Session 8: Involving National Statistical Agencies

To date, very few national statistical agencies have collected telecommunication statistics. The task has been left to ministries, operators or regulators. What actions can be taken to incorporate telecommunication statistics into national statistical frameworks? Who is the best placed to collect and aggregate statistics for the country?

"Revision of National Accounts"
Olle Gardin, Eurostat

"North American ITT Classification"
F. Gault, Statistics Canada

**World Telecommunication Indicators Meeting
(Geneva, 19 - 21 March 1996)**

SOURCE: EUROSTAT, Olle Gardin

TITLE: EUROPEAN TELECOMMUNICATION STATISTICS

————

World Telecommunication Statistics

European Telecommunication Statistics

National Telecommunication Statistics

Why European Telecom Statistics?

To

- formulate

- manage

- monitor

- evaluate and assess

EU telecom related policies

For

- assessment of the European markets

- National use

EU telecom policies concern e.g.

- the regulatory framework

- regional policies

- the internal market

- GATS

The Statistical Office of the European Communities

Tasks:

- to provide reliable and comparable official statistics

- to ensure a common statistical language within the EU

Aim:

to create common classifications, methods and organizational structures for compiling comparable statistics on the EU Member States

Eurostat does not collect statistical data itself.

Mostly receives them in aggregated form from the Member States

COINS

Aim:

to develop an European system for statistics on telecommunication, computer and information services.

Content:

- development of a system for data collection, incl. variables, definitions and classifications, guidelines for the data collection

- development of a database, incl. the system for dissemination and publishing of data

- the legal framework

Telecommunication Statistics

What does it mean?

4 Policy oriented aspects

A Infrastructure/Networks

B The Telecom Industry

C (The telecom service)

D.1 The Demand/Use of Telecom Services

D.2 Telecom (and IT) as a basis for new
      business concepts, products, services

Domains of Variables

A   Data on Infrastructure

B .1   Structural data

B .2   Enterprise data

C .1   Data on Volume/Traffic

C .2   Data on Quality

C .3   Data on Prices/Costs

C .4   International Trade

D   Data on Demand/Use

Comparisons of Telecom Statistics

- between countries

- over time

The System of National Accounts (SNA) is the overall framework

<u>Supply</u>
Production + Imports

=

<u>Demand</u>

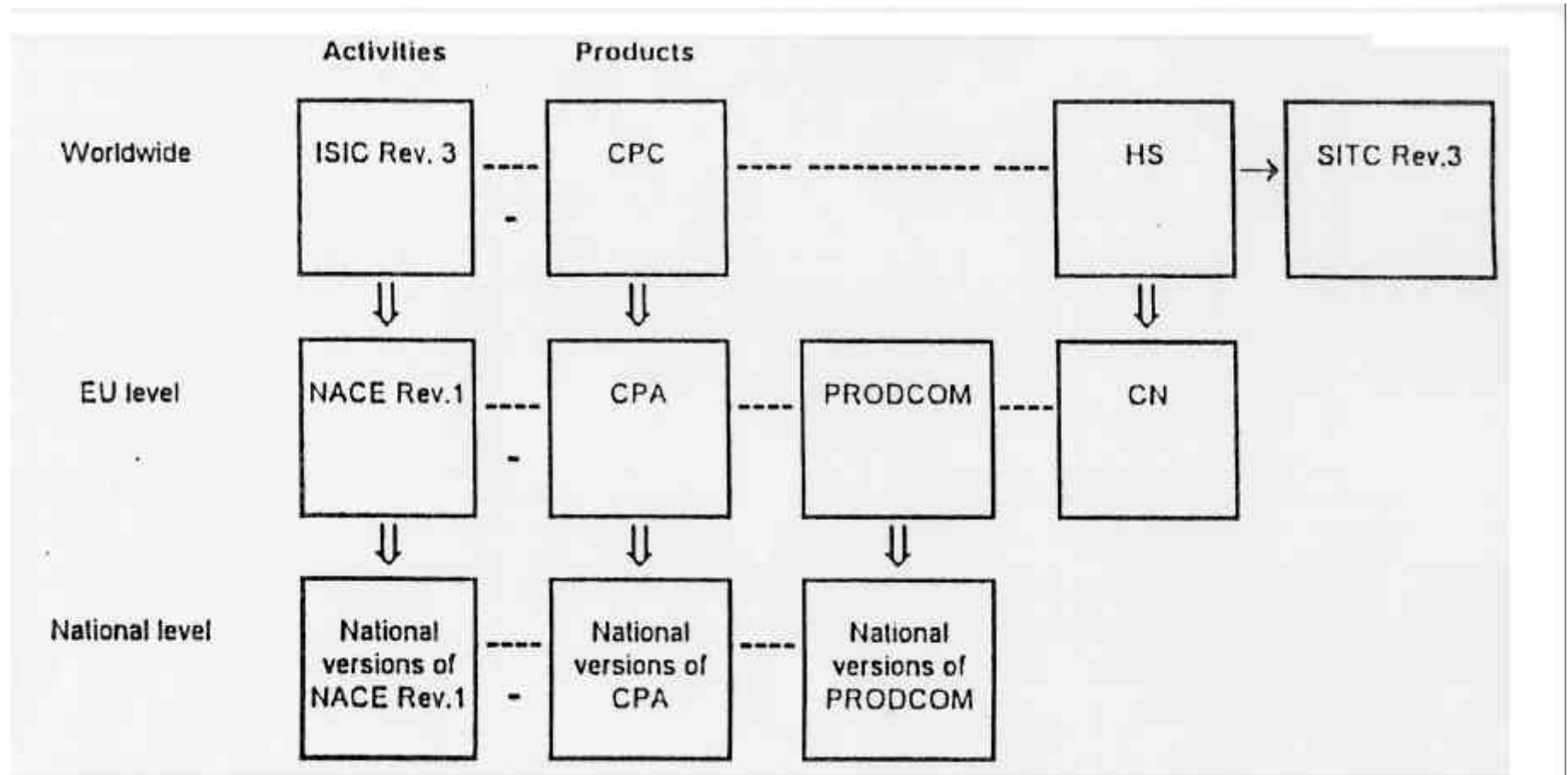Intermediate consumption + Final consumption + Exports

Input - Output

Satellite accounts

A general framework for the supply and demand of telecommunication services:

Supply	Demand							
	Intermediate consumption				Final consumption			
	Industry 1	Industry 2	Industry 3 -	Industry n	House-holds	Public sector		Exports
Industry 1 service a -"- b -"- c								
Industry 2 service a -"- c								
Industry 3- service a -"- b -"- c								
Industry n service b								
Imports service a -"- b -"- c								

Revised system of integrated statistical classifications: overview

	Activities	Products		
Worldwide	ISIC Rev. 3	CPC	HS	SITC Rev.3
EU level	NACE Rev.1	CPA	PRODCOM	CN
National level	National versions of NACE Rev.1	National versions of CPA	National versions of PRODCOM	

Definitions, Nomenclatures

Economic activities	NACE Rev. 1,	ISIC rev. 3
Products		
(Goods and Services)	CPA,	CPC
(Goods)	Prodcom,	SITC rev. 3, HS
Occupations, Professions		ISCO
Education		ISCED

ITU Telecommunication Indicators
Handbook etc.

Level of detail

Period(icity)

Units of measurements

Telecommunications- and Broadcasting Services

– Fixed Network Telecommunications Services

– Mobile Telecommunication Services

– Interconnection services

– Communications Management Services

– Value Added telecommunication Services

– Broadcast Services

– Radio and Television Cable Services

International Telecommunication Union
World Telecommunication Indicators
1996

19-21 March 1996
Geneva, Switzerland

European Telecommunication Statistics

Abstract

This paper gives an overview of the activities and considerations that shape the development of European statistics on telecommunications. As the statistical tools for describing the manufacturing and trade with telecommunication equipment are fairly well developed, the presentation is focused on the development of statistics on telecommunication services

The needs for telecommunication services statistics are discussed and four domains of information needs, eight domains of variables and comparability are identified as strategic elements. Against the background of competition being introduced on the markets for telecommunication services the balance between the need for transparency and information and the need for confidentiality is discussed. The classification of industries, services and other, e.g. concerning networks, are presented and the crucial role of the development of classifications of telecommunication services is underlined.

After a short overview of the current statistical situation the development of European statistics is touched upon. A framework for the economic statistics on telecommunication services is given and the more important elements of the COINS project for developing the statistics, are described. They are classification of telecommunication services, a pilot survey, confidentiality issues and international co-operation. The paper ends with asking why National Statistical Institutes should be involved and puts forward an answer.

European telecommunication statistics

Introduction

The telecommunication services markets are in a phase of dynamic development and expansion due to technological, commercial and regulatory changes. The United States, Japan, Canada and the European Union have all launched information society initiatives. Their goal is to connect people, businesses, schools, universities, libraries, hospitals to a world-wide network which will be part of a Global Information Society. The telecommunications networks are seen as the basic foundation for the information society.

