



# **Digital Planet 2000: The Global Information Economy**

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Growing bigger than ever. Redefining the social landscape. Building the first truly global economy. And the story is just beginning. What is it all about? Information and communication technology (ICT), of course.

The surge in the ICT industry, documented in the 1998 *Digital Planet* study, continued through the final two years of the twentieth century. The worldwide ICT market surpassed the \$2 trillion mark in 1999, even as growth continued at a eight percent rate.

*Digital Planet 2000*, produced by the World Information Technology and Services Alliance (WITSA) using data provided by the International Data Corporation (IDC), continues to plot the trajectory of this incredible economic force. Here in a single comprehensive reference, covering the world's 55 largest ICT buying nations and regions and 98 percent of global spending, the financial dimensions and social impacts of the ICT revolution take shape. WITSA publishes this guide to help policymakers, technology developers and the general public understand the ICT trends reshaping society today, from the global marketplace to the local classroom.

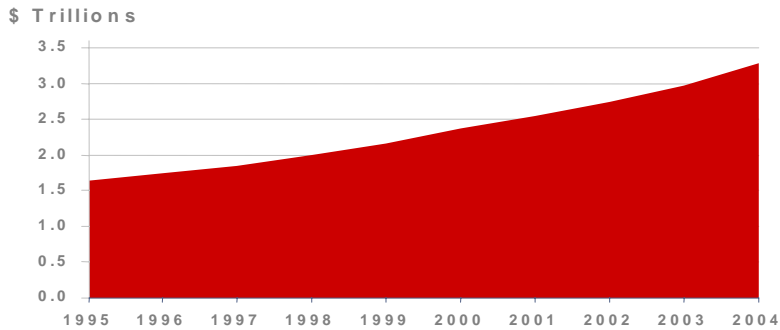
## **A Rising Tide**

Momentum within the global ICT industry is both building and sustained over time. Having surpassed the \$2 trillion mark in 1999, the industry will smash through the \$3 trillion threshold in just four short years (See Figure 1). As this expansion occurs – at a compound annual growth rate of over seven percent – the industry will find itself almost doubling in size between 1992 and 2002, from \$1.3 trillion to over 2.4 trillion.

The ongoing development of the ICT industry is a global phenomenon, as many nations around the world are now committed to creating and supporting the policy frameworks, infrastructures, capital pools, partnerships, skills bases and applications necessary to facilitate ICT growth. Every country in this study, including those hard hit by financial crises and economic recessions,

increased compound annual ICT spending between 1992 and 1999. The ability of ICT to inoculate countries from the “Asian Flu” and other economic woes appears to remain strong, with those nations most invested in this infrastructure feeling the mildest effect of the economic turmoil.

**Figure 1: ICT Ten-Year Growth**

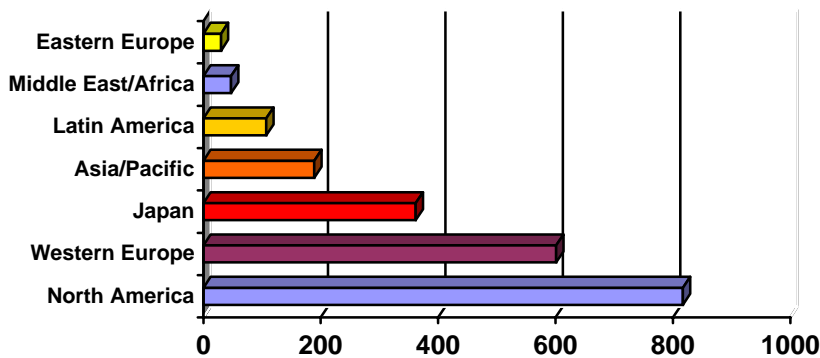


Source: IDC

**ICT Goes Global: Regions and Nations:**

The global reach of the ICT revolution can be seen in the performance of both regions and individual nations. North America remains the world’s largest ICT regional market with \$817 billion in 1999 spending. Figure 2 illustrates the size of regional ICT markets. The ranking of regional spending remains unchanged from 1997; North America leads, Eastern Europe lags.

