

ITU data collection and dissemination activities

- Telecommunication statistics

Ms. M.C. Gasbarro, ITU, Switzerland

- Of data gathering and data storage

Mr. O. Beauvais, ITU, Switzerland

- Telecommunication statistics from a user's perspective

Mr. P. Labombarda, Consiel Management Consulting, Italy



INTERNATIONAL TELECOMMUNICATION UNION

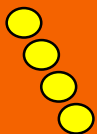
**TELECOMMUNICATION
DEVELOPMENT BUREAU
INFORMATION SYSTEMS UNIT**

**Document WTIM99/7-E
12 March 1999
Original: English**

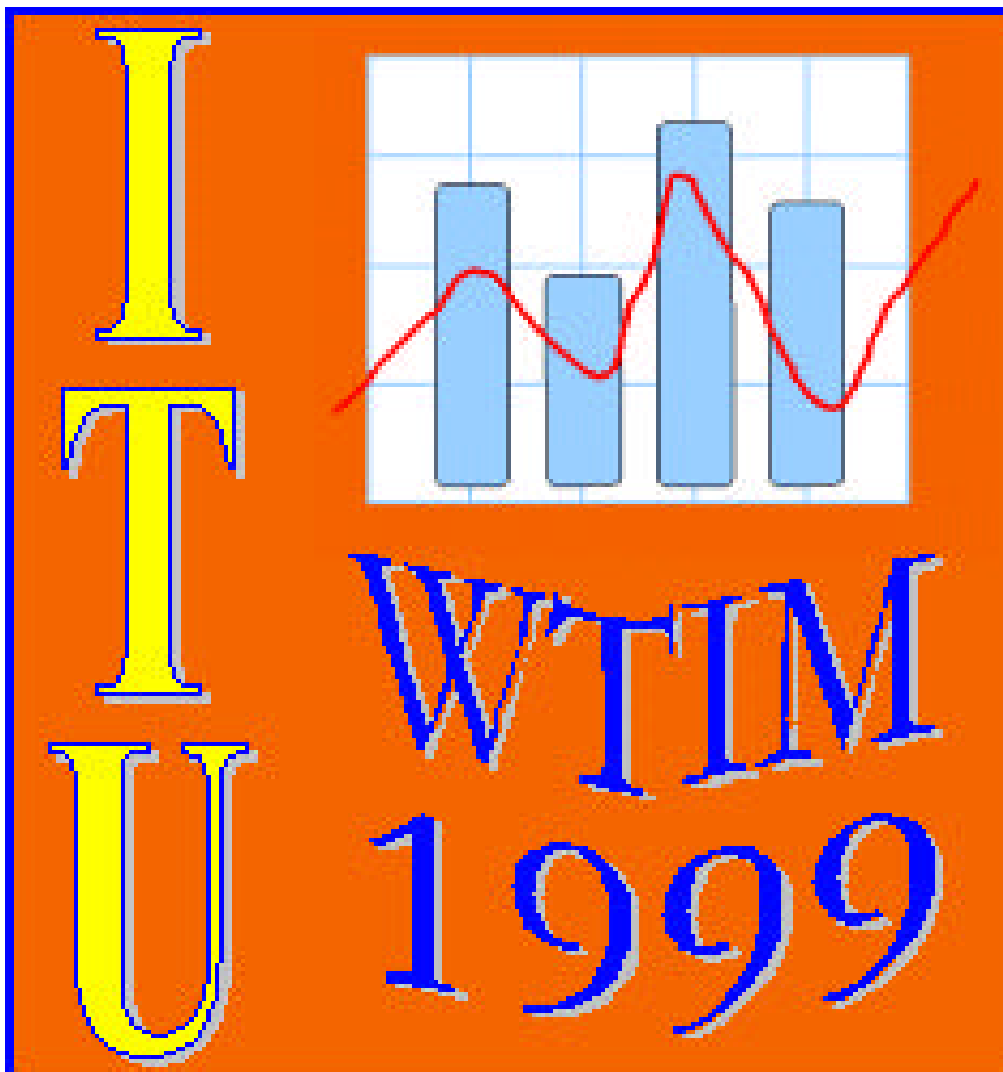
**2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)**

SOURCE: MS. MARIA CONCETTA GASBARRO, ITU/BDT

TITLE: TELECOMMUNICATION STATISTICS



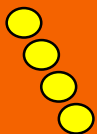
International Telecommunication Union



TELECOMMUNICATION STATISTICS

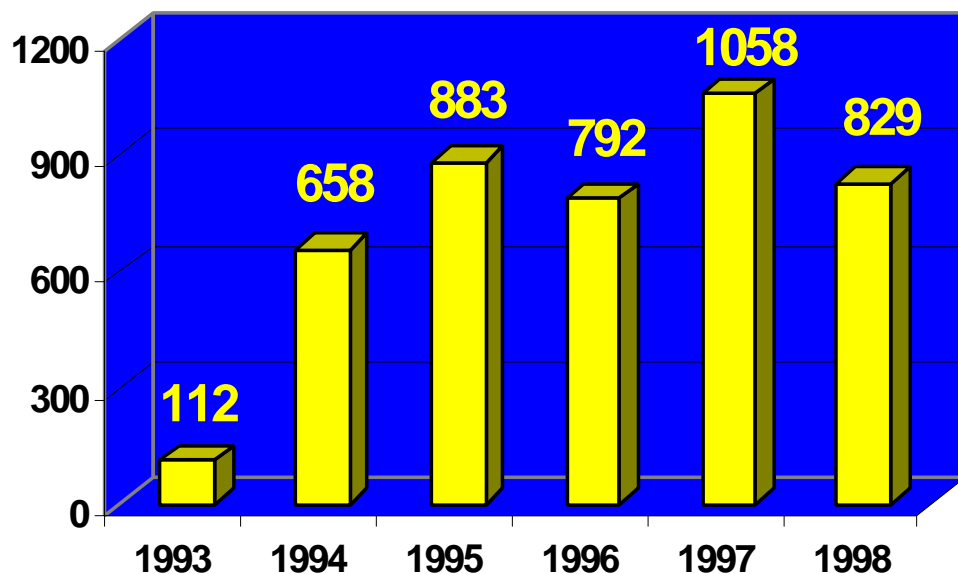
MARIA CONCETTA GASBARRO
Telecommunication Development Bureau
(BDT)
International Telecommunication Union

ITU
**2nd World Telecommunication
Indicators Meeting**
Geneva, 29 - 31 March 1999

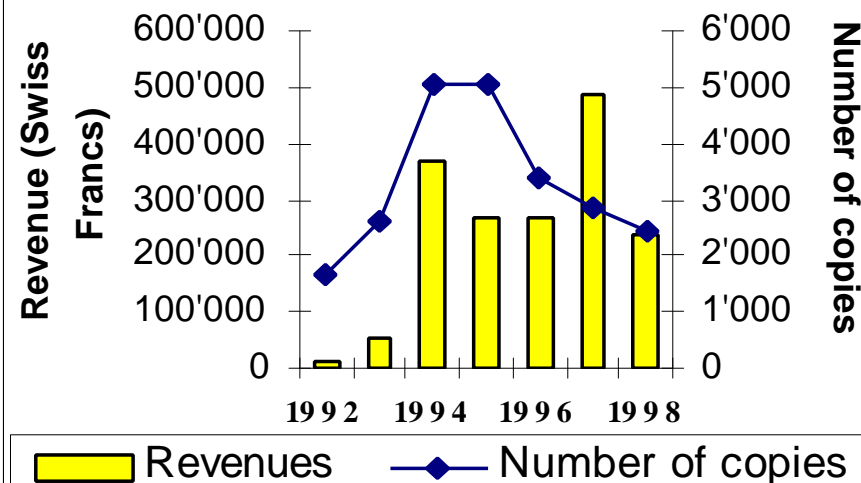


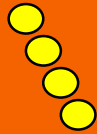
DEMAND FOR TELECOMMUNICATION STATISTICS

External request processed by ITU / INFS



Sales of Indicators publications

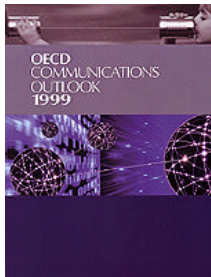
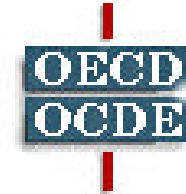




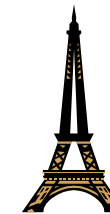
International Telecommunication Union



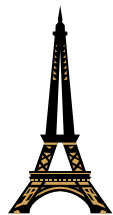
WHAT IS REALLY AVAILABLE ON TELECOMMUNICATION STATISTICS?



