

# TELCOS & HI-TECH

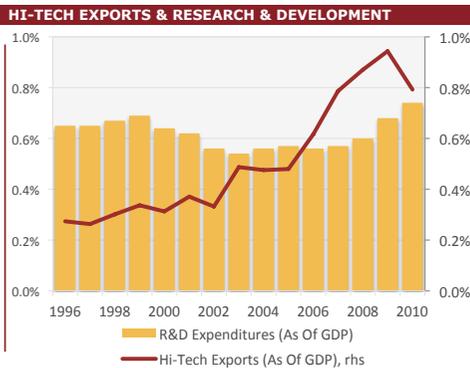
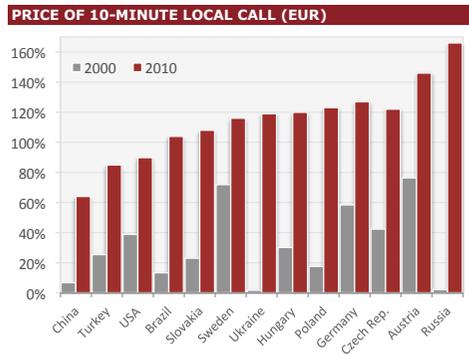
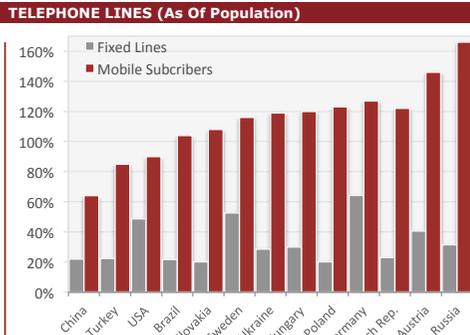
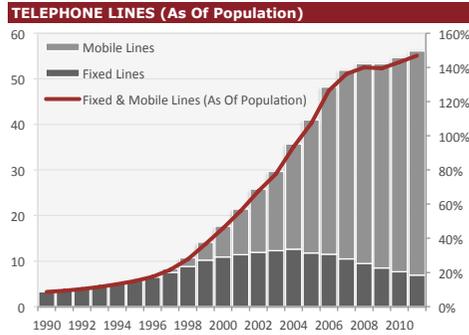
Helgi's Pocket Guide

December 2012



Poland

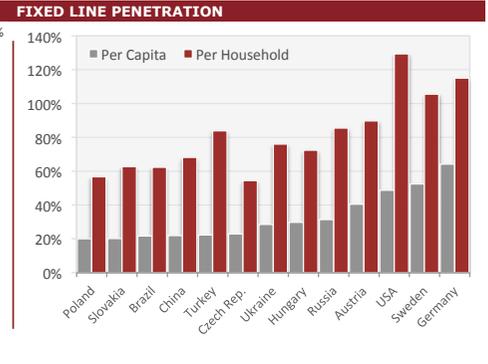
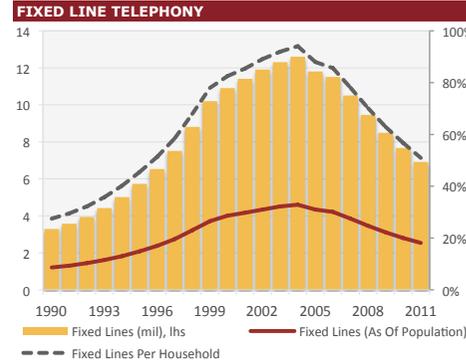
POLISH TELCOS AT A GLANCE	1990	1995	2000	2005	2010
Number Of Fixed Lines (mil)	3.29	5.73	10.90	11.80	7.67
Fixed Line Penetration (As Of Population)	8.7%	15%	29%	31%	20%
Fixed Lines Per Household	27%	46%	82%	88%	57%
Market Share Of Incumbent Fixed Line Operator				85%	
Mobile Cellular Subscriptions (mil)	0.08	6.75	29.2	47.0	
Mobile Phone Penetration (As Of Population)	0%	18%	76%	123%	
Market Share Of The Largest Mobile Operator			36%	31%	
Number Of Fixed Broadband Internet Connections (mil)			0.95	4.96	
Fixed Broadband Internet Lines Per Household			7.0%	37%	
Number Of Personal Computers (mil)	0.30	1.10	2.67	5.35	
Personal Computers Per Household	2.5%	8.7%	20%	40%	
R&D Expenditures (As Of GDP)			0.64%	0.57%	0.74%
High-Tech Exports (As Of GDP)		1.3%	1.8%	2.3%	4.2%