From monopoly to competition

The general trend is to go from monopolies to competition. This process has different speed and is differently advanced in different parts of the world. For the European market it has been agreed that full service competition, including voice telephony, will be introduced by the 1 January 1998. Five countries have been allowed a derogation: Luxembourg to the year 2000 and Spain, Greece, Ireland and Portugal to 2003.

The telecommunication services have also been included in the GATS/WTO agreement.

A competitive situation requires market information

The development of the telecommunication services and markets at both national, European and world level requires timely and accurate information on the trends in the marketplace and this information is needed by all parties including authorities and regulators, operators and service providers, customers or users, professional organizations, researchers etc.

Equal competition will be stimulated and promoted by a core of well-defined, harmonised statistics accessible on equal terms to all players on the market.

Development of European statistics on services

The Council Decision of 18 June 1992 (92/326/EEC) established a programme for the development of European statistics on services. The objectives of this programme are

a) to set out a European reference framework for statistics on services defining the most appropriate concepts and methods for managing and monitoring Community policies, especially the implementation of the Single European Act, and for satisfying the possible needs of national, regional and local administration, international organizations, economic operators and professional associations;

b) to establish a European statistical information system for services;

c) to promote and support harmonisation of statistics on services in the Member States

without, however, needlessly increasing the burden on undertakings.

It is also said in the Council Decision that the methodological reference framework will increase the comparability of data between the different service sectors and the various Member States, despite the fact that service activities vary from one country to the other because of different practices and legal systems. The methodological framework will be used as the basic harmonisation tool for the development of official European statistics on services and as a recommended framework for non-official statistics, particular for market research.

Eurostat

Eurostat is the statistical office of the European communities. Its tasks are to provide reliable and comparable official statistics and to ensure a common statistical language within the EU.

The means to achieve this are to create common classifications, methods and organisational structures for compiling comparable statistics on the EU Member States.

Normally Eurostat does not collect statistical data itself. It receives them in aggregated form from the Member States.

The regular working partner in Member States is the National Statistical Institutes. Because of the special features of telecommunication services also the regulatory authorities have been involved.

User needs

What the user needs in every single case is of course depending on the problem, question or issue that he is to tackle. But at the centre are statistics on the telecommunications industries and products. This means that he needs statistics on industries manufacturing and trading with telecommunication equipment and on industries supplying and trading with telecommunications services.

Normally, he also needs statistics on the telecommunications infrastructure and the demand or use of telecommunications.

As the statistics on the manufacturing and trade with telecommunication equipment are fairly well developed and poses less problems than statistics on telecommunications services this paper is focused on the telecommunications services.

Four domains of information needs

From the issues raised in the different policy domains and information demands from users four main information domains of interest have been identified. They are

      A. The telecommunication networks or infrastructure.

      B. The telecommunication services industry

      (C. The telecommunication services)

      D. 1 The demand or use of telecommunications services
      D.2 ICT and information as basis for new business concepts, products and services

The telecommunications services is indicated here as they are the results of the activities in the telecommunication services industry, They can be measured both from the supply side, in which case the data refer to the industry domain, and the demand side, in which case they refer to the demand or use domain.

Domains of variables

When finalised the COINS (Communication and Information Statistics) data base should offer relevant quantitative and qualitative statistical information necessary for policy considerations and decisions related to the telecommunications services sector. Therefore the criteria for selection and definition of the statistical variables of COINS has to take their bearings primarily from the key policy issues and not from the current data availability.

Key policy issues concern the telecommunications regulatory framework, the internal market, regional policies, social and economic cohesion, competition, transeuropean networks, industry, external trade and GATS/WTO etc.

Only part of the information needs related to the policy issues can be satisfied by statistical variables which show the economic weight and the structure of the telecommunications services sector. User requirements are largely concentrated on special service markets, i.e. On information about the volume of supply and demand and about prices. This is true for the bulk of information needs expressed by the economic operators on the internal market and it includes also information on (services) products which are highly competitive or complementary.

From the policy domains and the information domains a list of eight domains of variables can be derived, They are

A. Data on infrastructure

B. 1 Structural data
B.2 Enterprise data

C. 1 Data on volume/traffic
C.2 Data on quality
C.3 Data on prices/costs
C.4 Data on International trade

D. Data on demand/use

Comparability

A fundamental user requirement is that the statistics are comparable over time and between countries. To be able to provide such statistics it is necessary to develop and agree on classifications, definitions and concepts to be used. It is also necessary to agree on units of measurements and other guidelines for the data collection. Very important is to agree on and be explicit on the point in time to which the measurements refer and the time period the measurements refer to.

Balance between the needs for information and confidentiality

For an effective and fair competition on the Internal market and on the global markets the transparency of the markets should be increased. The small actors on the market has a claim for "equal" information. Detailed information accessible to all players on the market on equal terms will benefit the market and those trying to enter it. At the same time the operators on the market have a just claim to keep sensitive business information secret.

It is necessary to find a proper balance between the legitimate interest of the incumbent operators to protect their investments etc. and the equally legitimate need for authorities, potential new players on the market and the users of telecommunication services to make it possible to get a clear picture of the development in this essential sector.

There is a lack of common understanding of what should be confidential and a lack of awareness even among regulators about what kind of information should be made available. It is therefore crucial to reach a balanced agreement among the different concerned parties on what data should be provided for the compilation of statistics and that all the operators contribute on equal terms.

It is important to bear in mind that the question of confidentiality has different dimensions for the data collection and for the dissemination and publication of the data.

The confidentiality issues have to be appropriately taken into account. It is particularly the confrontation of user requirements with feasibility, including the response burden and the balance between the need for transparency of the market and the need for confidentiality for business reasons that will be decisive for setting priorities.

Classifications

There are two main types of classifications used in economic statistics: industry classifications and product (services) classifications. The two types have different uses; the industry classification is used to classify data concerning turnover, value-added, employment, investment etc., i.e. information relating to the economic enterprise or unit. The product classification is used for information on production and trade.

For both types of classifications there exist world-wide systems managed by the United Nations Statistical Office. They are the International Standard Industrial Classification (ISIC Rev.3), the Central Product Classification (CPC) and Standard International Trade Classification (SITC Rev.3). On the EU-level there are the NACE Rev.l, i.e. the industrial classification of economic activities in the EU, and CPA, Central Product Classification according to Activity. On the national level there are national versions of Nace Rev. 1 and CPA.

Classification of industries

An enterprise is classified according to its main activity, i.e. the production process or product sold on the market, that represents the greatest part of its activities. It is very frequent that an enterprise have more than one activity. This is the reason why we talk about primary and secondary activities. It is also usual that enterprises produce for internal use and thus do not sell the product on the market. This is called own-account production.

In order to get information on the total supply and market one should have information not only on the special industry but also on secondary activities in other industries and ownaccount activities.

To describe the precision achieved in the statistics on an industry one talks about the *homogeneity* of an industry and the *coverage* of the industry. With homogeneity is meant the part of an industries total output that is made up of that industry's characteristic activity. With coverage is meant the share of the total production of a product that is produced by the industry whose characteristic activity is the production of that product.

The EU Industrial Classification NACE Rev.1

In NACE Rev.1 exists only one code, 64.2, for telecommunications services. Due to the technological, commercial and regulatory developments telecommunications, broadcasting and computing are converging. This implies that there probably is a considerable amount of telecommunication services that will not be covered be a survey of enterprises classified in NACE Rev. 1 6.2.

The classification of services

The crucial point in developing the statistics on telecommunications services is to develop and establish a classification of telecommunications services. Without a relevant classification of the services it will not be possible to breakdown revenues or spending according to services and thus not possible to follow the development of the different telecommunication services markets.

The telecommunication services have to be defined in a way that takes into account the rapid growth of new services led both by the liberalisation and the technological evolution. This means that the challenge is to find a classification level that is broad enough to be stable over some time while at the same time describing meaningful and relevant market segments.

Other classifications

Special classifications and definitions concerning the networks, quality of service and other "functional" variables have to be established. In order to ensure comparability between statistics on the global market and to minimise the burden on member states of data collection these classifications and definitions should be harmonised as far as possible with the definitions and classifications developed and used by international organisations, e.g. the 1TU Telecommunication indicator handbook.

The present statistical situation

To-day there is a fundamental shortage of data and statistics enabling us to follow and analyse the fast developing and growing telecommunications sector. The normal situation in the Member States of the European Union is that there is a shortage of good statistics on services in general. In the case of telecommunication services statistics are almost nonexistent in the NSIs.

International Telecommunication Union (ITU), and the Organisation for Economic Co-operation and Development (OECD) as well as Eurostat collect, compile and publish statistics on telecommunication services: traffic, infrastructure, operators, prices.

What is missing is statistics on the enterprises. The big operators are fairly well covered but not the small service providers. There are no statistics with a breakdown of the revenues according to services and very little information on the demand or use of telecommunication services. And the statistics that exist covers the public services and not the private networks, which will be an increasing shortcoming in the coverage.

On the other hand it is obvious that there exist a lot of relevant data from unofficial and private sources. These data are more and less well defined and their definitions often change between years in order to capture what is topical. They are often limited in their geographical coverage and refer to different points in time or different periods. It is not always clear what enterprises or services they cover or what methods are used. The results are not always possible to relate to other general economic statistics.