« It provides a range of performance indicators for public communication infrastructures and services in the 29 OECD countries. In addition to providing a comprehensive review of the telecommunication sector, the Communications Outlook, includes data and analysis of broadcasting, cable television and the Internet ».



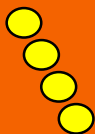
Communications Outlook



Telecommunication Database 1980 - 1997

“ The Database provide time-series data covering 29 OECD Member countries. It contains both telecommunication and economic indicators”.

Beyond 20/20 Browser - [Telecommunications Database 1997 (Read-only)]						
File Edit View Dimension Item Window Help						
SERIES						
COUNTRY						
YEAR	SERIES	AUS	AUT	BEL	CAN	CZE
1994	Gross Domestic Product	19,267	28,587	25,922	19,015	4,100
	Gross Fixed Capital Form	905,000,000	1,936,000,000	2,194,000,000	3,118,000,000	3,544,307,000
	Gross Fixed Capital Form	476,836,263	651,201,395	1,362,258,993	1,148,010,969	4,830,635,000
	Gross Fixed Capital Form	168,026,861	5,909,841,408	5,808,890,135	2,802,629,985	3,601,757,000
	Inhabitants	17,840,000	8,031,000	10,116,000	29,251,000	10,336,000
	Civilian employment	7,886,000	3,737,000	3,666,156	13,292,000	4,886,000
	Annual average exchange	1	11	33	1	
	US\$ exchange rates bas	1	14	37	1	
	Consumer price index 19	95	98	99	98	
	Gross Fixed Capital Form	100	99	98	103	
1995	Mainlines	9,200,000	3,749,087	4,623,091	17,770,000	2,398,000
	Percent of digital mainlin	74	72	66	84	
	Cellular subscribers	3,148,451	366,919	235,000	2,590,000	45,000
	Payphones	84,000	33,816	14,873	-	21,000
	Percent of payphones th	-	29	-	-	
	Internet hosts	207,426	40,696	23,706	262,644	14,000



International Telecommunication Union



WHAT IS REALLY AVAILABLE ON TELECOMMUNICATION STATISTICS?



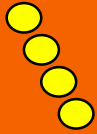
« The figures available on diskette in CUB.X format reflect the situation in the postal and telecommunication sectors of the member state of the European Union for each year since 1980. The data describe the sectors concerned in statistical terms, using institutional indicators together with more functional indicators on infrastructure, traffic, demand and service quality. ».

Information and Communication Services (COINS)

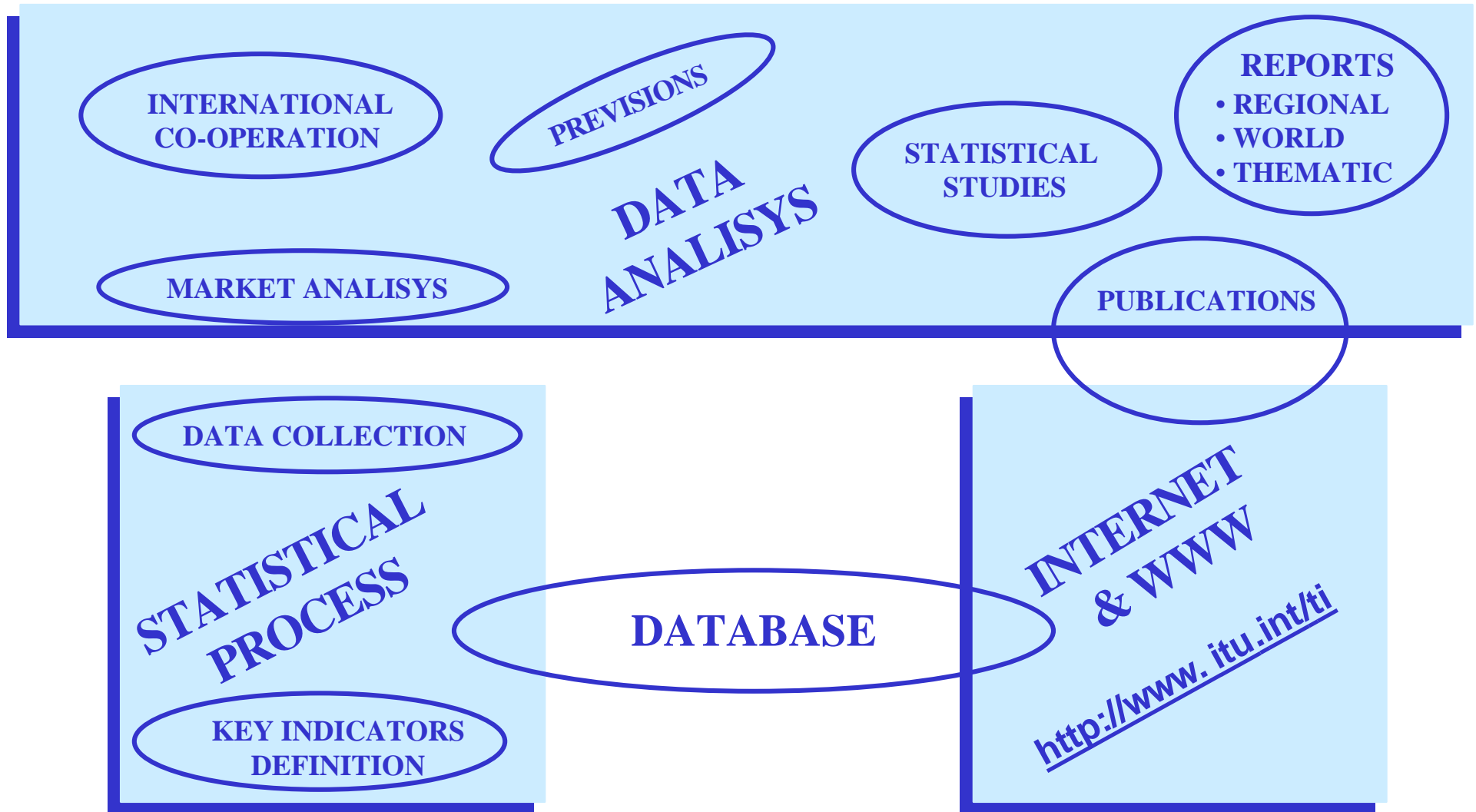
International Telecom Statistics

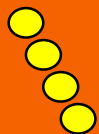
« The International Telecom Statistics 1998, conducted and published by the Siemens OEN Marketing Department, is a worldwide telecommunications study in graphical and tabular form. It is compiled of the latest developments in international telecommunications and brings you up to date with detailed and recent information on fixed and mobile networks, cable tv and Internet. The status of deregulation and telecommunication investments are also featured ».