**Figure 2: Total ICT Spending by Region (1999)**



A closer look reveals that the U.S. remains world leader in 1999 ICT spending with \$762 billion, followed by Japan (\$362 billion) and Germany (\$139 billion). The top ten list is rounded out by the United Kingdom, France, Italy, Canada, China, Brazil and Australia. While this list of top spending countries remains unchanged from 1997, the ranking of countries within the list has changed. China has moved from tenth to eighth position, ahead of Australia and Brazil. Even with this development, developed countries clearly dominate the top ICT spending list.

This view, however, shifts dramatically when the emphasis changes from total spending to growth in spending. Here, the regions with the smallest base of ICT are outpacing North America and Western Europe – regions now with mature ICT infrastructures.

But changes in the relative position can be observed from this perspective too. In the first edition of *Digital Planet*, Asia Pacific (excluding Japan) led the global pack for fastest growing ICT region. Latin America has grown even with Asia Pacific, enjoying a compound average growth rate of between 1992 and 1999 of 13 percent, versus the latter's 13.3 percent. Compare Latin America's ICT growth rate with that of Western Europe, 6.2 percent, and the difference becomes even sharper.

Latin American ICT growth in spending was almost twice that of North America and Western Europe between 1998 and 1999 (12.7 percent versus 7.3 percent and 5.7 percent, respectively). Indeed, Latin America saw more ICT spending growth than its neighbors to the north combined. Again, Brazil generated much of this year-to-year activity. The year's hottest markets, however, Middle East/Africa and Asia Pacific, set a blazing pace of 15.9 and 19.5 percent, respectively. An Olympic year for both regions.

This acceleration among developing nations is also apparent among the top ten spending nations, where China's compound annual growth rate (CAGR) from 1992 to 1999 is approximately seven times that of France and almost nine times that of Italy; Brazil over four times the growth rate of those countries. As it was when this report was first published two years ago, Vietnam remains the world's fastest growing ICT market, sprinting at an almost 35 percent CAGR over seven years. Other countries growing at better than 10 percent include Poland, Colombia, India, Hungary, and Romania and Slovakia. Countries leaving the "fast ten" crowd are Greece, Singapore, Philippines and Portugal.

This suggests that while the installed base for ICT remains in the Northern economies, the "hot market" for build out of the ICT global infrastructure is elsewhere. For most regions of the world, however, the tide appears to be rising, with ICT spending rates in 1998-1999 larger than their respective 1992-1999 compound average. Recovering countries, such as Indonesia, Thailand, and Korea, which saw precipitous ICT spending drops just a few years ago, have also seen their currencies strengthen and their ICT spending rebound.

### **Bridging the Divide:**

No matter how the money is spent, one socio-economic discontinuity remains a major world challenge: The top 10 information economies represented 80 percent of the global ICT market; the bottom 10 in the rankings represented a collective share of less than one percent. The disparity has come to be known as the "Digital Divide" – the gap between nations that can and cannot afford technology investments. The top ten countries spending the most on ICT per capita are, respectively, Switzerland, Japan, U.S., Denmark, Singapore, Sweden, Norway, Netherlands, United Kingdom, and Australia. Measured as a percentage of GDP, however, the list is topped by New Zealand, the U.K, Sweden, the U.S., Australia, Columbia, Canada, Czech Republic, Hong Kong, and Singapore. On the opposite end are Indonesia, Russia, Romania, Bulgaria, Thailand, Turkey, other Middle East/Africa, Philippines, other Eastern Europe, and Saudi Arabian Gulf States.

Still, countries like China and Brazil make the "divide" look much more like a digital opportunity. Since 1992, China's ICT spending has experienced a compound annual growth rate of approximately 30 percent. Were this rate of growth to be continued over the next five years, China would represent a \$177 billion ICT marketplace by 2004. This strong positive

momentum—the digital opportunity—presents itself in other measures as well. In comparative terms, China’s share of worldwide ICT spending has increased more than any other country. Back in 1992, China accounted for just .6 percent of the global ICT spending. By 1999, this percentage had jumped four fold to 2.2 percent. Compare this to Germany, which slipped from 8.2 percent of world ICT spending to 6.5 percent during the same period; France, moving down from 5.9 percent to 4.8 percent; or Italy, down from 3.5 percent to 2.6 percent.