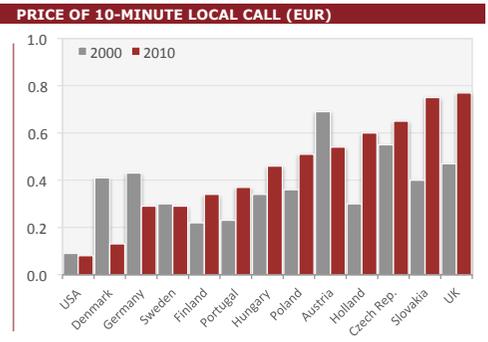
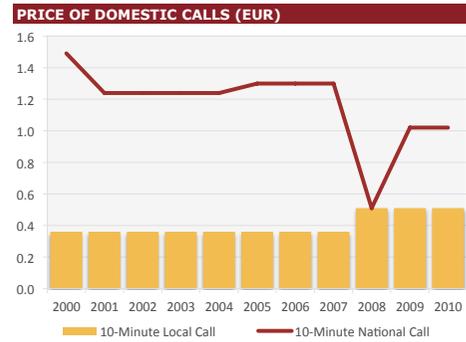
Source: World Bank, National Statistical Office, United Nations, OECD, Helgi Analytics calculation



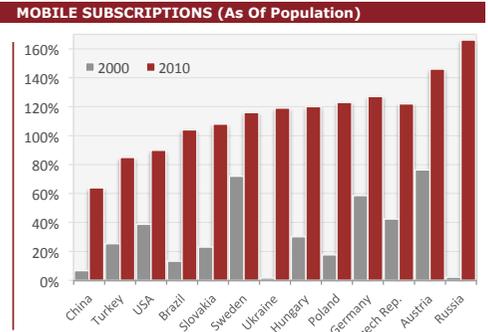
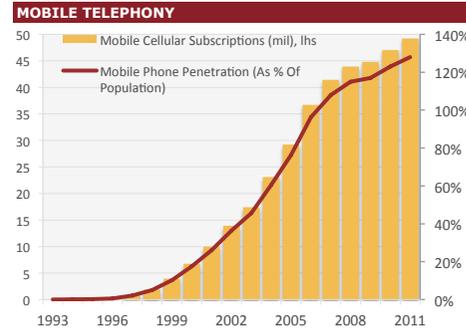
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The fixed line business peaked in 2004, when the penetration of fixed lines reached 33% of the population. Since then, it has been replaced by mobile telephony. Having said that, the overall penetration of telephone lines (both fixed and mobile) has been rising, to around 1.4 lines per person in 2010.



Slow deregulation and weak regulators are among the reasons why Central Europeans pay so much for their phone bills. According to Eurostat, Poles paid EUR 0.51 on average for a 10-minute local call in 2010. This is lower than in the neighbouring Czech or Slovak Republics, but it is still above the EU average.



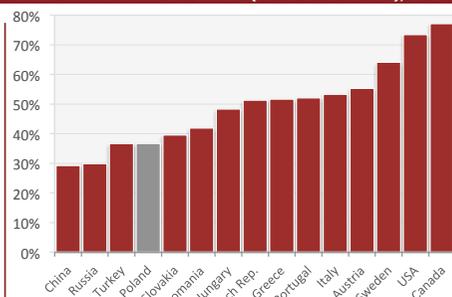
As new technologies appeared and many technical gadgets became an integral part of people's lives, mobile phones became very popular and very common in Poland. In 2011, there were 1.23 mobile phones (or subscriptions) per person on average, one of the highest figures worldwide.

Source: World Bank, National Statistical Office, United Nations, OECD, Helgi Analytics calculation

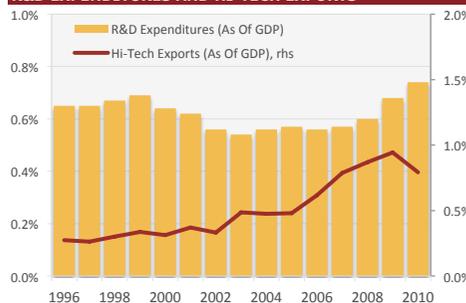
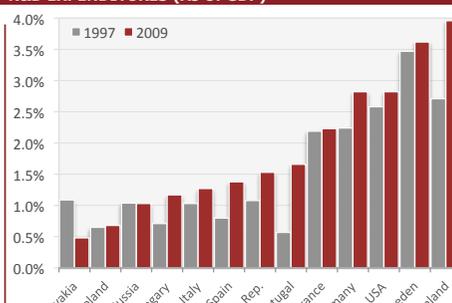