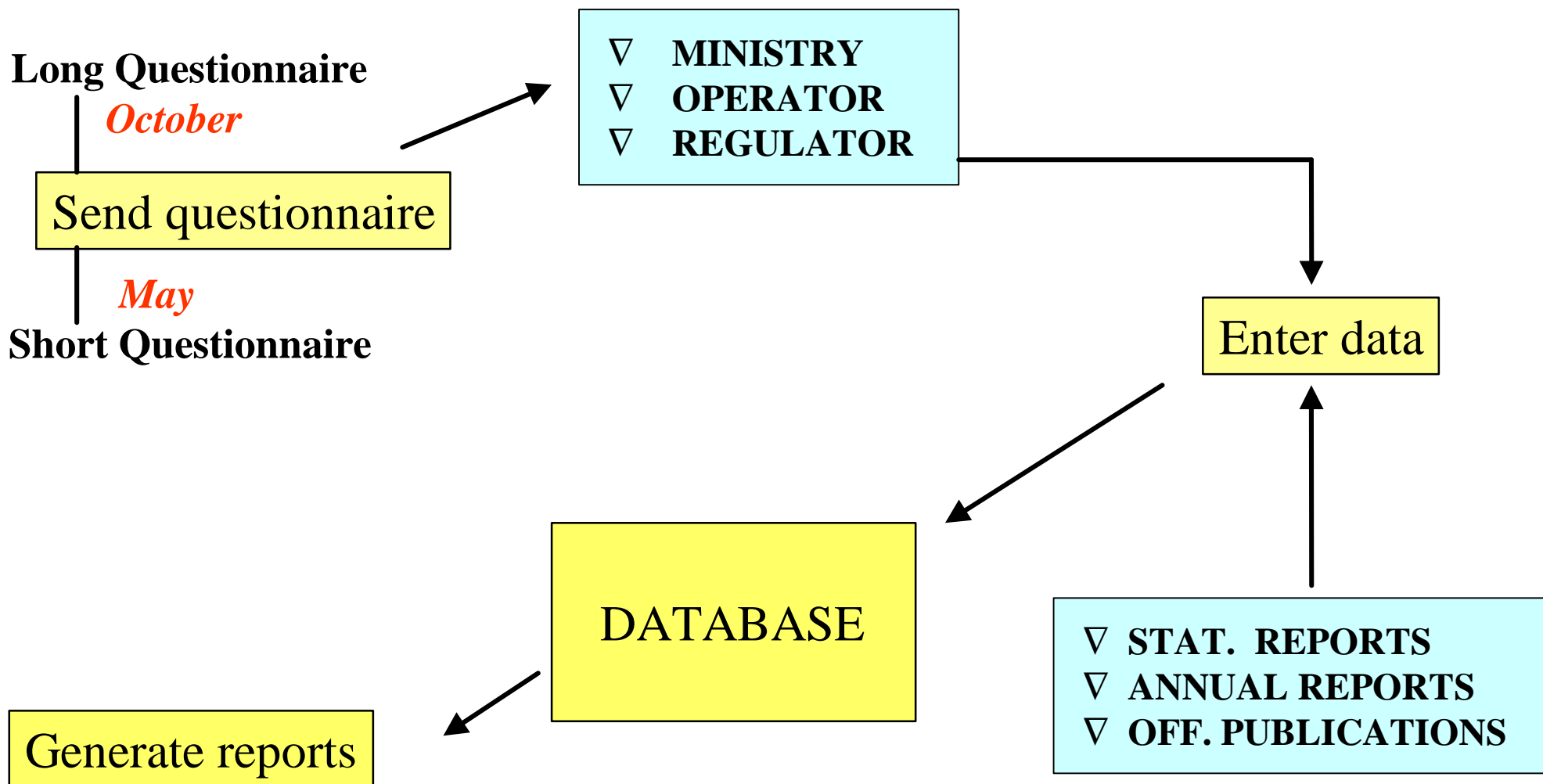


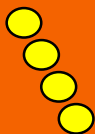
ITU AND TELECOMMUNICATION STATISTICS



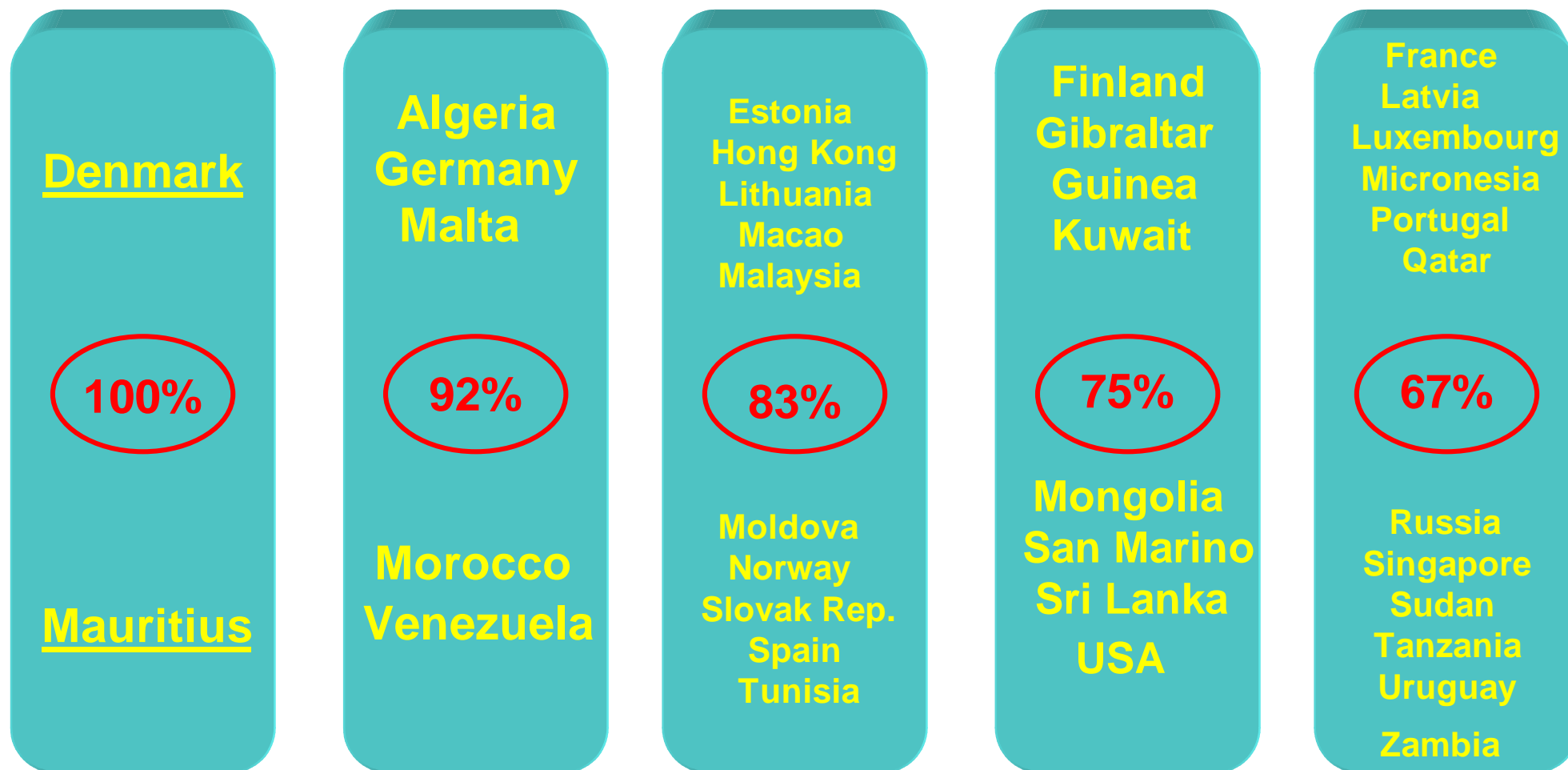


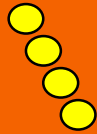
DATA COLLECTION





PERCENTAGE OF REPLIES TO ITU QUESTIONNAIRES - TOP COUNTRIES

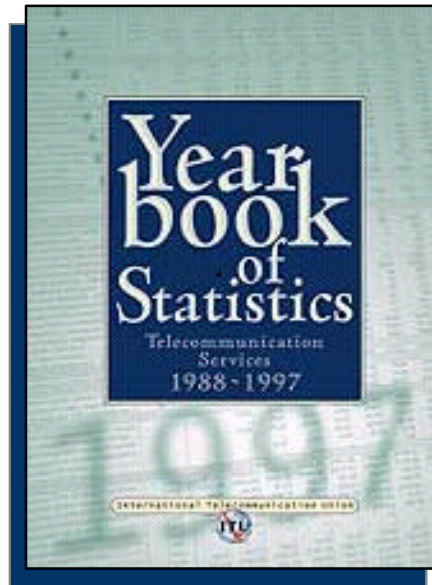




International Telecommunication Union



NEW



Yearbook of Statistics Telecommunication Services 1988-1997

Annex 2000/1a-2

Estimates in million

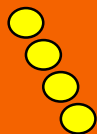
Year ending 2000

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
World	1 181.2	1 254.2	1 328.8	1 403.4	1 478.0	1 552.6	1 627.2	1 701.8	1 776.4	1 851.0
Developed regions	1 181.2	1 254.2	1 328.8	1 403.4	1 478.0	1 552.6	1 627.2	1 701.8	1 776.4	1 851.0
Developing regions	0	0	0	0	0	0	0	0	0	0
Least developed countries	0	0	0	0	0	0	0	0	0	0
World	1 181.2	1 254.2	1 328.8	1 403.4	1 478.0	1 552.6	1 627.2	1 701.8	1 776.4	1 851.0
Developed regions	1 181.2	1 254.2	1 328.8	1 403.4	1 478.0	1 552.6	1 627.2	1 701.8	1 776.4	1 851.0
Developing regions	0	0	0	0	0	0	0	0	0	0
Least developed countries	0	0	0	0	0	0	0	0	0	0

Source: ITC TELECOM

1

Yearbook of Statistics



International Telecommunication Union



World Telecommunication Indicators Database 1960-1998

C:\WINNT\System32\CMD.exe

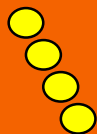
ITU World Telecommunication Indicators '95 1 of 102 series selected.