For these reasons it is not feasible to bring together a consistent and coherent set of statistics on telecommunication services that are comparable over time and between countries on the basis of these data.

But they exist and are used by administrations and operators on the markets. They should also be used and thereby evaluated in the process of developing and publishing adequate official statistics.

As the official statistics never can be so extensive and detailed that they cover every user need, market research and other private data will always be needed. But they should be collected and compiled in such a way that they are compatible with the official statistics,

e.g. by using the same or more detailed but compatible classifications and concepts. In this way they give more value to the user/buyer of the data than if they are "stand alone" data.

As mentioned above, the Council Decision on the development of European statistics on services says that "the methodological framework will be used as the basic harmonisation tool for the development of official European **statistics on services** and as a recommended framework for non-official statistics, particularly for market research.

Development of the European statistics

In order to improve this situation, Eurostat has launched a project to develop and implement an European statistical system on telecommunication services. It is called COINS - Communications and Information Statistics.

Concerning the economic statistics on telecommunication services a general reference framework for the development is shown in the following simple illustration along the lines of the national accounts system. What is shown is a methodological framework and it does not imply that all the corresponding data will be collected in reality.

A general framework for the supply and demand of telecommunication services:

Supply	Demand						
	Intermediate consumption				Final consumption		
	Industry 1	Industry 2	Industry 3 -	Industry n	House-holds	Public sector	Exports
Industry 1 service a -"- b -"- c							
Industry 2 service a -"- c							
Industry 3- service a -"- b -"- c							
Industry n service b							
Imports service a -"- b -"- c							

The COINS project

The objective is to develop a system consisting of

- a set of variables with definitions and guidelines for the collection of data
- a database with data of good quality structured in a user friendly way
- a dissemination system corresponding to user needs and
- eventually the necessary legal arrangements.

The more important elements of this project is described in the following.

Classification of telecommunication services
A proposal for a classification of telecommunication services has been drafted and sent to the
EU Member States for comments. The proposal consists of seven categories and thirty sub
categories. The proposed seven categories in which the telecommunication services market is
divided are

- Fixed network telecommunication services	(10 Sub categories)
-Mobile telecommunication services	(8 "-)
- Interconnection services	(1 "-)
- Communications management services	(4 "-)
- Value added telecommunications network services	(4 "-)
- Broadcast services	(2 "-)
- Radio and television cable services	(1 "-)

Pilot survey of telecommunication services enterprises
Eurostat is planning a pilot survey to be carried through in Member States in 1997. The
objectives of the pilot survey are twofold:

- to test the developed methodology and the feasibility of the proposed data collection so as
  to prepare for a regular data collection on the telecommunication services sector.
- to start collection of information for statistical and analytical purposes.

The planned survey comprises data on

- when the enterprise started
- employment
-operating revenues, with a detailed breakdown of the revenues according to the proposed
classification of telecommunication services
- revenues from sale of goods and services related to telecom and other operating revenues
- breakdown of revenues by category of customers
- exports and imports of telecommunication services
- breakdown of operating cost
- purchase of goods for resale
- investments, disposals and new leasing contracts

Confidentiality issues

The confidentiality issues have to be tackled as said above. It is necessary to come to a common understanding between the different concerned parties like data providers, users and the statistical agencies.

International co-operation

In order to ensure that the European telecommunication services statistics will be harmonised and co-ordinated with the international and world-wide statistics it is necessary with a close co-operation with international organisations like ITU, OECD, United Nations and the so called Voorbourg Group

Why involve the National Statistical Institutes?

A first observation when considering this question is that, in one form or other, there is a National Statistical Institute in all countries, not only in the European Union, but all over the world. In some countries the production of national statistics is centralised to the NSI, in other is the production decentralised. At the same time the NSIs do not collect and compile telecommunication services statistics.

Normally it is the task of the NSIs to provide basic statistics like population statistics and national accounts. They also have a co-ordinating and harmonising role, which means that they are responsible for the nomenclatures and classifications. This implies that NSIs are the natural bodies to turn to for developing and compiling statistics comparable over time and between countries.

The NSIs are involved in extensive international co-operation and have established stable organisational structures for that. To ensure that the telecommunication statistics will be comparable and consistent on and between the National, European and other regional levels and the world level the NSIs should be involved..

The Statistical Institutes have also long experiences and established routines for coping with confidentiality and security related to the collection and storage of data.

A regulation on the transmission of confidential data to Eurostat was adopted by the Council in June 1990 as Regulation 1588/90. It authorises National Authorities to transmit confidential data to Eurostat while obliging Eurostat to take all necessary measures for their protection. In January 1994, these measures have been defined and formally adopted by the Member States through the Committee on Statistical Confidentiality.

To get the NSIs involved is also to some extent a guarantee for a continuity in the provision of basic telecommunication services statistics and that these statistics will be integrated in the general economic statistics via the statistical tools like classifications, business registers, methods, concepts and definitions used.

**World Telecommunication Indicators Meeting
(Geneva, 19 - 21 March 1996)**

SOURCE: STATISTICS CANADA, Fred D. Gault

TITLE: INDUSTRIAL CLASSIFICATION AND DATA COLLECTION

————

INDUSTRIAL CLASSIFICATION AND DATA COLLECTION

F.D. Gault

Services, Science and Technology Division
STATISTICS CANADA

- INTRODUCTION

- THE IMPORTANCE OF INDUSTRIAL CLASSIFICATION

- INDUSTRY OR COMMODITY?

- DATA COLLECTION

- CONCLUSIONS

1. INTRODUCTION

- STATISTICAL AGENCIES

- TELECOMMUNICATIONS STATISTICS

- CLASSIFICATION

- COLLECTION

2. THE IMPORTANCE OF INDUSTRIAL CLASSIFICATION

- WHAT IS AN INDUSTRY?

- HOW ARE INDUSTRIES GROUPED

- POLICY IMPLICATIONS

NORTH AMERICAN INDUSTRIAL CLASSIFICTION SYSTEM (NAICS)

INFORMATION

CANADA	INFORMATION AND CULTURAL INDUSTRIES
MEXICO	INFORMACIÓN EN MEDIOS MASIVOS
UNITED STATES	INFORMATION

INFORMATION AND CULTURAL INDUSTRIES

XX PUBLISHING INDUSTRIES

XX MOTION PICTURE AND SOUND RECORDING INDUSTRIES

XX BROADCASTING AND TELECOMMUNICATIONS INDUSTRIES

XX INFORMATION SERVICES AND DATA TRANSACTION PROCESSING SERVICES

XX BROADCASTING AND TELECOMMUNICATIONS INDUSTRIES

XXX	RADIO AND TELEVISION BROADCASTING
XXXX	RADIO BROADCASTING
XXXX	TELEVISION BROADCASTING
XXX	PAY TV, SPECIALTY TV AND PROGRAMME DISTRIBUTION
XXXX	PAY AND SPECIALTY TELEVISION
XXXX	CABLE AND OTHER PROGRAMME DISTRIBUTION

XX BROADCASTING AND TELECOMMUNICATIONS INDUSTRIES (CONTINUED)

XXX TELECOMMUNICATIONS

XXXX WIRED TELECOMMUNICATIONS CARRIERS

XXXX WIRELESS TELECOMMUNICATIONS CARRIERS - EXCEPT SATELLITE

XXXX SATELLITE TELECOMMUNICATIONS

XXXX OTHER TELECOMMUNICATIONS

3. INDUSTRY OR COMMODITY?

WHAT IS THE QUESTION?

SECONDARY PRODUCTION

MEASUREMENT PROBLEMS

WHAT DO THE RESULTS MEAN?

4. DATA COLLECTION

COMPULSION OR CO-OPERATION

CONTINUITY OR CHANGE

COMPARABILITY

5. CONCLUSIONS

CLASSIFICATION

INTERNATIONAL STANDARS

COMMON QUESTIONS

INDUSTRIAL CLASSIFICATION

AND DATA COLLECTION FOR

TELECOMMUNICATION INDUSTRIES

F.D. Gault
Services, Science and Technology Division
STATISTICS CANADA

Abstract:

This paper reviews the role of the national statistical agency in
defining telecommunication industries, collecting data, and
disseminating information on the industries. A case is put for
national statistical agencies, working with international
organizations, to provide comprehensive and internationally
comparable data to support public policy debate on
telecommunications and the societal impact of the rapid change in
these and other industries.

February 1996

1. INTRODUCTION

This paper reviews the role of the national statistical agency in defining telecommunication industries, collecting data, and disseminating information on the industries. National statistical agencies are responsible for maintaining national industrial classifications and commodity classifications and they contribute to work on international classifications. This means that they define the industries about which data are collected.

Once the industries are defined, there is a need to collect sufficient financial information to allow the estimation of Gross Domestic Product for the industry. There is also a need for information on the quantity and value of commodities produced to support the development of price indices which can be used for deflation and the estimation of real change over time of the financial characteristics of the industries.

National statistical agencies, working with international organizations, are well placed to provide comprehensive and internationally comparable data to support public policy debate on telecommunications and the societal impact of the rapid change in these and related industries. This information is complementary to that gathered by regulators, policy ministries and private sector information providers.