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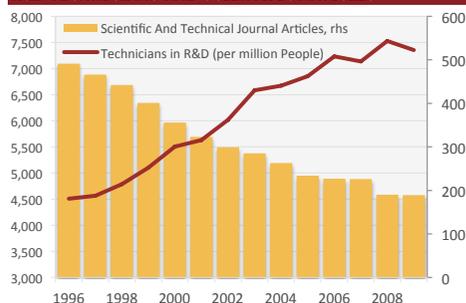
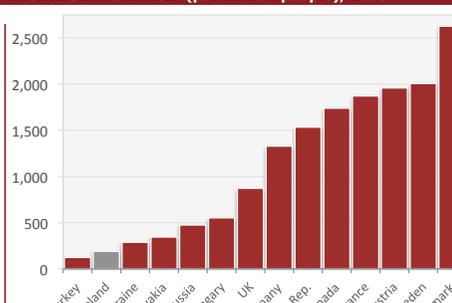
**FIXED BROADBAND INTERNET**

**FIXED BROADBAND INTERNET (As Of Households), 2010**


Similarly to the rest of the developed world, internet penetration, quality and speed have improved dramatically over the last decade. From nothing 10 years ago, approximately every third Polish household has a fixed broadband connection now, while 62% of the population is estimated to be using the internet, according to the World Bank's figures.

**R&D EXPENDITURES AND HI-TECH EXPORTS**

**R&D EXPENDITURES (As Of GDP)**


Research and development is one of the key weaknesses of the Polish economy. With R&D expenditures at only 0.6% of GDP, Poland invests a third less than Hungary and two thirds less money than the Czech Republic into sources of potential future growth (with the EU average being 1.83% of GDP). One out of every four Polish companies is regarded as innovative according to one poll, compared to more than 54% in the EU.

**R&D TECHNICIANS AND SCIENTIFIC ARTICLES**

**TECHNICIANS IN R&D (per million people), 2009**


Low R&D expenditures are also reflected in the number of research personnel. Unfortunately, Poland has one of the lowest numbers of R&D technicians (compared to the size of the population); on the other hand, at least the trend is positive.

Source: World Bank, National Statistical Office, United Nations, OECD, Helgi Analytics calculation



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**POPULATION**

		2003	2004	2005	2006	2007	2008	2009	2010	2011
Population	mil	38.2	38.2	38.2	38.1	38.1	38.1	38.2	38.2	38.2
Population (As % Of World Population)	%	0.60%	0.59%	0.59%	0.58%	0.57%	0.57%	0.56%	0.55%	0.55%
Persons Per Household	persons	2.86	2.85	2.85	2.84	2.83	2.83	2.83	2.83	2.81
Share Of Population (0-14 Years Of Age)	%	18%	17%	17%	16%	16%	15%	15%	15%	15%
Share Of Population (15-64 Years Of Age)	%	70%	70%	70%	71%	71%	71%	72%	72%	72%
Share Of Population (65+ Years Of Age)	%	13%	13%	13%	13%	13%	13%	14%	14%	14%
Median Age	years	36.1	36.3	36.6	36.9	37.2	37.4	37.7	38.0	38.3
Old Age Dependency Ratio	%	19%	19%	19%	19%	19%	19%	19%	19%	19%
Youth Dependency Ratio	%	25%	24%	23%	23%	22%	21%	21%	21%	21%
Life Expectancy, both sexes	years	74.6	74.8	75.0	75.1	75.2	75.5	75.7	76.2	76.2
Life Expectancy At 65, both sexes	years	16.2	16.5	16.7	17.0	17.0	17.2	17.3	17.6	17.6
Total Fertility Rate	children	1.22	1.23	1.24	1.27	1.31	1.39	1.40	1.38	1.38
Urban Population As Of Total	%	62%	62%	61%	61%	61%	61%	61%	61%	61%