Please select:

COUNTRIES ↔ SERIES ↔ YEARS ↔ VIEW ↔ EXTRACT

1	I111	Telephone sets
2	I1111	% of households with a telephone
3	I1112	Public pay phones
4	I1112A	Coin-operated pay phones
5	I1112B	Card-operated pay phones
6	I1112C	Public call offices
7	I112	Main telephone lines in operation
8 *	I91	Main lines per 100 inhabitants
9	I1121	Main telephone lines in largest city
10	I114	% of automatic main lines
11	I1142	% of digital main lines
12	I115	% of main lines equip. for direct int'l dialling
13	I116	% of residential main lines
14	I1162	% of urban main lines
15	I117	Connection capacity of local exchanges

Choose: Up Down Select Remove Bubble Locate Arrange Clear Help Enough



International Telecommunication Union



ITU: Telecom Indicators - Netscape

File Edit View Go Communicator Help

Back Forward Reload

Bookmarks Location: **http://www.itu.int/ti**

What's Related

ITU Telecommunication Indicators

Publications Online Speeches & Papers Telecoms at a glance Useful Sites

The ITU's Telecommunication Indicator Reports present an analysis of trends and developments in the global telecommunications sector, backed by official statistics from the world's leading source of telecommunication information. These reports and databases are available online.

Publications for Sale
(Online Versions Available) **BOOKSHOP**

Challenges to the Network:
Internet for Development, 1999 **NEW**

Yearbook of Statistics 1999 **NEW**

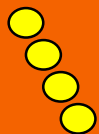
African Telecommunication Indicators 1998

2nd World Telecommunication Indicators Meeting
Geneva, 29 - 31 March 1999

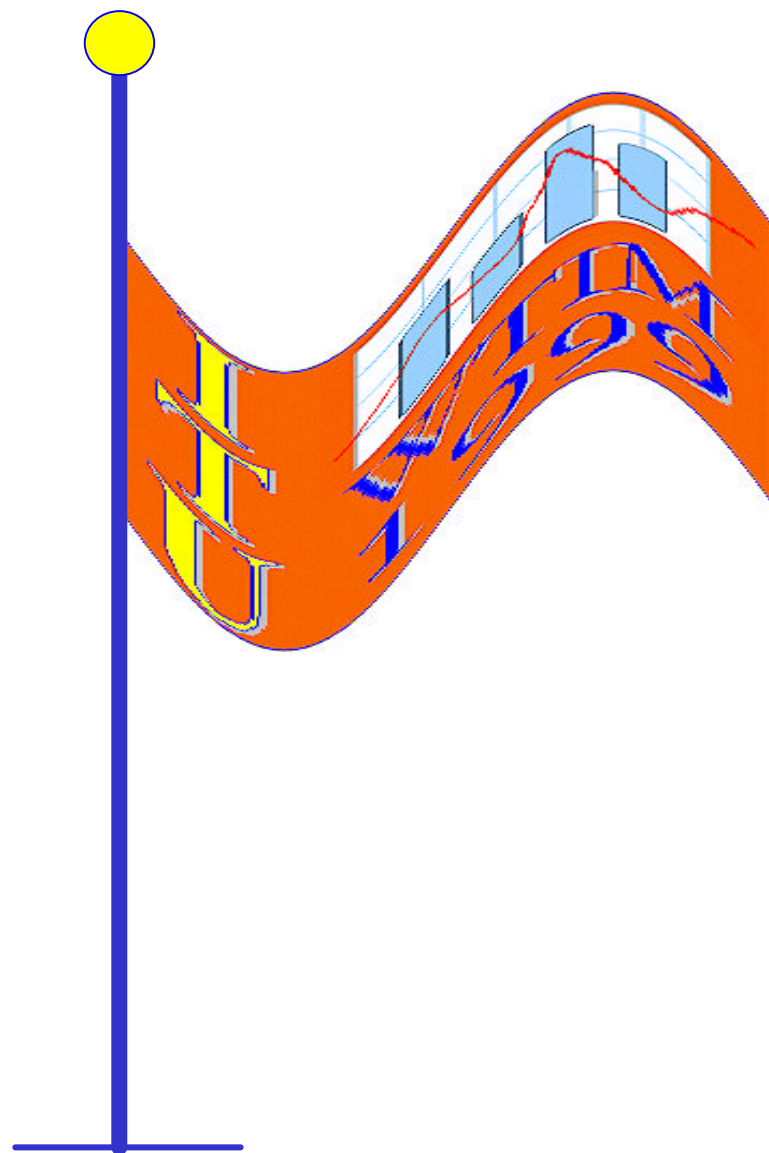
Get Acrobat Reader [Download the latest](#) to view PDFs

http://www.itu.int/ti/index.htm

Start ITU: Tele... File Manager Microsoft Word Microsoft Po... Microsoft Exc... 11:41



International Telecommunication Union



~The End~



INTERNATIONAL TELECOMMUNICATION UNION

**TELECOMMUNICATION
DEVELOPMENT BUREAU**

INFORMATION SYSTEMS UNIT

Document WTIM99/8-E rev. 1

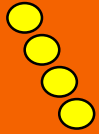
12 March 1999

Original: English

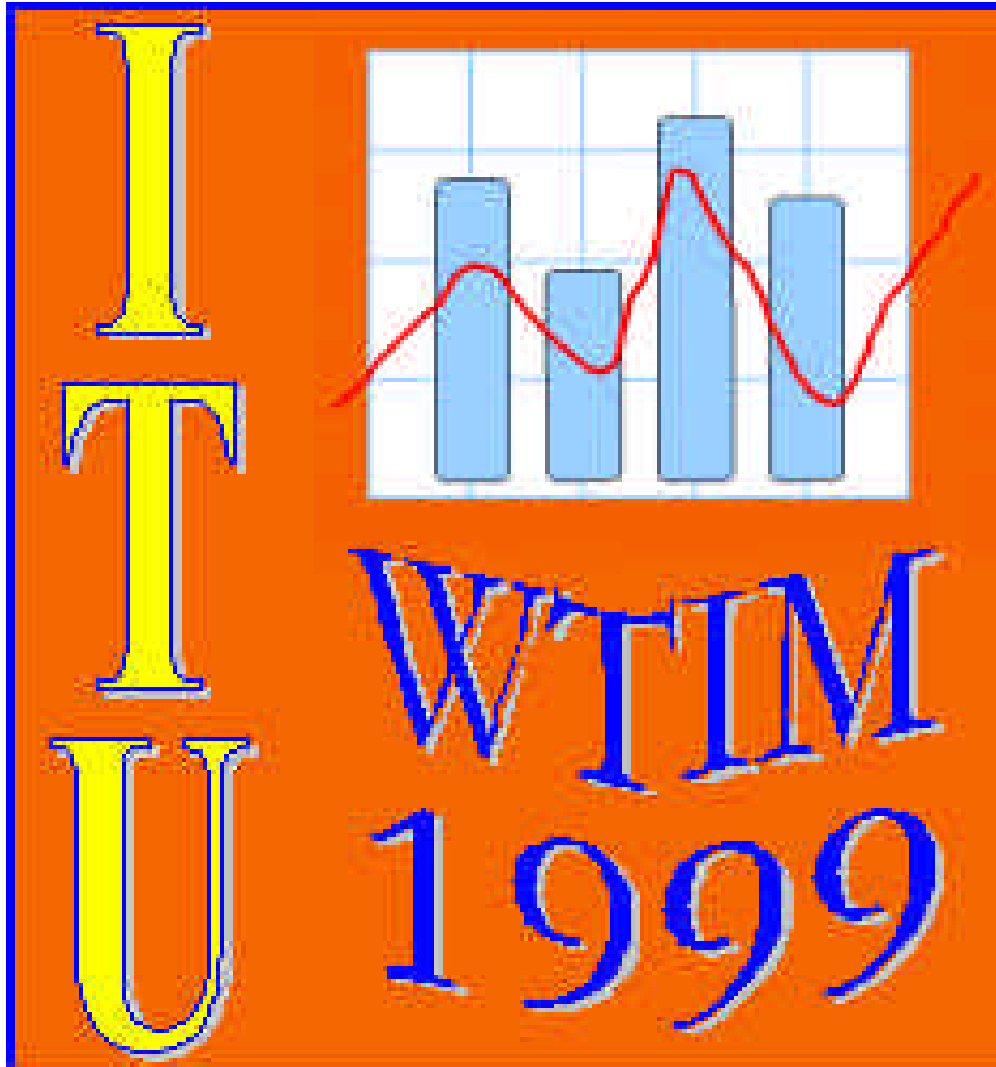
**2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)**