2. STATISTICAL AGENCIES

National statistical agencies are just one player in the business of data collection. There are the national regulators, policy ministries, and private sector information providers and, not least, the telecommunications firms themselves. Then there are the co-ordinating efforts of the international organizations, such as the Organization for Economic Co-operation and Development (OECD), and the International Telecommunication Union(ITU), and the supranational European Union(EU) with its statistical agency, Eurostat.

Statistical agencies, by their nature, are at arms length from policy, regulatory and commercial interests. However they are bound to measure economic and social activity and publish the results to inform public discourse. In the case of Statistics Canada, this is stated in Section 3(a) of the Statistics Act where the duties of the Agency are[1]:

"to collect, compile, analyse, abstract and publish
statistical information relating to the commercial,
industrial, financial, social, economic and general
activities and condition of the people;".

This gives the Agency both a broad range of opportunities, and
also responsibilities, to report on economic and social activity.

The telecommunications industries, and those with which they are
converging, are changing society and the nature of work in the
society. They are providing new opportunities for commerce, and,
they are reducing the significance of the boundaries of nation
states. This makes telecommunications and related industries key
areas for new measurements, and not just for on-going measurement
of the provision of conventional service.

3. TELECOMMUNICATION STATISTICS

3.1 Telecommunication Carriers Industry

At Statistics Canada, statistics on telecommunications carriers
have been collected and published since the Agency was created in
1918[2]. The first data published in Canada go back to 1886, just
10 years after Alexander Graham Bell made the first local and long
distance telephone calls.

Statistics currently published present both financial and physical
data on the activity of Canadian telephone companies. They
reflect the needs of the Canadian System of National Accounts
(SNA) and the interests of the industry which are, to some extent
influenced by the regulator, the Canadian Radio-Television and
Telecommunications Commission(CRTC).

The SNA brings together data on economic activity across the
economy to produce Gross Domestic Product by industry and region,
price indices, gross fixed capital formation, labour and trade
figures. Through the input-output tables, data on intermediate
inputs are linked to production. It is the SNA which provides the
integrating framework for economic statistics and it is, from time
to time, revised. The most recent revision was released in
1993[3].

The industry and policy makers are also interested in the
penetration of telecommunication services and this has given rise
to data on the number of exchange and toll lines and on access
lines and type of service provided. More recently, there have

been surveys of resellers and of providers of cellular telephony, but this is just a beginning of plans to broaden the coverage of the surveys.

As competition increases, more firms are liable to enter the industry and the surveys have to take this into account. As services proliferate, there is a need to know how revenue is distributed across these services, if price indices are to be constructed, and there is also strong policy interest, on the part of Industry Canada, in the extent to which businesses are using the services in order to become more competitive.

While the regulatory framework and services offered are changing, there is also pressure to take advantage of relaxed regulation to provide the services by different means. The obvious examples are cable companies providing telephone services and telephone companies providing video services, a change which has yet to occur in Canada.

3.2 Broadcasting

The collection and publication of statistics on radio and television and cable television are well established in Canada. The surveys are supported by Statistics Canada, the CRTC and the relevant policy department, Canadian Heritage. The advantage of this is that the questionnaires serve three purposes: they satisfy the needs of the SNA; they are the annual return required by the regulator for renewal of licensing; and, they collect information on programme content for use in cultural analysis.

The collaboration between the regulator, the policy department, and the statistical agency is a model for how data can be collected with minimum burden and maximum utility. It contrasts with the data collection on telecommunication carriers where the regulator and the statistical agency act separately. While this specific issue could be addressed, there is the radical change taking place in the industries that requires more immediate action if current economic activity is to be well estimated. This raises the question of how an industry is defined.

4. CLASSIFICATION AND COMPARABILITY

4.1 Classification Systems

For statistical purposes, an industry is defined in the context of an industrial classification. How an industry is defined is important as once the definition is adopted, it is used to collect, publish and analyse all of the information on financial stocks and flows, on employment, and commodities produced and

other items, like technologies used. The definition determines
the size of the industry through its contribution to GDP and, as a
consequence, its impact for lobbying purposes when industry
representatives deal with governments.

While it is necessary to know about the characteristics in
individual countries, for domestic industrial, social and cultural
policies, it is also useful to know how the domestic industries
behave in relation to those in the countries of trading partners.
 The means available to do this is the United Nations
International Standard Industrial Classification (ISIC)[4],
currently in its third revision (ISIC.3). Within the EU, there is
the General Industrial Classification of Economic Activities
within the European Communities (NACE)[5] which is in its first
revision (NACE.1). Both are hierarchical classifications and both
agree at the higher levels of aggregation, NACE.1 being the more
detailed.
Industrial classifications are widely used by national governments
and international organizations and their evolution over many
years has led to anomalies. As economies change, industrial
classifications are revised in an attempt to reflect this change
and then statistical agencies and the users of the data have to
deal with changes in definitions and coverage.

4.2 NAICS

In North America, Canada, the US and Mexico are in the process of
adopting a common industrial classification, the North American
Industry Classification System(NAICS).   This will provide
comparable classification over the North American free trade area,
while still permitting individual countries to collect information
at a greater level of detail than is found in NAICS. As with
NACE.1, the detail, once aggregated, supports comparison with
ISIC.3 classification.

In the case of the NAICS which is to be used by Canada, Mexico and
the US starting with the reference year 1997, a decision was taken
to develop the systems within a particular conceptual framework
which is elaborated in issues papers available from the US Bureau
of Economic Analysis[6].   In brief, an industry can be
characterized by what is produced (consider chairs as an example),
or by the production process used to produce a particular product
(metal chairs are different from plastic chairs).   There are
advantages to each approach but economists have a preference for a
classification that deals with a common means of production as
this facilitates the analysis of productivity. As well, if the
classification is based on the production process, information on
the 'chair industry' can still be produced if industrial surveys
ask for financial information for a list of commodities produced.
 When there are answers to a question on the percentage of revenue

derived from the sale of chairs in questionnaires from the plastics, metal and wood industries, the results can be aggregated to produce information on chairs.

With this framework in mind, the NAICS deliberations gave rise to a new collection of industries grouped into the Information and Cultural Industries Sector. In NAICS, the Sector is the highest level of aggregation and it is divided into Sub-Sectors, Industry Groups and Industries. Each country can then elaborate a fifth level to meet its national needs.

The Information Sector is given in detail in the Appendix, and here only the part related to broadcasting and to telecommunication carriers is presented.

XX   BROADCASTING AND TELECOMMUNICATIONS INDUSTRIES

XXX	Radio and Television Broadcasting
XXXX	Radio Broadcasting
XXXX	Television Broadcasting
XXX	Pay TV, Specialty TV and Program Distribution
XXXX	Pay and Specialty Television
XXXX	Cable and Other Program Distribution
XXX	Telecommunications
XXXX	Wired Telecommunications Carriers
XXXX	Wireless Telecommunications Carriers, except Satellite
XXXX	Telecommunications Resellers
XXXX	Satellite Telecommunications
XXXX	Other Telecommunications

The points to note are that each industry has a principal means of delivering its service, by wire, wireless(with or without satellite), or by buying wholesale and selling retail. The technologies used are not part of the classification for the purpose of economic statistics. However, if the policy interest were technology use, or innovation, such questions could be addressed to respondents in these industries and the answers used, along with financial data to address the policy question.

5.   INDUSTRY OR COMMODITY?

5.1 Commodities

In the NAICS, there is no 'multi-media' industry or 'voice mail' industry. If such data are required, they have to be collected as

commodities sold by the industries. Once the data are gathered, statistics can be developed on the penetration of voice mail, by region.

Once the commodity dimension is introduced, questions about commodities can be addressed to those who supply them and to those who use them. The former case leads to a national picture of voice mail production, while the latter can show which industries in which regions are using voice mail to become more competitive. As well, the use statistics can be classified by size of business to study different propensities to use the commodity by small- and medium-sized firms. Greater policy focus on the use of telecommunication services, and their effect on jobs and competitiveness, make the development of indicators of use[7] increasingly more important.

5.2 Convergence

The use of commodity questions can also identify the rate at which convergence is taking place once cable companies in Canada are permitted, for example, to provide telecommunication services. Surveys can then identify the rate at which the commodity, voice mail, is growing, and which industries are providing it and which using it. Of course, once there is an understanding of the infrastructure, in this case 'voice mail', the next question is how often is it used, and why. The linking of transactions to infrastructure is a subject of on-going study[8]. Once there are measures of infrastructure and frequency of transaction, the next step is to measure the impact of the activity on jobs and growth. This sets the stage for a policy discussion on convergence and its societal impacts.

6.   DATA COLLECTION AND COMPARABILITY

6.1 Data

Once industries and commodities are defined, the data have to be collected. Here statistical agencies have some advantages over other institutions. They may have the legal power to compel response and they are seen to be removed from commercial interest and able to protect the confidentiality of the data of individual respondents. Responding to a questionnaire from a statistical agency may be seen at best as a contribution to the public good and, at worst, as necessary act, like the paying of taxes.