**TELECOMMUNICATION & INTERNET**

		2003	2004	2005	2006	2007	2008	2009	2010	2011
Telecommunication Revenues	USD mil	7,650	9,589	11,443	12,951	15,153	17,884	13,849		
Telecommunication Employees	persons	53,928	50,455	55,280	54,058					
Number Of Fixed Lines	mil	12.30	12.60	11.80	11.50	10.50	9.45	8.49	7.67	6.92
Fixed Line Penetration (As Of Population)	%	32%	33%	31%	30%	28%	25%	22%	20%	18%
Fixed Lines Per Household	%	0.92	0.94	0.88	0.86	0.78	0.70	0.63	0.57	0.51
Market Share Of Incumbent Fixed Line Operator	%	91%	89%	85%						
Mobile Cellular Subscriptions	mil	17.4	23.1	29.2	36.7	41.4	43.9	44.8	47.0	49.2
Mobile Phone Penetration (As Of Population)	%	46%	61%	76%	96%	108%	115%	117%	123%	128%
Market Share Of The Largest Mobile Operator	%	0%	38%	36%	34%	36%	33%	33%	31%	
Price Of 10-Minute Local Call	EUR	0.36	0.36	0.36	0.36	0.36	0.51	0.51	0.51	
Price Of 10-Minute Inland Long-Distance Call	EUR	1.24	1.24	1.30	1.30	1.30	0.51	1.02	1.02	
Price Of 10-Minute International Call To USA	EUR	10.72	3.72	3.79	3.76	3.76	2.97	1.24	1.24	
Number Of Fixed Broadband Internet Connections	mil	0.20	0.88	0.95	2.91	4.17	3.99	4.80	4.96	
Fixed Broadband Internet Lines (As Of Population)	%	0.5%	2.3%	2.5%	8%	11%	10%	13%	13%	
Fixed Broadband Internet Lines Per Household	%	1.5%	6.5%	7.0%	22%	31%	30%	36%	37%	
Share Of Population Using Internet	%			7.3%	10%	21%	25%	33%	39%	45%
Number Of Personal Computers	mil	5.48	4.52	5.35	6.46					
Personal Computers Penetration (As Of Population)	%	14%	12%	14%	17%					
Personal Computers Per Household	%	41%	34%	40%	48%					

**HIGH TECHNOLOGY AND RESEARCH**

		2003	2004	2005	2006	2007	2008	2009	2010	2011
R&D Expenditures (As % Of GDP)	%	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%	0.7%	0.7%	
Researchers In R&D Per mil People	persons	1,534	1,596	1,629	1,561	1,608	1,618	1,598		
Hi-Tech Exports (Current USD)	USD mil	1,337	1,989	2,645	3,225	3,371	5,907	6,627	8,378	
Hi-Tech Exports (As % Of Total Exports)	%	1.9%	2.1%	2.3%	2.3%	1.9%	2.8%	3.9%	4.2%	
Hi-Tech Exports (As % Of GDP)	%	0.6%	0.8%	0.9%	0.9%	0.8%	1.1%	1.5%	1.8%	
Patent Applications (Non-Residents)	patents	3,973	5,359	4,555	655	361	290	241	227	
Patent Applications (Residents)	patents	2,268	2,381	2,028	2,157	2,392	2,488	2,899	3,203	
Scientific And Technical Journal Articles	articles	6,582	6,672	6,854	7,232	7,138	7,529	7,355		
Secure Internet Servers	servers	389	565	838	1,451	2,104	3,229	4,693	8,049	10,306
Secure Internet Servers (Per 1 mil People)	servers	10	15	22	38	55	85	123	211	270
Technicians In R&D (per million People)	persons	285	263	234	227	226	190	189		
Trademark Applications (Direct Non-resident)	apps.	1,898	1,153	984	1,318	1,100	1,081	913	918	
Trademark Applications (Direct Resident)	apps.	13,281	13,776	13,828	14,043	13,951	14,705	13,229	14,064	
Trademark Applications (Total)	apps.	24,611	22,536	21,654	21,462	20,614	20,609	17,877	18,251	
Trademark Applications (Madrid)	apps.	9,432	7,607	6,842	6,101	5,563	4,823	3,735	3,269	

Source: World Bank, National Statistical Office, United Nations, OECD, Helgi Analytics calculation. For more details, description and explanation of particular indicators, please, visit [www.helgilibrary.com](http://www.helgilibrary.com)