SOURCE: MR. OLIVIER BEAUVAIS, ITU/BDT

TITLE: OF DATA GATHERING AND DATA STORAGE



International Telecommunication Union



Of data gathering and data storage

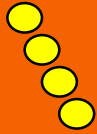
Olivier Beauvais

Telecommunication Development Bureau
(BDT)

International Telecommunication Union

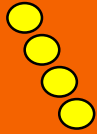
ITU

**2nd World Telecommunication
Indicators Meeting
Geneva, 29 - 31 March 1999**



Telecommunication data gathering

- Identify requirements
 - what goal: country / regional / operator
 - what type of data: annual / quarterly / monthly
 - what to get
 - what to report
- Development considerations



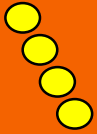
What is involved

Concept

- Data analysis
- Data gathering
- Data input (value & source)
- Data analysis again!
- Data output

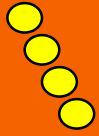
Database

- Questions/Interviews
- Input forms (prototype) & / or review forms
- check routines
- Reports



Time Series Databases

- Time Series database: a succession of compromises.
- Normalization database model
- De-normalization database model (performance issues)

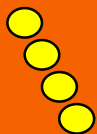


International Telecommunication Union



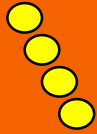
What does all this mean, and how
does it relate to us?

Thought I'd never ask!



Our database schema

- An operator specific table
- My country specific table
- My country/operators reports



Complete data availability of operators

Operators

Id	item	year	value
43	i007	1994	123
34	i007	1994	111

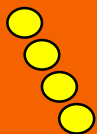
My country

Item	year	value
i007	1994	234

Sought result!

Item year value
i007 1994 234
of which we know
the 2 operators
(43 & 34)
whose figures are
 $123+111=234$

Could include
derived series



Incomplete or inconsistent data availability of operators

Operators

Id	item	year	value
43	i007	1994	123
34	i007	1994	111

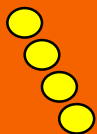
My country

Item	year	value
i007	1994	6000

Sought result!

Item year value
i007 1994 6000
of which we only know the figures of 2 operators (43 & 34 out of X number)
6000 <> 123+111

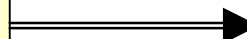
Could include derived series



Data by regions

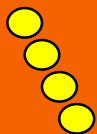
My country's regions
by operators
(cellular mobile)

Id	region	value
43	Geneva	10'000
43	Zurich	10'000
34	Geneva	20'000
34	Zurich	30'000



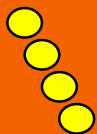
Sought result!

Region	value
Geneva	30'000
Zurich	40'000
Total:	70'000



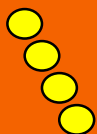
Example of a report by operator

Telecom statistics	<i>ZZZ</i>				My country
	1993	1994	1995	1996	1997
i75-Total revenue from all telecom services:					
Enormous Telecom biz		15.4	16.5	19.3	25.2
Total		15.4	16.5	19.3	25.2
i75\$-Telecommunication revenues (US\$):					
Enormous Telecom biz		23.6	26.1	30.0	37.3
Total		23.6	26.1	30.0	37.3



Example of a report by series

Telecom statistics			<i>ZZZ</i>			My country	
			1993	1994	1995	1996	1997
Q271-Cellular mobile telephone subscribers:							
Enormous Telecom biz	513	10x3	1'275.4	1'595.7	2'130.0	2'688.0	3'752.0
LightFast Telecom	716	10x3	0.0	18.0	154.0	474.0	900.0
Telecommunication at its best	255	10x3	493.0	850.0	1'457.0	2'313.0	3'542.0
SupraPlus	3513	10x3	0.0	0.0	0.0	0.0	0.0
Total			1'768.4	2'463.7	3'741.0	5'475.0	8'194.0



Example of questionnaire

Telecommunication profile **ITA** **Italy**
Profil des télécommunications **Italie**
 Perfil de telecomunicaciones **Italia**

Year Ending 31.12 / Année terminant le 31.12 / Año terminando 31.12

	1997	1998	1999
--	------	------	------

1 TELEPHONE NETWORK / RÉSEAU TELEPHONIQUE / RED TELEFONICA

i112	Main telephone lines in operation.....	25'698'000	25'986'120	
------	----------------------------------------	------------	------------	--

Lignes principales en service

Líneas principales telefónicas en función

i1142	Percent of main lines connected to digital exchanges.....	94.00	97.90	
-------	-----------------------------------------------------------	-------	-------	--

% de lignes principales raccordées à des centrales numériques

% de líneas principales conectadas a centrales digitales

2 MOBILE SERVICES / SERVICES MOBILES / SERVICIOS MOVILES

i271	Cellular mobile telephone subscribers.....	11'737'904	20'485'670	
------	--------------------------------------------	------------	------------	--

Abonnés au téléphone mobile cellulaire

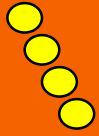
Abonados a teléfonos móviles celulares

2 OTHER SERVICES / AUTRES SERVICES / OTROS SERVICIOS

i28	Total number of ISDN subscribers.....	334'000	688'152	
-----	---------------------------------------	---------	---------	--

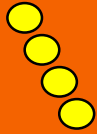
Nombre total d'abonnés au RNIS

Número total de abonados RDSI



Some truisms...

- Make input system easy for users
- Use validation rules for data entry
- Make output system generic: Do not create a new report for every scenario!



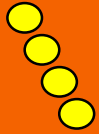
Generic report

The screenshot shows a dialog box titled "Options and parameters form" with a world map background. It contains several input fields and dropdown menus for configuring a report.

Report:	19-Mar-99 12:38	Trace file:	19-Mar-99_12-38-27.SQL
Reference year:	1995	Output raw data to Excel:	No
Frequency in year(s):	2	Date Time stamp:	None
Top:	12	Enter the first page number:	1
Enter item:	i271	Year of report:	1997

Buttons: Cancel, OK

Some truisms...



Some truisms...

- Provide import/export facility
- **BACKUP / RESTORE** facility

Click-select any fields below to start a list.

3	4		5	
Select	Select		Select	
1999	ZLA	_ Latin America & Carib.	i111	Telephone stations (sets)
1998	ZNA	_ North America	i1110	Number of local public switching exchanges
1997	ZAA	_ Other Africa	i1111	Percentage of households with a telephone
1996	ZAP	_ Other Asia-Pacific	i1111c	Residential main lines per 100 households
1995	ZEU	_ Other Europe	i1112	Public payphones
1994	ZWO	_ World	i1112a	Coin-operated payphones
1993	AFG	Afghanistan	i1112b	Card-operated payphones
1992	ALB	Albania	i1112c	Public call offices
1991	DZA	Algeria	i112	Main telephone lines in operation
1990	ASM	American Samoa	i1121	Main lines in largest city
1989	AND	Andorra	i1123	Main lines growth
1988	AGO	Angola	i113	Main lines connected to PBX
1987	AIA	Anguilla	i1131	Number of private branch exchanges (PBX)
1986	ATG	Antigua & Barbuda	i114	Percent of main lines connected to automatic exchanges
1985	ARG	Argentina	i1142	Percent of main lines connected to digital exchanges
1984	ARM	Armenia	i1143	% of main lines equipped for SS7
1983	ABW	Aruba	i1144	% of main lines equipped for ISDN
1982	ASC	Ascension	i115	% of main lines equipped for direct int'l dialling
1981	AUS	Australia	i116	Percent of main lines which are residential
1980	AUT	Austria	i1162	% of main lines in urban areas

Years	Countries	Time series

Click-select any fields below to start a list.