Regulators will have different data interests than statistical agencies and less of a commitment to publishing time series and making their information widely available to the public. They also

have an effective means of achieving compliance: no response, no license. However, with changes in regulation from 'rate of return' to 'price cap' controls, the information required by the regulator may decrease.

Policy ministries, industry associations and private sector data gatherers also have different interests from statistical agencies.

6.2 Model Surveys

The information to be collected on industries is not just of national concern and, increasingly, there are efforts to set international standards. An example is the work of the Voorburg Group[9].

The Voorburg Group is a group of statisticians from national statistical agencies which has worked on behalf of the UN for the last ten years on developing commodity classification for service industries, including telecommunication services. Model surveys have been developed as a means to test commodity classifications, and the model survey of computer services is an example[10]. Once it was developed by the Voorburg Group, it was adopted by the UN Statistical Commission for use by member countries. There is a draft model survey of telecommunication services[11] which, if it is adopted, will become a world guideline for data collection.

6.3 International Co-ordination

A standard questionnaire, applied in many countries, eases the task of data comparison and the work of such agencies as Eurostat and the OECD. The Conference of European Statisticians(CES), under the auspices of the United Nations Statistical Commission and the Economic Commission for Europe, plays a co-ordinating role in reviewing the work programmes of Eurostat and the OECD.

7. CONCLUSIONS

National statistical agencies define the industries that are
included in their national industrial classification systems and
they contribute to the development of international classification
systems, of industries and of commodities. They are also
responsible for collecting financial, labour and other data on the
industries and reporting the information, using the SNA, or other
frameworks. Data on production and use, on labour
characteristics, and on technologies can be combined to examine
the societal impact of change in telecommunication industries and
those related through convergence.

International organizations provide a means of standardizing
measures and of comparing information from different countries and
making comparisons of use to policy makers and to the industries.
This information is complementary to that gathered by regulators,
policy ministries and private sector information providers.
However, it is essential to the public policy debate.

REFERENCES

1. Government of Canada, The Statistics Act. 1970-71-72, c. 15,
   s. l., Ottawa, 1992.

2. Telephone Statistics, Catalogue 56-203, Statistics Canada,
   Ottawa, 1995.

3. System of National Accounts: 1993, Published jointly by the
   Commission of European Communities - Eurostat, the
   International Monetary Fund, the Organization for Economic
   Co-operation and Development, the United Nations, and the
   World Bank, Brussels/Luxembourg, New York, Paris,
   Washington, 1993.

4. United Nations Statistical Office, International Standard
   Industrial Classification of all Economic Activities,
   Statistical Paper Series M, No. 4, Rev. 3, United Nations,
   New York, 1990.

5. Eurostat, Council Regulation (EEC) No. 3037/90 of 9 October
   1990 on the Statistical Classification of Economic
   Activities in the European Community, Official Journal of
   the European Communities, No. L 293/1 Luxembourg, 1990.
   Eurostat, Standard Classification of Economic Activities in
   the European Community(NACE Revision 1), Eurostat,
   Luxembourg, 1994.

6.   US Economic Classification Policy Committee, Issues Papers, available from Jack E. Triplett, Chairman,ECPC, Bureau of Economic Analysis (BE-42), US Department of Commerce, Washington D.C. 20230, USA.

7.   F.D. Gault, The Use of Telecommunications Services: The Need for Indicators, contribution to the OECD Workshop on Telecommunication Performance Indicators, Paris, September 28 and 29, 1995, Statistics Canada, Ottawa, 1995.

8.   G. Sciadas, Linking Information Highway Infrastructures with Transactions, contribution to the OECD Workshop No. 3 on the Economics of the Information Society, Tokyo, march 4 and 5, 1996, Statistics Canada, Ottawa, 1996.

9.   Voorburg Group, Inventory of Papers Presented to Meetings of the Voorburg Group, available from The Director, Standards Division, Statistics Canada, Ottawa K1A 0T6. (FAX 1-613-951-8578, email standards@statcan.ca).

10.   United Nations Statistical Office, A Model Survey of Computer Services, Series M, No. 81, United Nations, New York, 1991.

11.   Statistics Canada, A Model Survey for the Telecommunications Sector, Proceedings of the Voorburg Group Conference, Williamsburg, Virginia, USA, October 19-23, 1992.

APPENDIX: INFORMATION INDUSTRIES

National Titles

	Information and Cultural Industries	in Canada
	Informacion en Medios Masivos	in Mexico
and	**Information**	in the United States

NAICS STRUCTURE

INFORMATION AND CULTURAL INDUSTRIES

XX   PUBLISHING INDUSTRIES

XXX   Newspaper, Periodical, Book and Database Publishing
XXXX   Newspaper Publishing
XXXX   Periodical Publishing
XXXX   Book Publishing
XXXX   Database Publishing
XXXX   Other Publishing Industries

XXX   Software Publishing
XXXX   Software Publishing

XX   MOTION PICTURE AND SOUND RECORDING INDUSTRIES

XXX   Motion Picture and Video Industries
XXXX   Motion Picture and Video Production
XXXX   Motion Picture and Video Distribution
XXXX   Teleproduction and Other Post-production Services
XXXX   Motion Picture and Video Exhibition
XXXX   Other Motion Picture and Video Industries

XXX   Sound Recording Industries
XXXX   Record Production Companies
XXXX   Integrated Record Companies
XXXX   Music Publishing
XXXX   Sound Recording Studios
XXXX   Other Sound Recording Industries

XX   BROADCASTING AND TELECOMMUNICATIONS INDUSTRIES

XXX   Radio and Television Broadcasting
XXXX   Radio Broadcasting
XXXX   Television Broadcasting

XXX   Pay TV, Specialty TV and Program Distribution
XXXX   Pay and Specialty Television
XXXX   Cable and Other Program Distribution

XXX   Telecommunications
XXXX   Wired Telecommunications Carriers
XXXX   Wireless Telecommunications Carriers, except Satellite
XXXX   Telecommunications Resellers
XXXX   Satellite Telecommunications
XXXX   Other Telecommunications

XX   INFORMATION SERVICES AND DATA AND TRANSACTION PROCESSING SERVICES

XXX   Information Services
XXXX   News Syndicates
XXXX   Libraries and Archives
XXXX   Other Information Services

XXX   Data and Transaction Processing Services
XXXX   Data and Transaction Processing Services

Relationship to ISIC

The objective of defining industries that relate to a single 2-digit category of the International Standard Industrial Classification of all Economic Activities (ISIC, Revision 3) of the United Nations is largely met. Twenty-six of the twenty-nine proposed NAICS industries are contained within Divisions 22 - Publishing, Printing and Reproduction of Recorded Media, 64 - Post and Telecommunications, 72 - Computer and Related Activities and 92 - Recreational, Cultural and Sporting Activities of ISIC. The following NAICS industries cannot be assigned to an ISIC division without being subdivided: Other Publishing Industries, Radio Broadcasting and Television Broadcasting. However, the discrepancies between these proposed NAICS industries and ISIC are minor and do not have a significant impact on the comparability of data.

Achievement of Objectives

The proposed classification structure meets the objectives for the North American Industry Classification System in that it is comprised of industries that group establishments with similar production processes and achieves comparability for the three participating countries. The NAICS structure also introduces a number of new and emerging industries, particularly in the sound recording, broadcasting, telecommunications and information services industries.

S.9: Convergence

Session 9: Convergence

The growing convergence of the
telecommunications, computing
and broadcasting industries makes
it increasingly difficult to segregate
each sector statistically. What is
the global information industry and
how is it defined? What kind of
statistics are collected in the
related data processing and
broadcasting industries?

"G-7 International Inventory Project"
M. Okumura, MPT, Japan

"The Observatory Approach"
EITO

"Covering high-tech industries"
OMSYC, Paris

*Thursday
21 March*

World Telecommunication Indicators Meeting
(Geneva, 19 - 21 March 1996)

SOURCE: MPT (Japan), Makiko Okumura

TITLE: GLOBAL INVENTORY AND INTERNATIONAL TELECOMMUNICATIONS
            INVENTORY

_____

GLOBAL INVENTORY AND INTERNATIONAL TELECOMMUNICATIONS INVENTORY

MAKIKO OKUMURA

Ministry of Posts and Telecommunications
JAPAN

OUTLINE

1 G7 Ministerial Ministerial Conference on the
   Information Society

2 Results of the G7 Conference

3 G7 Pilot Projects--Global Inventory Project

4 Proposal of new initiatives to ITU

G7 MINISTERIAL CONFERENCE ON THE
INFORMATION SOCIETY (February, 1995)

-BACKGROUND-

1 View on the Role of Telecommunications

  - Leading Industry in the 21st Century
  - Most Important infrastructure of any industries
  - Effective for solving problems at a global level

1. Market size of Type I telecommunications business (FY94 financial results)

All industries' total annual sales: ¥350,612.2 billion (1.6%)