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MACROECONOMIC ROUND-UP		2003	2004	2005	2006	2007	2008	2009	2010	2011
GDP	USD bil	216.8	252.8	303.9	341.7	425.3	529.4	430.9	469.8	514.5
GDP Growth	%	3.9%	5.3%	3.6%	6.2%	6.8%	5.1%	1.6%	3.9%	4.4%
GDP Per Capita	USD	5,675	6,620	7,963	8,958	11,157	13,886	11,294	12,303	13,463
Industrial Production Growth	%	8.8%	12.7%	3.7%	12.0%	9.3%	2.7%	-3.8%	11.1%	6.9%
Retail Sales Growth	%									
Government Budget Balance (As % Of GDP)	%	-6.3%	-5.7%	-4.1%	-3.6%	-1.9%	-3.7%	-7.4%	-7.9%	-5.1%
Public Debt (As % Of GDP)	%	47%	46%	47%	48%	45%	47%	51%	55%	56%
Unemployment Rate	%	19.6%	19.0%	17.7%	13.8%	9.6%	7.1%	8.2%	9.6%	10.0%
Gross Average Monthly Wage	USD	635	693	791	839	986	1,239	1,000	1,070	1,145
Foreign Debt (As % Of GDP)	%	49%	51%	44%	50%	55%	46%	65%	66%	
Imports (As % Of GDP)	%	36%	40%	38%	42%	44%	44%	39%	44%	
Exports (As % Of GDP)	%	33%	38%	37%	40%	41%	40%	39%	42%	
Current Account Balance (As % Of GDP)	%	-2.5%	-5.2%	-2.4%	-3.9%	-6.2%	-6.6%	-4.0%	-4.7%	-4.3%
Foreign Exchange Reserves (Including Gold)	USD bil	34.0	36.8	42.6	48.5	65.7	62.2	79.5	93.5	97.7
Foreign Exchange Reserves (As % Of Imports)	%	44%	37%	37%	34%	35%	27%	47%	46%	
Foreign Direct Investments	USD bil	4.6	12.7	11.1	21.5	25.6	15.0	14.4	17.1	15.3
Foreign Direct Investments (As % Of GDP)	%	2.1%	5.0%	3.6%	6.3%	6.0%	2.8%	3.3%	3.6%	3.0%
Foreign Direct Investments (As % Of CA Deficit)	%	84%	96%	153%	164%	96%	43%	84%	78%	69%
Workers' Remittances, Received (As % Of GDP)	%	1.1%	1.9%	2.1%	2.5%	2.5%	2.0%	1.9%	1.6%	1.5%
Portfolio Investments (As % Of GDP)	%	1.1%	3.7%	4.1%	-0.9%	-1.5%	-0.4%	3.4%	5.4%	3.3%
Development Assistance (As % Of GDP)	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

INFLATION, FOREX & INTEREST RATES		2003	2004	2005	2006	2007	2008	2009	2010	2011
Inflation, CPI (Average)	%	0.8%	3.6%	2.1%	1.1%	2.4%	4.3%	3.5%	2.5%	4.3%
Long-Term Interest Rate (10-Year Gov. Bond Yield)	%	5.8%	6.9%	5.2%	5.2%	5.5%	6.1%	6.1%	5.8%	0.0%
Short-Term Interbank Interest Rate (3-Month)	%	5.7%	6.2%	5.2%	4.2%	4.8%	6.3%	4.3%	3.9%	4.6%
Interest Spread To USD, 10-Year Gov. Bond	%	1.8%	2.6%	0.9%	0.4%	0.9%	2.4%	2.9%	2.6%	-2.8%
Interest Spread To USD, 3M IBOR	%	4.5%	4.7%	1.7%	-1.0%	-0.5%	3.1%	3.4%	3.4%	4.2%
FX Rate To USD (Average)	per USD	3.89	3.65	3.24	3.10	2.76	2.41	3.12	3.02	2.96
FX Rate To EUR (Average)	per EUR	4.40	4.53	4.02	3.90	3.78	3.51	4.33	3.99	4.12

Source: World Bank, National Statistical Office, United Nations, OECD, Helgi Analytics calculation. For more details, description and explanation of particular indicators, please, visit [www.helgilibrary.com](http://www.helgilibrary.com)



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Helgi Analytics is a consulting company based in the Czech Republic. The company mainly provides consultancy in the area of financial services and real estate and focuses primarily on the region of Central and Eastern Europe.

Helgi Analytics also runs a web application called Helgi Library, which is a database/library offering data and analyses on more than 95% of the world's economy and population. The Library aims to bring interesting statistical data and analyses to a wide audience under affordable conditions. If you wish to get more details, please visit [www.helgilibrary.com](http://www.helgilibrary.com) or contact us at [info@helgianalytics.com](mailto:info@helgianalytics.com).

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