### **The ICT Bounce:**

As it has in the past, ICT spending continued to help power the economic engines of many countries during the times of trouble. In Asia, for instance, countries most vested in ICT – Hong Kong, Singapore, Taiwan, - appeared least likely to fall victim to the “Asian flu”, to plunge the shortest distance, and to recover the fastest. Countries like Indonesia, Philippines and Thailand, with just a fraction of per capita spending, experienced longer recovery periods. ICT spending appears to resist the “gravitational pull” of economic bad times. This resilience is reflected in fact that the world ICT spending does not fall as far as GDP and recovers sooner; conversely, when GDP grows, so does ICT spending.

### **High Tech Society:**

Hear that giant sign-on sound? In 1999 alone, 90 million Internet devices were added to the online community, bringing the total to more than 260 million. That’s up from a total of 33.4 million devices in 1996. Today the Internet attracts 300 million users and this number will double by 2003.

The U.S. contains the world’s largest installed base of PCs, with 177.4 million units on the job, in the home and at school. However, the U.S. may also be hitting the steady state; of the ten countries with the largest consignment of PCs, the 17.3 compound annual growth rate (1992-1999) in the U.S. is lower than all countries but Canada (15.2 percent) and Australia (16.3 percent). China leads the list with a 42.7 percent growth rate.

### **Past is Prologue:**

The forecast for ICT for the next five years is bullish — a global market exceeding \$3 trillion by 2004, growth at rates faster than those of the economy generally. The pace of this expansion will be accelerated by a number of factors:

- continued global build out of the Internet, with new “on ramps” created using wireless networks, high speed broadband technologies and a multitude of intelligent devices;
- privatization of government owned infrastructure and the opening of markets to international investment;
- transformation of business models and the global adoption of e-business based exchanges, auctions, integrated supply chains and the like;
- harmonization of international laws and regulations on policy issues like taxation, privacy and security; and
- emergence of major new ICT markets on the world stage, including China, India and Brazil.

In the daily lives of many of the world’s citizens, ICT plays a lead role in activities both quotidian and extraordinary — from mapping routes for family vacation trips to mapping the human genome and the history of genetic illness within families, from on-line shopping to on-line supply chain management, from the simplest e-mail to the most complex international videoconferencing. So pervasive are ICT applications in many economies that it would be hard to

imagine major advances in health, science, business or education that don't have ICT at their core.

At the outset of the 21<sup>st</sup> century, the impact of ICT seems clear...A world moving ever faster into the realm of fingertip access to information. A society devising ever more innovative means to turn this information into knowledge. A civilization using this knowledge to fill gaps in understanding and build new bridges to the future.

### **On WITSA:**

The World Information Technology and Services Alliance (WITSA) is a consortium of 41 information technology (IT) industry associations from economies around the world. As the global voice of the IT industry, WITSA is dedicated to:

- advocating policies that advance the industry's growth and development;
- facilitating international trade and investment in IT products and services;
- strengthening WITSA's national industry associations through the sharing of knowledge, experience, and critical information;
- providing members with a vast network of contacts in nearly every geographic region of the world; and
- hosting the World Congress on IT, the only industry sponsored global IT event.

Founded in 1978 and originally known as the World Computing Services Industry Association, WITSA has increasingly assumed an active advocacy role in international public policy issues affecting the creation of a robust global information infrastructure, including:

- increasing competition through open markets and regulatory reform;
- protecting intellectual property;
- reducing tariff and non-tariff trade barriers to IT goods and services; and safeguarding the viability and continued growth of the Internet and electronic commerce.

To purchase the complete report, please go to <https://www.ita.org/news/pubs/form.htm>.

WITSA Contact: Kimberley H. Claman, Executive Director  
8300 Boone Blvd., Suite 450  
Vienna, VA 22182. USA  
Tel. +1 703-284-5329 / [kclaman@ita.org](mailto:kclaman@ita.org)