- ¥23 trillion (3.1%) — Electrical machinery (10 companies)
- ¥19 trillion (-4.5%) — Automobile (6 companies)
- ¥15 trillion (5.2%) — Electric power (9 companies)
- ¥9 trillion (9.8%) — **Telecommu-nications** (86 companies)
- ¥6 trillion (-3.1%) — Steel (6 companies)
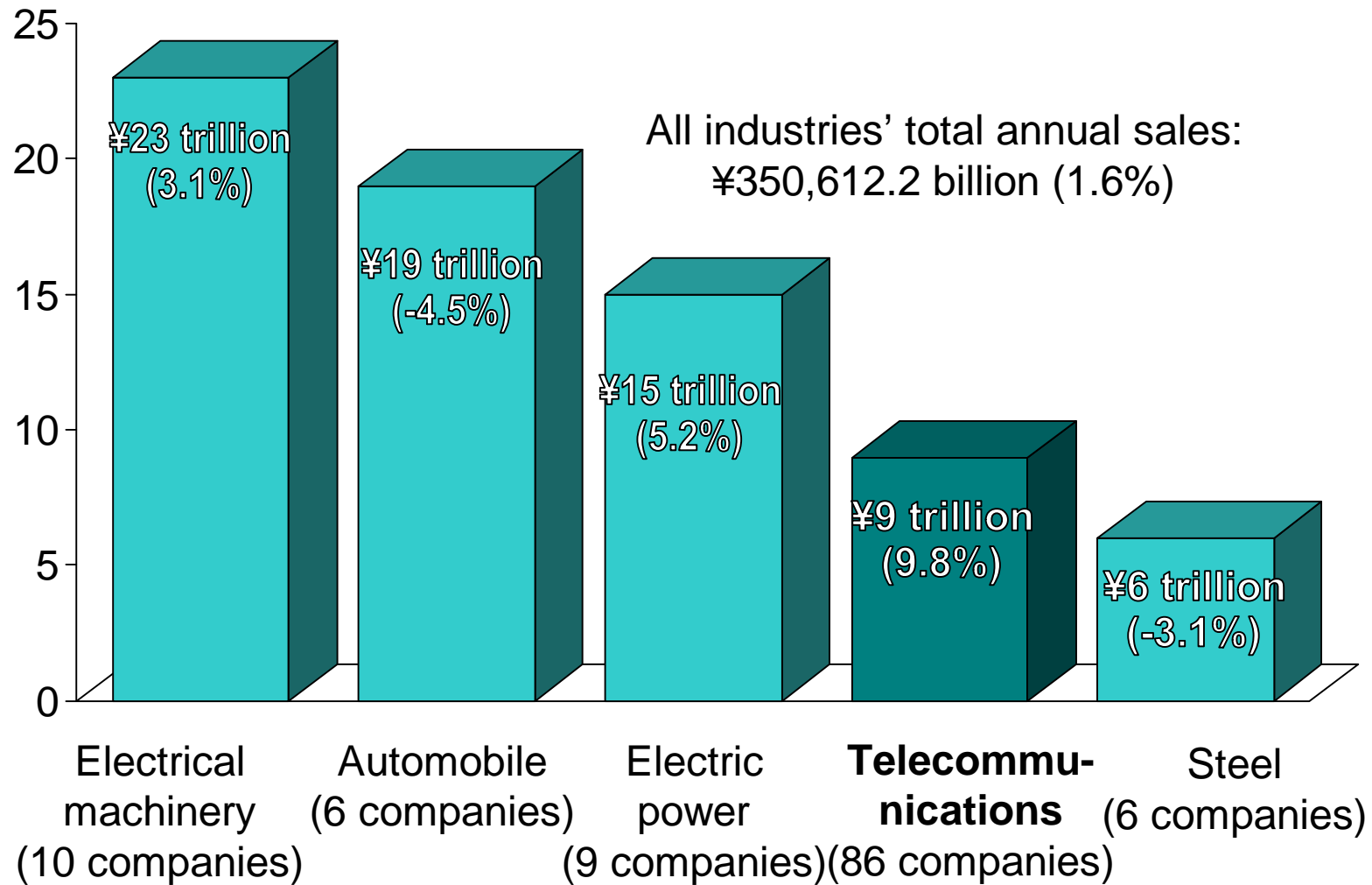
Note: Parenthetical figures indicate annual growth rates.

1. Facilities & equipment investments by Type I telecommunications businesses

All industries' total facilities and equipment investment: ¥42,167.9 billion (3.3%)

- **Electric power:** ¥5.0 trillion (1.8%)
- **Telecommunications:** ¥3.4 trillion (25.6%)
  - Mobile carriers ¥1.1 trillion (185.0%)
- **Electrical machinery:** ¥3.35 trillion (27.5%)
- **Automobile:** ¥1.23 trillion (13.9%)
- **Steel:** ¥0.97 trillion (2.3%)
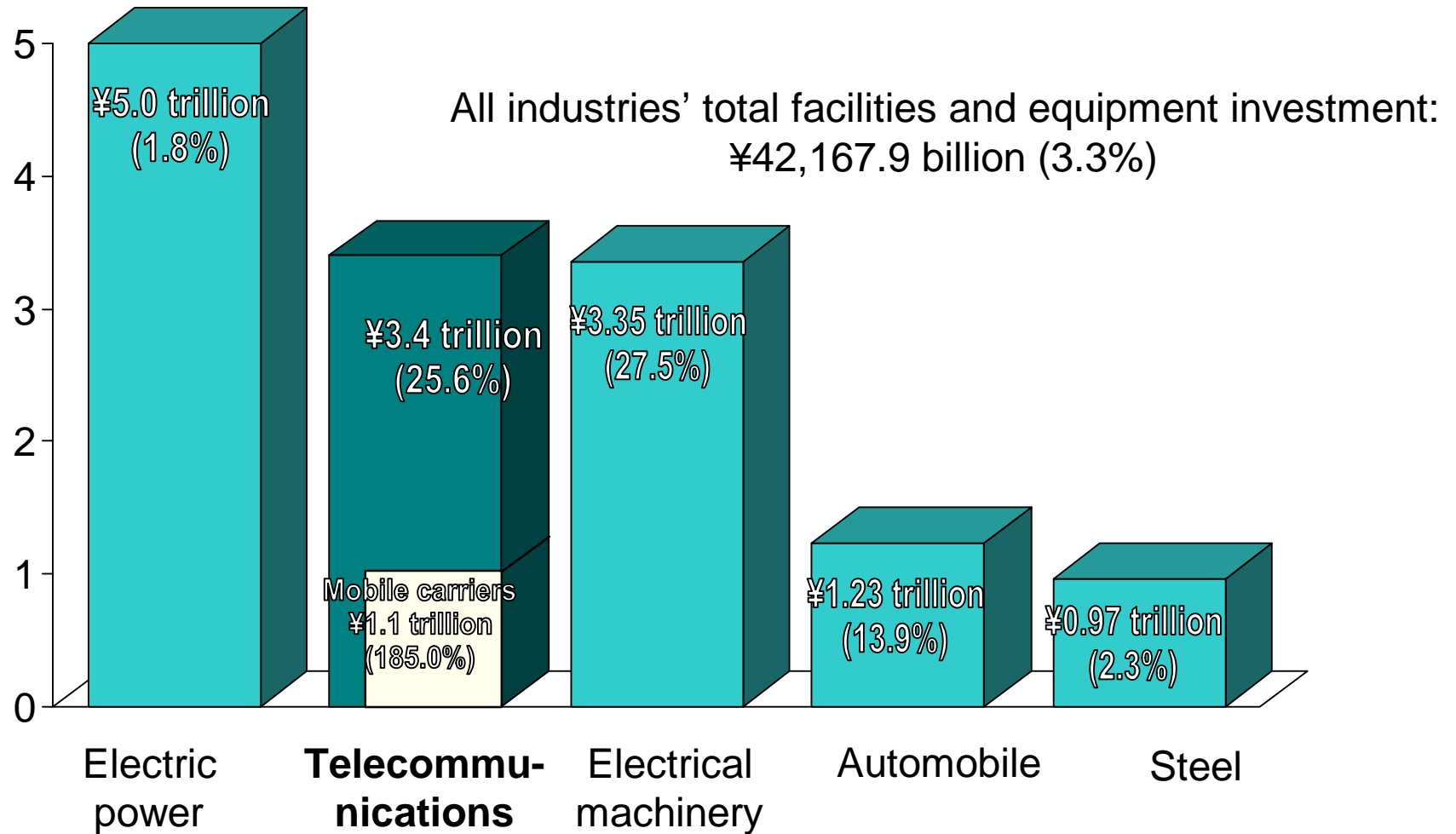
Note: Parenthetical figures indicate annual growth rates.

