)

[UPLOAD UPDATED PX FILE](#)

[SUBMIT FOR APPROVAL](#)

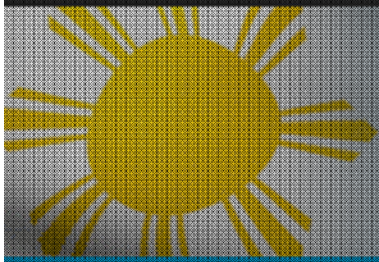
Step 3: Data Producer uploads data in *PX-file format*.



# How are data published? 4/4



Step 4: Admin reviews and publishes data on the public portal.



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THE PHILIPPINE ICT STATISTICS PORTAL

|        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Are you sure you want to approve the latest update for this data stub and publish it on the public portal?

Cancel

OK

- DASHBOARD
- PRODUCER ACCOUNT
- NOTIFICATIONS
- SUBJECT AREAS
- DATA STUB REQUESTS
- DATA STUBS
- ICT TIDBITS

ASSIGNED PRODUCER

TEST ACCOUNT / TEST

CURRENT VERSION

INF123\_20120928\_145707.px [Open with PX-Web](#) / [Download PX file](#)

PUBLICATION STATUS

NOT PUBLISHED

LAST UPDATE

Fri, Sep 28, 2012, 02:57 pm

REASSIGN

APPROVE

REJECT

UNPUBLISH

DELETE

Step 4: Admin reviews and publishes data on the public portal.





**Cellular Mobile Telephone Subscribers by Operator and Year**

|                    | 2008       | 2009       | 2010       | 2011       |
|--------------------|------------|------------|------------|------------|
| <b>Bayantel</b>    | .          | .          | .          | .          |
| <b>CURE</b>        | 16,358     | 78,440     | 953,609    | 1,438,647  |
| <b>DMPI</b>        | 8,154,202  | 11,000,000 | 11,000,000 | 15,119,241 |
| <b>Extelcom</b>    | 14,130     | 14,130     | 14,130     | 1,110      |
| <b>Globe</b>       | 24,701,820 | 23,245,006 | 26,500,000 | 30,040,000 |
| <b>Islacom</b>     | .          | .          | .          | .          |
| <b>Multi-Media</b> | .          | .          | .          | .          |
| <b>Next Mobile</b> | .          | .          | .          | .          |
| <b>Piltel</b>      | 14,308,493 | .          | .          | .          |
| <b>SMART</b>       | 20,899,753 | 41,249,070 | 44,682,399 | 47,590,797 |

Connectivity Unlimited Resources Enterprise

Piltel subscribers are already transferred to SMART

Islacom subscribers are already transferred to Globe

Bayantel, Multi-Media and Nextmobile not operational

**Unit:**

subscribers

**Matrix:**

A2

*Data becomes accessible on the portal.  
Producers can submit updates, if necessary.*

# Trainings

- Separate trainings for System Administrators and Data Producers
- Training for Data Producers focused on the conversion of existing data to PX-file format using available tools from PC-Axis

# CHALLENGES AND MOVING FORWARD



# Challenges

- Consistent data collection from various agencies and data sources
- Adherence to available standards and conventions in data production
- Capacity building for system administrators and data producers

# Moving Forward

- Encourage agencies to regularly submit data and explore other data gathering models
- Improve organization of data based on established ICT statistical frameworks
- Provide additional trainings for system administrators and data producers
- System enhancements (e.g., version upgrades, better usability, integration with other web services)



# Thank you!

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