3 Select	4 Select	5 Select
1999	ZLA Latin America & Carib.	i111 Telephone stations (sets)
1998	ZNA North America	i1110 Number of local public switching exchanges
1997	ZAA Other Africa	i1111 Percentage of households with a telephone
1996	ZAP Other Asia-Pacific	i1111c Residential main lines per 100 households
1995	ZEU Other Europe	i1112 Public payphones
1994	ZWO World	i1112a Coin-operated payphones
1993	AFG Afghanistan	i1112b Card-operated payphones
1992	ALB Albania	i1112c Public call offices
1991	DZA Algeria	i112 Main telephone lines in operation
1990	ASM American Samoa	i1121 Main lines in largest city
1989	AND Andorra	i1123 Main lines growth
1988	AGO Angola	i113 Main lines connected to PBX
1987	AIA Anguilla	i1131 Number of private branch exchanges (PBX)
1986	ATG Antigua & Barbuda	i114 Percent of main lines connected to automatic exchanges
1985	ARG Argentina	i1142 Percent of main lines connected to digital exchanges
1984	ARM Armenia	i1143 % of main lines equipped for SS7
1983	ABW Aruba	i1144 % of main lines equipped for ISDN
1982	ASC Ascension	i115 % of main lines equipped for direct int'l dialling
1981	AUS Australia	i116 Percent of main lines which are residential
1980	AUT Austria	i1162 % of main lines in urban areas

List of selected years:	Total: 4	Countries	Time series
1998:1997:1996:1995			

Click-select any fields below to start a list.

3	4	5
Select	Select	Select
1999	ZLA Latin America & Carib.	i111 Telephone stations (sets)
1998	ZNA North America	i1110 Number of local public switching exchanges
1997	ZAA Other Africa	i1111 Percentage of households with a telephone
1996	ZAP Other Asia-Pacific	i1111c Residential main lines per 100 households
1995	ZEU Other Europe	i1112 Public payphones
1994	ZWO World	i1112a Coin-operated payphones
1993	AFG Afghanistan	i1112b Card-operated payphones
1992	ALB Albania	i1112c Public call offices
1991	DZA Algeria	i112 Main telephone lines in operation
1990	ASM American Samoa	i1121 Main lines in largest city
1989	AND Andorra	i1123 Main lines growth
1988	AGO Angola	i113 Main lines connected to PBX
1987	AIA Anguilla	i1131 Number of private branch exchanges (PBX)
1986	ATG Antigua & Barbuda	i114 Percent of main lines connected to automatic exchanges
1985	ARG Argentina	i1142 Percent of main lines connected to digital exchanges
1984	ARM Armenia	i1143 % of main lines equipped for SS7
1983	ABW Aruba	i1144 % of main lines equipped for ISDN
1982	ASC Ascension	i115 % of main lines equipped for direct int'l dialling
1981	AUS Australia	i116 Percent of main lines which are residential
1980	AUT Austria	i1162 % of main lines in urban areas

List of selected years:	Total
1998:1997:1996:1995	4

Selected country:	Total
ARG	1

Time series

3 Select

4 Region

5 Select

- 1999
- 1998
- 1997
- 1996
- 1995
- 1994
- 1993
- 1992
- 1991
- 1990
- 1989
- 1988
- 1987
- 1986
- 1985
- 1984
- 1983
- 1982
- 1981
- 1980
- 1979

BORG	
CTO	
GBT	
AF	AFRICA
BDT	AFRICA
AICEP	AICEP
AM	Americas
APEC	APEC
AR	Arab States
BDT	Arab States
ASEAN	ASEAN
AS	Asia
AP	Asia-Pacific
AP97	Asia-Pacific
BDT	Asia-Pacific
BS	Black Sea
CAR	Caribbean

i111	Telephone stations (sets)
i1110	Number of local public switching exchanges
i1111	Percentage of households with a telephone
i1111c	Residential main lines per 100 households
i1112	Public payphones
i1112a	Coin-operated payphones
i1112b	Card-operated payphones
i1112c	Public call offices
i112	Main telephone lines in operation
i1121	Main lines in largest city
i1123	Main lines growth
i113	Main lines connected to PBX
i1131	Number of private branch exchanges (PBX)
i114	Percent of main lines connected to automatic exchanges
i1142	Percent of main lines connected to digital exchanges
i1143	% of main lines equipped for SS7
i1144	% of main lines equipped for ISDN
i115	% of main lines equipped for direct int'l dialling
i116	Percent of main lines which are residential
i1162	% of main lines in urban areas

union intersection all exclusion

Accept region selection

List of selected years: Total 4
 1998:1997:1996:1995

List of selected regions: Total 2
 AICEP:ASEAN

Time series

Click-select any fields below to start a list.

3	4	5	
Select	Select	Select	
1999	ZLA Latin America & Carib.	All	Telephone stations (sets)
1998	ZNA North America	None	Number of local public switching exchanges
1997	ZAA Other Africa	Swap	Percentage of households with a telephone
1996	ZAP Other Asia-Pacific	Category	Residential main lines per 100 households
1995	ZEU Other Europe	Default	Public payphones
1994	ZWO World	i112a	Coin-operated payphones
1993	AFG Afghanistan	i112b	Card-operated payphones
1992	ALB Albania	i112c	Public call offices
1991	DZA Algeria	i112	Main telephone lines in operation
1990	ASM American Samoa	i1121	Main lines in largest city
1989	AND Andorra	i1123	Main lines growth
1988	AGO Angola	i113	Main lines connected to PBX
1987	AIA Anguilla	i1131	Number of private branch exchanges (PBX)
1986	ATG Antigua & Barbuda	i114	Percent of main lines connected to automatic exchanges
1985	ARG Argentina	i1142	Percent of main lines connected to digital exchanges
1984	ARM Armenia	i1143	% of main lines equipped for SS7
1983	ABW Aruba	i1144	% of main lines equipped for ISDN
1982	ASC Ascension	i115	% of main lines equipped for direct int'l dialling
1981	AUS Australia	i116	Percent of main lines which are residential
1980	AUT Austria	i1162	% of main lines in urban areas

List of selected years:	Total: 4	Selected country:	Total: 1	Time series
1998;1997;1996;1995		ARG		

Click-select any fields below to start a list.

3	4	5
Select	Select	Select
1999	ZLA Latin America & Carib.	All telephone stations (sets)
1998	ZNA North America	None number of local public switching exchanges
1997	ZAA Other Africa	Swap percentage of households with a telephone
1996	ZAP Other Asia-Pacific	Category residential main lines per 100 households
1995	ZEU Other Europe	Default public payphones
1994	ZWO World	i112a Coin-operated payphones
1993	AFG Afghanistan	i112b Card-operated payphones
1992	ALB Albania	i112c Public call offices
1991	DZA Algeria	i112 Main telephone lines in operation
1990	ASM American Samoa	i1121 Main lines in largest city
1989	AND Andorra	i1123 Main lines growth
1988	AGO Angola	i113 Main lines connected to PBX
1987	AIA Anguilla	i1131 Number of private branch exchanges (PBX)
1986	ATG Antigua & Barbuda	i114 Percent of main lines connected to automatic exchanges
1985	ARG Argentina	i1142 Percent of main lines connected to digital exchanges
1984	ARM Armenia	i1143 % of main lines equipped for SS7
1983	ABW Aruba	i1144 % of main lines equipped for ISDN
1982	ASC Ascension	i115 % of main lines equipped for direct int'l dialling
1981	AUS Australia	i116 Percent of main lines which are residential
1980	AUT Austria	i1162 % of main lines in urban areas

List of selected years:	Total: 4
1998:1997:1996:1995	

Selected country:	Total: 1
ARG	

Time series

3 Select

- 1999
- 1998
- 1997
- 1996
- 1995
- 1994
- 1993
- 1992
- 1991
- 1990
- 1989
- 1988
- 1987
- 1986
- 1985
- 1984
- 1983
- 1982
- 1981
- 1980

4 Select

- ZLA Latin America & Carib.
- ZNA North America
- ZAA Other Africa
- ZAP Other Asia-Pacific
- ZEU Other Europe
- ZWO World
- AFG Afghanistan
- ALB Albania
- DZA Algeria
- ASM American Samoa
- AND Andorra
- AGO Angola
- AIA Anguilla
- ATG Antigua & Barbuda
- ARG Argentina
- ARM Armenia
- ABW Aruba
- ASC Ascension
- AUS Australia
- AUT Austria