Results of the First Info-Communications Reform
(1985)

1. Entry of many new carriers

1985
NTT and KDD only ➡ Type I carriers: 123
Type II carriers: 2,805
(End of January 1996)

2. Rate reductions

e.g. i) Basic rate for cellular phones
¥30,000 (in 1985) ➡ ¥7,400 (in 1995)
ii) Long-distance calls
(Tokyo-Osaka, per 3 minutes, daytime on weekday)
¥400 (in 1985) ➡ ¥180 (in 1993)
(Applications for further reduction to ¥140 has been filed)

3. Diversification of services

4. Contribution to economic growth

- Market size
  (compared to GDP)
  ¥14.5 trillion ➡ ¥25.4 trillion
  (4.5%) (5.4)%

- Capital investment
  (ratio to entire industry)
  ¥2.2 trillion ➡ ¥3.8 trillion
  (8.7%) (9.2)%

- Employment
  (ratio to total number employed)
  724,000 ➡ 1,029,000
  (1.2%) (1.6)%

5. Remarkable growth in mobile communications

e.g. Number of subscribers of cellular phones and PHS:
40,000 (in 1985) ➡ 9,380,000 (in January 1996)

2 Common Policy Trend in Telecommunications

- Promotion of competition in telecommunications
     Privatization of NTT
     Discussion on the future status of NTT

- Establishment of information infrastructure of high
   speed and large capacity

- Development of new applications

Restructuring Scheme

Long-distance Communications Market

Holding stocks

NTT Personal Communications

NTT Mobile Communications Network

NTT Data Communications Systems

Long-distance NTT

(Completely privatized)

Expansion of operation →

1. **International communications**
2. **Regional communications**
3. **Cable TV**
4. **Overseas market**
5. **Content business**

Possible immediately after the restructuring = Entry into regional markets

Possible according to progress in competition in the future = Entry into long-distance and international communications markets

Regional Communications Market

West NTT

East NTT

(Special company for the time being)

(Special company for the time being)

East/West NTTs
(Possible immediately after the reform
   1. **Entry into telephone and cable TV business in the other's area**
   2. **Entry into content business in the other's area**
   3. **Business in overseas markets**

(Possible in accordance with intensification of competition)
Within own service area
   1. **Long-distance communications business**
   2. **International communications business**
   3. **Content business**

Note: (1) Restructuring will be conducted by establishing or revising related laws.
(2) Restructuring measures above should be conducted with due consideration for the securing shareholder and creditor rights (tax exemption measures, exceptions to the standard for listing stocks, exception concerning concerning delivery of actual stocks).

Deregulation in Telecommunications Field

1. Market entry regulations

- Elimination of the clause on excess facilities as one of the criteria for permission to enter into the type I telecommunications business
    Premise: Establishment of new frameworks for provision of privileges concerning public utilities

2. Tariff regulations

1) Regional services (after restructuring of NTT)
    NTT: Introduction of authorization methods such as the "yard-stick" system
    Others: Shift to an advance notification system
2) Long-distance services
    After the restructuring of NTT ➡ Shift to an advance notification system
    Introduction of an incentive regulation for dominant carriers instead of present authorization system
3) International services
    Expansion of destinations by carriers other than KDD ➡ Shift to an advance notification system
    Introduction of an incentive regulation for dominant carriers instead of present authorization system
4) Mobile telecommunications
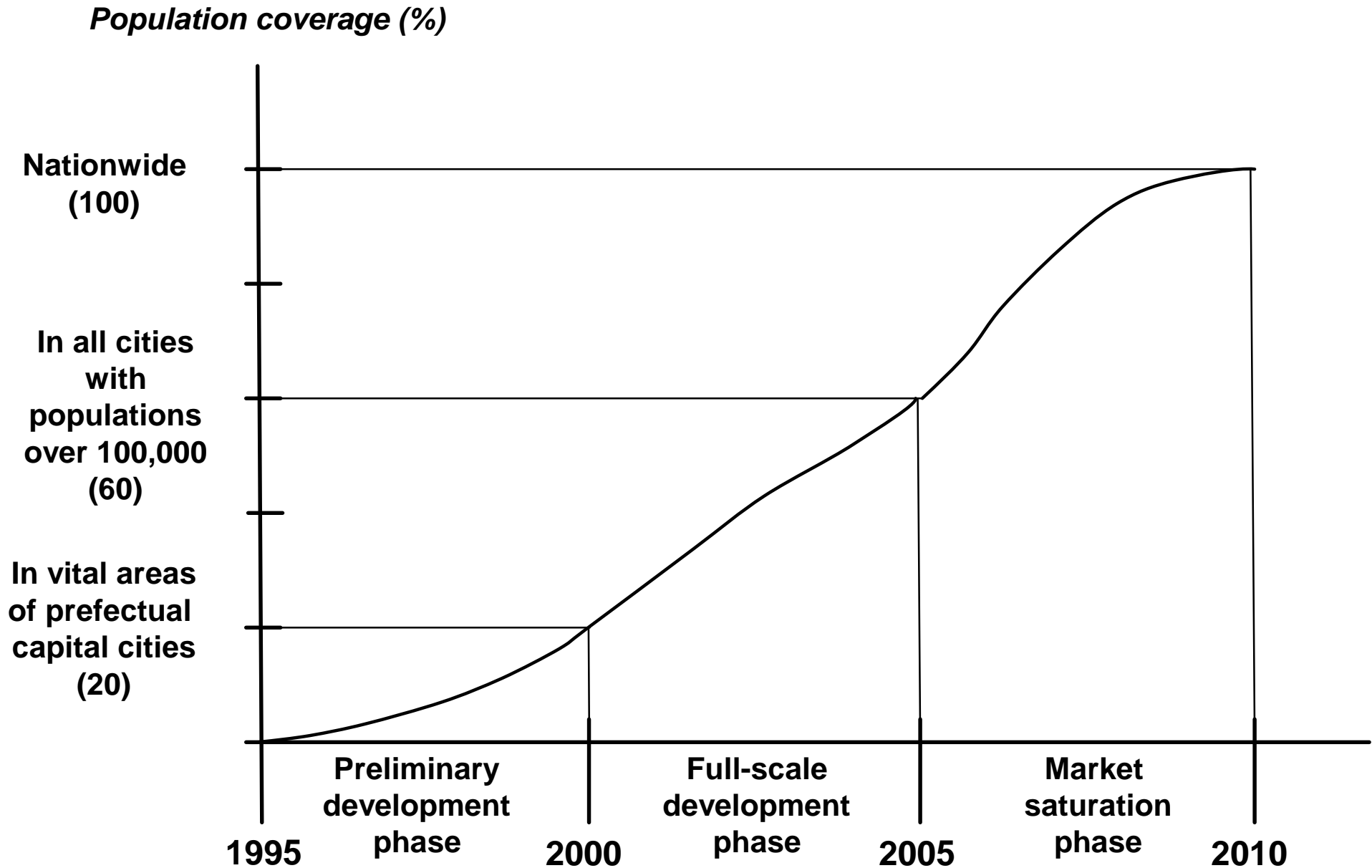   Shift to an advance notification system

3. Leased circuits

Allowing interconnection of private leased circuits with public switched networks at both ends by the end of 1996 domestically, by the end of 1997 internationally (complete liberalization).

4. Restrictions on foreign investment

1) Based on the results of WTO negotiations, the possibility of future relaxing restriction on foreign ownership will be considered.
2) Long-distance NTT: It will receive the same treatment as other Type I carriers.
3) Regional NTT: Restrictions on foreign ownership will be relaxed according to the progress made in market competition.
4) KDD: Relaxation of restrictions on foreign investment in KDD will be considered, taking into account viewpoints for assuring national security and citizens' safety, when studying the abolition of the KDD Law.

5. Optic-fiber Network Construction Schedule

Population coverage (%)

Nationwide (100)

In all cities with populations over 100,000 (60)

In vital areas of prefectual capital cities (20)

| 1995 | Preliminary development phase | 2000 | Full-scale development phase | 2005 | Market saturation phase | 2010 |

Result of the G7 Conference

(1) 8 Core Principles

    - Promoting Dynamic Competition

    - Encouraging Private Investment

    - Defining an Adaptable Regulatory Framework

    - Providing Open Access to Networks

(Continued)

- Ensuring Universal Provision of and Access to Services
- Promoting Equality of Opportunity to the Citizen
- Promoting Diversity of Content including Cultural and Linguistic Diversity
- Recognizing the Necessity of Worldwide Cooperation with Particular Attention to Less Developed Countries

(2) 6 Policies for realizing Information
     Society

- Promotion of Interconnectivity and
  Interoperability

- Development of Global Markets for
  Networks, Services and Applications

- Ensuring Privacy and Data Security

- Protecting Intellectual Property Right

(Continued)

- Cooperation in R&D and in the
  Development of New Applications

- Monitoring of the Social and Societal
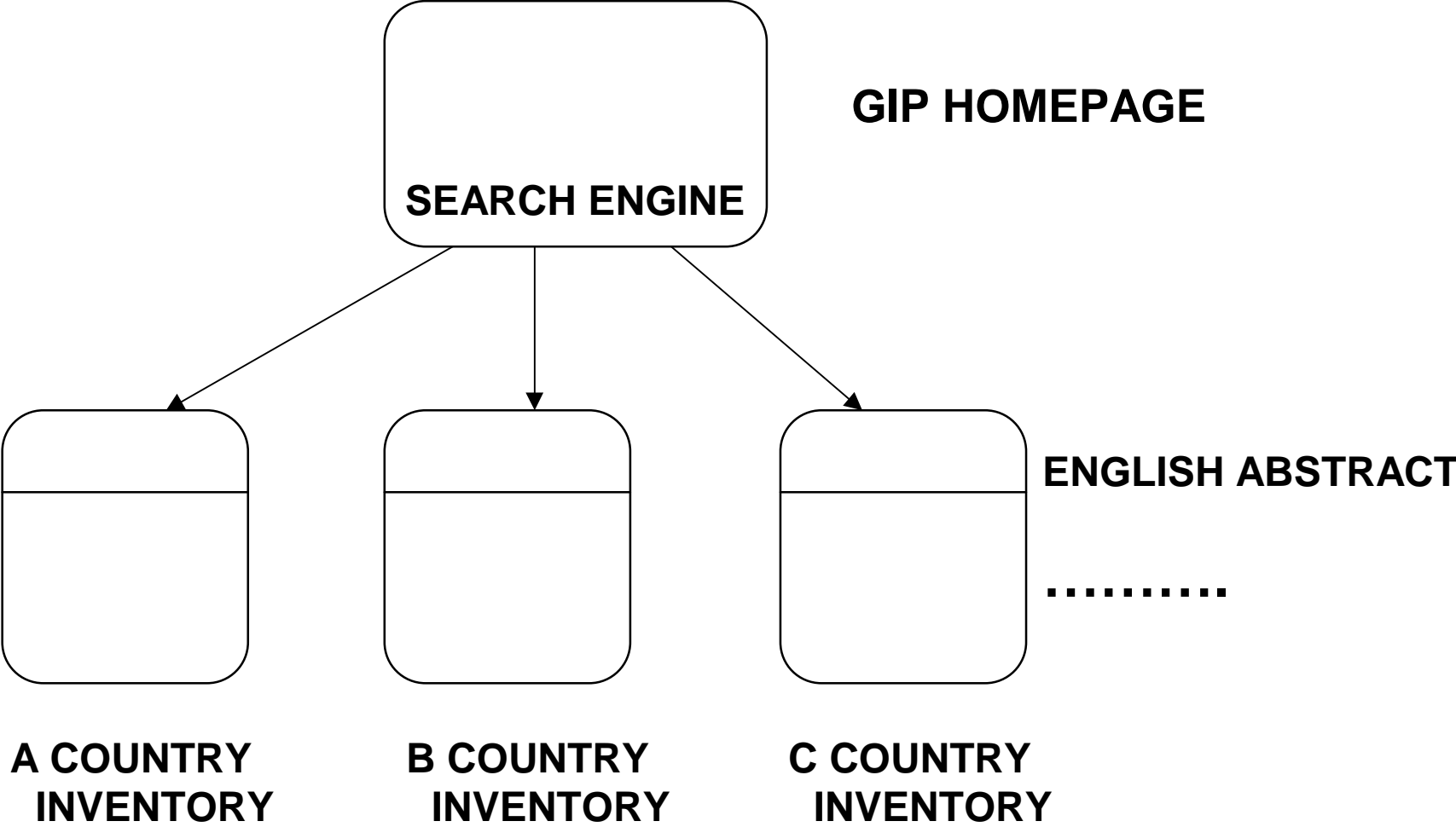 Implications of the Information Society

G7 Joint Pilot Projects

(1) *Global Inventory*

(2) Global Interoperability for Broadband Networks

(3) Cross-Cultural Training and Education

(4) Electronic Libraries

(5) Electronic Museums and Galleries

(6)   Environment and Natural Resources
        Management

(7)   Global Emergency Management

(8)   Global Healthcare Applications

(9)   Government On-Line

(10) Global Marketplace for SMEs

(11) Maritime Information Systems

Global Inventory

- Establishing multimedia database on activities and researches related to Information Society

- Accessible via Internet

- Decentralized system

- Open to non G7 countries and international organizations

IMAGE of ORGANIZATION of GLOBAL INVENTORY

GIP HOMEPAGE

SEARCH ENGINE

ENGLISH ABSTRACT

....

A COUNTRY
INVENTORY

B COUNTRY
INVENTORY

C COUNTRY
INVENTORY

Proposal for New Activities

(1) Linking ITU's Internet Site to Global
    Inventory

(2) Establishing new database of basic
    data on telecommunications

-- International Telecommunication
    Inventory

Data to be input in ITI

a. Basic facts about each country

b. Basic organization and legal systems (government organization, outline of legislation, carriers, etc.)

c. Policy and service trend (information infrastructure, new services, competition)

d. Relevant statistics

World Telecommunication Indicators Meeting
(Geneva, 19 - 21 March 1996)

SOURCE: EITO, Eberhard Reik

TITLE: WHAT IS THE EUROPEAN INFORMATION TECHNOLOGY OBSERVATORY - EITO ?

_____

ITU World Telecommunication Indicators Meeting
Geneva, 19-21 March 1996

EITO
The European Information Technology Observatory
Summary

Up-to-date and valid information plays and increasingly important role in business and political decision-making. EITO aims to support the creation of the global information society as well as to make its contribution to the further economic integration and political unification of Europe. This initiative will be continued with annual editions of the EITO handbook in March, and an EITO update in autumn.

It is an indispensable source of information in current and future developments in European information and communication technology markets, aimed at the use of all; suppliers of hardware, software, and services in the field, their customers, market analysts, scientists and technicians, media, as well as the political world and the interested public.

EITO
European Information Technology
Observatory

E. Reik

German Information Technology
Manufacturers' Association
Frankfurt/Main

Geneva, 19-21 March 1996, ITU-World Telecom Indicators Meeting

What is the European Information Technology Observatory - EITO?

- EITO is the established yearbook for the information and communications technology (ICT).
- It has set the standard for market analysis and statistics in Europe.
- EITO presents the most comprehensive data currently available about the ICT market in Europe.

EITO - a broad and unique European initiate

- EITO member are the European organisations
  - **eurobit** as representative of the information technology industry
  - ECTEL as representative of the telecommunications industry and
- the European IT trade fairs CeBIT in Hanover, SIMO in Madrid and SMAU in Milan
- The EITO is supported by the Directorate General III Industry of European Commission and by the OECD.
- EITO sponsors are the trade fair organisations Association SICOB in Paris, Kontor og Data/KDL in Oslo, Systems in Munich and Deutsche Telekom in Bonn.

The EITO - an indispensable source of information in marketing and technology for

- European ICT market players
- users of information and communications technology (ICT) hardware, software and services
- trade organisations and trade fair visitors
- market analysts
- politicians
- members of the European Commission and national government representatives in Europe and overseas organisations involves in R&D, standards and education relating to ICT
- media

EITO - Statistical Outlook

- For 16 West European countries
    - Extensive statistical outlook and forecasts on ICT markets
    - Economic background data
    - Production and trade flows, market structures, penetration, and price dynamics
- For 4 East and Central European countries
    - Extensive statistical outlook and forecasts on IT markets
- Comparison with USA and Japan
- By major product and services segments
- Coverage 1993 - 1997

EITO - Summary Section

- The views of Industry and the European Commission

- ICT market overview comments

- ICT technological trends and standards

EITO - Organisational structure (I)

- EITO General Assembly:
  - Members
  - Sponsors
  - Third parties

Chairman: Dr. Bruno Lamborghini

Vice Chairman: Enore Deotto

Managing Director: Günter E.W. Möller

Project Manager: Carola Peter

EITO - Organisational structure (II)

EITO Task Force: Chairman: Prof. Dr.. Egbert Dozekal

Members:

- Johannes Adler, Deutsche Telekom

- Michael Beckmann, ECTEL/Siemens

- Umberto Bena, **eurobit**/Olivetti

- Dr. Gaetano Bianchi, SMAU

- Marco Bozzetti, SMAU

- Dr.. Alberto de Macchi, **eurobit**/Olivetti

- Giuseppe dell'Osso, European Commission, DG III

- John Dryden, OECD

- Jorma Partinen, **eurobit**/IBM Europe

- Dr. Luis-Alberto Petit Herrera, SIMO TCI

- Eberhard Reik, ECTEL/ALCATEL

- Michael Rupf, **eurobit**/IBM

- Dr.. Michael Towara, **eurobit**

Some general information on the EITO

- Publication dates: Annually in March
- Special service: EITO Update,

  published every autumn

- Number of copies: 12.000,

  each copy contains about 440 pages.

- Price: 46.-- ECU (incl.. VAT)
- ISSN   0947-4862

How to get the EITO:

Apply to: EITO/GzF

                Lyoner Str. 18,

                D-60528 Frankfurt

                Tel. +49-69-6603-1530,

                Fax +49-69-6603-1510

                e-Mail: C.Peter@fvit-eurobit.de

**World Telecommunication Indicators Meeting
(Geneva, 19 - 21 March 1996)**

SOURCE: EITO, Eberhard Reik

TITLE: WHAT IS THE EITO? (text)

————

**World Telecommunication Indicators Meeting
(Geneva, 19 - 21 March 1996)**

SOURCE: OMSYC, Bernard Geoffroy and Thierry Verlynde

TITLE: CONVERGENCE BETWEEN TELECOMMUNICATION AND AUDIOVISUAL
INDUSTRIES AND MARKETS: DEREGULATION AND DOUBLE COUNTING

_____