5 Category

- BALANCE SHEET
- BROADCASTING
- CAPITAL EXPENDITURE
- DEMOGRAPHY, ECONOMY
- INFORMATION TECHNOLOGY
- MOBILE SERVICES
- OTHER SERVICES
- QUALITY OF SERVICE
- REVENUE AND EXPENSE
- STAFF
- TARIFFS (LOCAL CURRENCY)
- TELEPHONE NETWORK
- TRAFFIC

Accept category selection

List of selected years:	Selected country:	Categories
1998;1997;1996;1995	ARG	

3 Select

- 1999
- 1998
- 1997
- 1996
- 1995
- 1994
- 1993
- 1992
- 1991
- 1990
- 1989
- 1988
- 1987
- 1986
- 1985
- 1984
- 1983
- 1982
- 1981
- 1980

4 Select

- ZLA Latin America & Carib.
- ZNA North America
- ZAA Other Africa
- ZAP Other Asia-Pacific
- ZEU Other Europe
- ZWO World
- AFG Afghanistan
- ALB Albania
- DZA Algeria
- ASM American Samoa
- AND Andorra
- AGO Angola
- AIA Anguilla
- ATG Antigua & Barbuda
- ARG Argentina**
- ARM Armenia
- ABW Aruba
- ASC Ascension
- AUS Australia
- AUT Austria

5 Category

- BALANCE SHEET
- BROADCASTING
- CAPITAL EXPENDITURE
- DEMOGRAPHY, ECONOMY
- INFORMATION TECHNOLOGY
- MOBILE SERVICES**
- OTHER SERVICES
- QUALITY OF SERVICE
- REVENUE AND EXPENSE
- STAFF
- TARIFFS (LOCAL CURRENCY)
- TELEPHONE NETWORK
- TRAFFIC

Accept category selection

List of selected years: Total: 4
 1998;1997;1996;1995

Selected country: Total: 1
 ARG

Selected category: Total: 1
 MOBILE SERVICES

Click-select any fields below to start a list.

3 Select

- 1999
- 1998
- 1997
- 1996
- 1995
- 1994
- 1993
- 1992
- 1991
- 1990
- 1989
- 1988
- 1987
- 1986
- 1985
- 1984
- 1983
- 1982
- 1981
- 1980

4 Select

- ZLA Latin America & Carib.
- ZNA North America
- ZAA Other Africa
- ZAP Other Asia-Pacific
- ZEU Other Europe
- ZWO World
- AFG Afghanistan
- ALB Albania
- DZA Algeria
- ASM American Samoa
- AND Andorra
- AGO Angola
- AIA Anguilla
- ATG Antigua & Barbuda
- ARG Argentina**
- ARM Armenia
- ABW Aruba
- ASC Ascension
- AUS Australia
- AUT Austria

5 Select

Category: MOBILE SERVICES 1

- i271 Cellular mobile telephone subscribers
- i2711 Analog cellular subscribers
- i2712 Digital cellular subscribers
- i271p Cellular mobile subscribers - prepaid card
- i272 Trunked mobile subscribers
- i273 CT2 (telepoint) subscribers
- i274 Personal Communication Service (PCS) subscribers
- i275 Radio paging subscribers
- i276 Non-cellular mobile subscribers

List of selected years: Total: 4
 1998;1997;1996;1995

Selected country: Total: 1
 ARG

List of selected series: Total: 9
 i271;i2711;i2712;i271p;i272;i273;i274;i275;i276

Language selection

- English Français Español

Language sorting preference

De/select one or more fields. Pairs need at least one box checked if several of their respective elements are selected

- | | |
|-----------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Country name | <input checked="" type="checkbox"/> Series name |
| <input type="checkbox"/> Country code b | <input checked="" type="checkbox"/> Series code |

See the result of the [Query](#)

Click runs the query: shows the tabulated result.
Shift click opens the query in design mode.

```
[["i271","i2711","i2712","i271p","i272","i273","i274","i275","i276"])]
```

[More options](#)

Select a kind of query

- One TS table many items
- One TS table per item

Choose a sorting key

- Sort by country names
- Sort by country codes
- Sort by series names
- Sort by series codes

Select an extract option, then press the "Go ahead" button

- Extract to Excel
- Extract to Text
- Extract to Rich Text Format
- Extract to HTML

Automatic output file name

Go ahead

Language selection

English Français Español

Language sorting preference

De/select one or more fields. Pairs need at least one box checked if several of their respective elements are selected

Country name Series name
 Country code b Series code

See the result of the Query

Click runs the query: shows the tabulated result.
Shift click opens the query in design mode.

[["i271","i2711","i2712","i271p","i272","i273","i274","i275","i276"])]

More options

Select a kind of query One TS table many items
 One TS table per item

Choose a sorting key Sort by country names
 Sort by country codes
 Sort by series names
 Sort by series codes

Select an extract option, then press the "Go ahead" button
 Extract to Excel
 Extract to Text
 Extract to Rich Text Format
 Extract to HTML

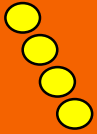
Manual output file name

C:\ExtractFiles\AutoQuery_Beauvais_3.HTML

Go ahead

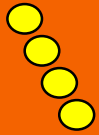
AutoQuery_Beauvais_3

Time series	Series Code	1995	1996	1997	1998
Radio paging subscribers	i275				
Personal Communication Service (PCS) subscribers	i274				
CT2 (telepoint) subscribers	i273				
Trunked mobile subscribers	i272				
Cellular mobile subscribers - prepaid card	i271p				
Digital cellular subscribers	i2712	0.00	0.00		
Analog cellular subscribers	i2711	340'743.00	568'278.00		
Cellular mobile telephone subscribers	i271	340'743.00	667'020.00	2'009'073.00	

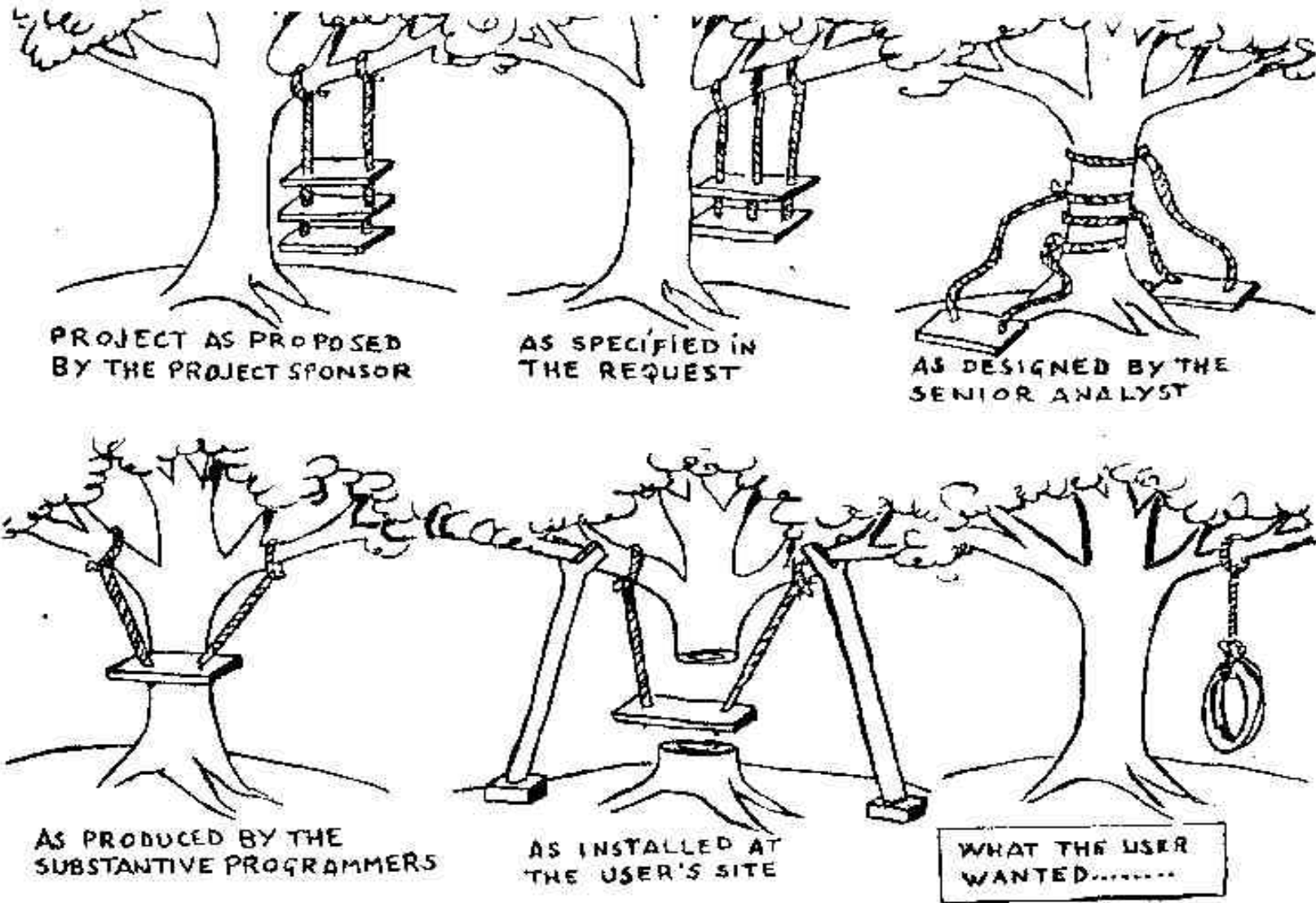


Some truisms...

- Keep design team small
- Think user's requirements
- Think user's requirements
- Think user's requirements
- Think user's requirements



International Telecommunication Union



From Computer Weekly UK ca 1968



INTERNATIONAL TELECOMMUNICATION UNION

**TELECOMMUNICATION
DEVELOPMENT BUREAU
INFORMATION SYSTEMS UNIT**

**Document WTIM99/33-E
26 March 1999
Original: English**

**2nd World Telecommunication Indicators Meeting
(Geneva, 29 - 31 March 1999)**

SOURCE: MR. PAOLO LABOMBARDA, CONSIEL MANAGEMENT CONSULTING, ITALY

TITLE: TELECOM STATISTICS FROM A USER'S PERSPECTIVE



NEEDS for DATA and STATISTICS



CONSIEL - Management Consulting & HRR Development

WTIM '99

08.04.99

CONSIEL - Paolo Labombarda

1



•
•
•

A FEW NOTES on

- 1. CONSIEL**
- 2. INTERNATIONAL DEVELOPMENT**
- 3. INTERNATIONAL ICT EXPERIENCES**
- 4. DATA VALUE CREATION**
- 5. SOURCES OF INFORMATION**
- 6. CONTACT**

CONSIEL

- **MISSION:** MANAGEMENT CONSULTING AND HHRR DEVELOPMENT
- **OWNERS:** TELECOM ITALIA (70%) AND INDIVIDUAL PARTNERS (30%)
- **SIZE:** 300 CONSULTANTS / 60 MUS\$ REVENUES (40% ICT SECTOR)
- **HEADQUARTES:** MILANO (ITALY)
- **RANK:** n. 3 IN ITALY / n. 1 ITALIAN

-
-
-

INTERNATIONAL DEVELOPMENT

- **STRATEGIC GEOGRAPHICAL AREAS**
 - EUROPE (FRANCE, ...)
 - LATIN AMERICA (ARGENTINA, BRASIL, ...)
 - ...
- **TACTICS:**
 - JOINT VENTURES WITH LOCAL COMPANIES

INTERNATIONAL ICT EXPERIENCES

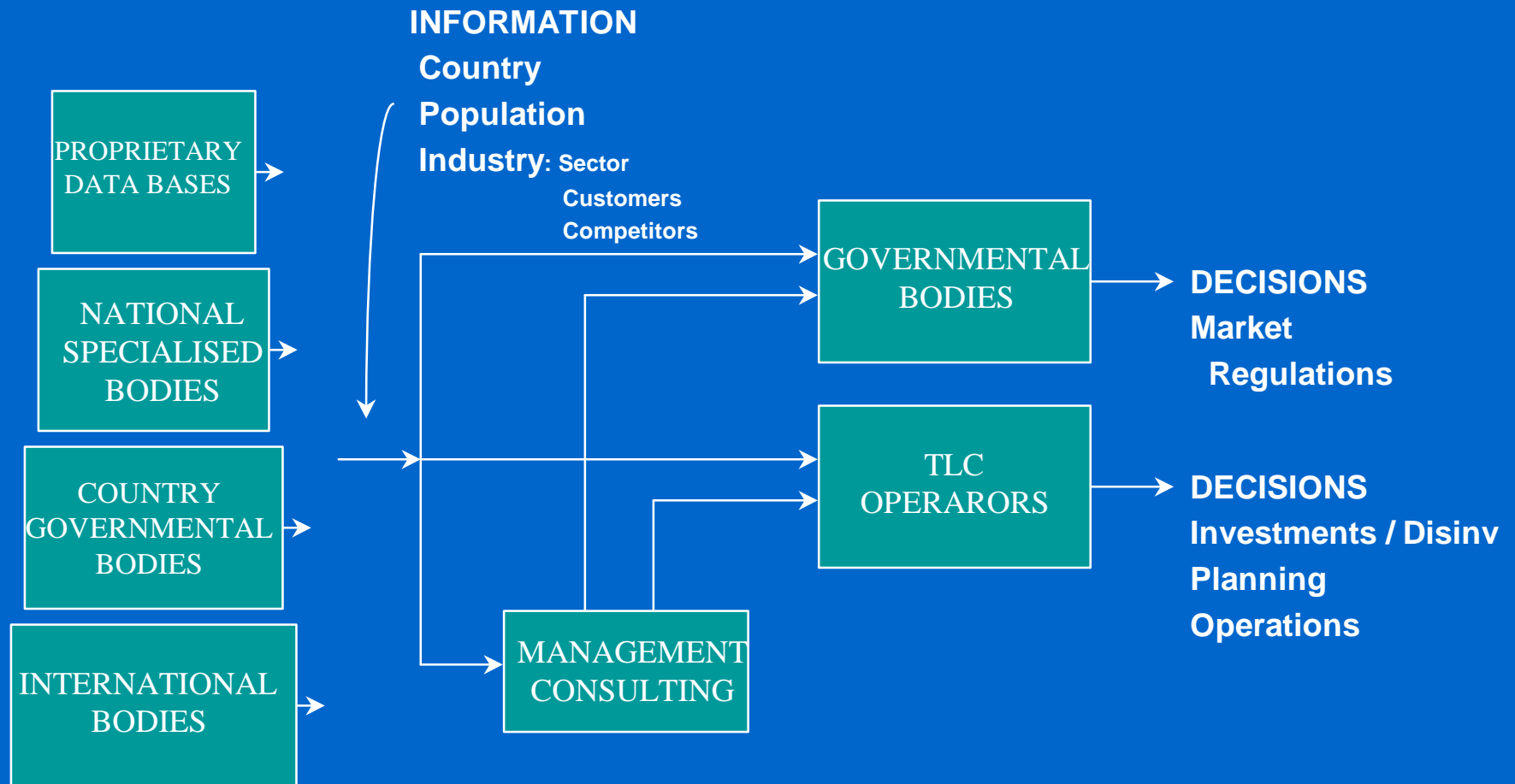
- **CUSTOMERS:**

- TLC (9TELECOM, TELECOM ARGENTINA, TELECOM PERSONAL, STARTEL, TELESP, TELECOM ITALIA do BRASIL, TELE CELULAR SUL, ENTEL CHILE, ETECSA, ENTEL BOLIVIA,)
- IT (PRODESP, PROCERGS, ...)

- **MAIN BUSINESS AREAS:**

- COST RATIONALISATION (PRIVATIZATION)
- MARKET POSITIONING (LIBERALIZATION)
- CHANGE MANAGEMENT

DATA VALUE CREATION



•
•
•

SOURCES OF INFORMATION

- **COUNTRY GOVERNMENTAL BODIES**

GOVERNMENT, NATIONAL STATISTICS
INSTITUTE, TLC AUTHORITY

- **PROPRIETARY DATA BASES**

MARKETING INTELLIGENCE

- **NATIONAL SPECIALISED BODIES**

FCC, OFTEL, ...

- **INTERNATIONAL BODIES**

ITU, OECD, UE



CONTACT

- **Paolo Labombarda**

phone: + 39.335.6204026
+ 39.06.84401621

e_mail: p.labombarda@finsiel.it

www.consiel.it

