



## Information and Communication Technology (ICT) Prospects for the Future

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The ICT global industry has seen a number of significant 'milestone' events in the last 30 years. Since the advent of the computer, to distributed computing, then desktop and laptop solutions, software as 'king' in the 80's and 90's, then the vast introduction of the Internet to global computing on a commercial basis, major influences have always had a role in this industry. Certainly the meteoric rise of the industry in the 90's was capped off by one of these 'milestone' events called 'Y2K' and all the associated efforts that helped to bolster the industry for the better part of that decade. Unfortunately, that was followed by two substantially negative milestones which were the 'dot.com' and telecom bubbles then the subsequent upheaval and the devastating impact on the world's economy caused by September 11, 2001.

The industry has proven to be robust and now is seeing a rebirth of optimism with growth trends in all sectors being positive for the at least this decade. Based on information published by the World Information Technology and Services Alliance (WITSA) in their bi-annual publication *Digital Planet 2004* ([www.witsa.org](http://www.witsa.org)), global spending in ICT will move from a trough of \$2.1 trillion USD in ? to over \$3.2 trillion USD by 2007.

It is estimated that all four major sectors of the ICT industry (hardware, software, services, and communication) will grow through this decade. Communication will continue to lead all of the spending and will continue to grow as the world moves to wireless telephony, computing, commerce and entertainment. But it is estimated that the 'services sector' will post the fastest growth in the foreseeable future. Why is this the trend and what potential impact does that have on the ICT industry found in Costa Rica?

Three factors will contribute to the slower growth of hardware. First, the saturation of hardware that was evident by the massive growth in that sector in the late 80's and 90's. Second, the constantly dropping per unit costs of most hardware means even much high

volume of PC sales, for instance, means less revenue. Third, the ubiquitous use of the Internet through ‘communal’ devices rather than the stand alone, owned devices prevalent in the past has slowed the growth of the hardware sector somewhat. A mobile phone/PDA is much less expensive than a laptop.

The software sector continues to grow globally but the advent and the introduction of the ‘killer applications’ (e.g. word-processing, spread sheets, graphics) has slowed and we are seeing more of the purification and upgrading of those application rather than any new capabilities introduced.

Yet, the world’s economic situation has a very favorable upward tick that is apparent in many of the indicators. Led by China and India with Russia and perhaps Brazil in the picture as well, positive economic indicators, led by ‘disposable incomes’ of their citizens moving smartly upward, the ability to provide the ‘service’ needed to support this economic prosperity is now obvious. Citizens, that have this new ‘disposable’ income and want to take part in once out of reach prosperity, can now do so by the touch of a phone button, a click of the mouse or a keyboard, or, even more prevalent, the voice control of telephony from and to devices never imagined before (cars, kitchen appliances, shopping, entertainment, and the like). These conveniences are driven by a robust set of technological capabilities in the background, but the ‘service’ component heavily in the foreground. That service includes taking all the technology and devices—hardware, communications devices, and software—and tying them together in a way that they provide value to the customer, whether that customer is an individuals, a business, a not-for-profit organization, or the government.

If this view of the world is accurate, it is a very positive signal for countries such as Costa Rica. It is my hypothesis that smaller countries could never have competed in the hardware or software sectors because the critical mass of people, resources and capabilities would have been way beyond the reach of the majority of the countries of the world. The service sector does not necessarily rely on this critical mass. It does rely on an “enabling environment” that includes a trained and skilled labor force with the infrastructure to support global commerce from anywhere at any given time.

Costa Rica has the ability to be part of the service sector growth and prosperity but must focus on creating a proper “enabling environment” in three areas to ensure that the country is a viable player in this new economy:

- Education systems must produce, on a real time basis, the skill sets that are necessary to compete in the global market place. Nations cannot rely on the product of secondary schools and universities to produce these products as the cycle for change in these is measured in 10-20 years. The real skills that are needed are mathematics, science and logic that will allow young students to adapt to any potential market and direction that may arise and that is learned in the early years of basic education (grades 5-8 if you would use a US example). Focus on readiness of workforce will be a significant factor in the future.

- The clear and compelling need to have a fair and consistent legal environment and an infrastructure that is capable of inclusion in the global economy. This is never truer than that of communications. Costa Rica must make the decisions and move rapidly so that global business can be conducted without second thought in the country--so that a business can sustain communication whether they are in Costa Rica, Brazil, China, the US or any country of Europe. This single factor is very significant for Costa Rica and can either be a significant key in your inclusion in the global markets or exclusion if the decisions and momentum for change is not fast enough.
- Continuation of economic development outreach from Costa Rica to the rest of the world. Certainly Costa Rica is a 'destination' of choice for many people that seek the splendors of your country. Access to your country via air and sea ports work on your favor. However, business may forgo these advantages if they are not aware of the capabilities and positive business climate if they are not exposed to it. Costa Rica Insight 2005 held in February 2005 and sponsored by PROCOMER (The Foreign Trade Corporation of Costa Rica) was an excellent example of reaching out and bringing visibility to Costa Rica that is needed. More events and forums with global participation are well worth the investment that was made. Marketing matters.

I am encouraged that the ICT industry is moving very positively forward and that the momentum is helping all countries of the world that want to engage in the new global economy. Costa Rica is well positioned to take part in these markets, but must focus continued and significant attention to the critical factors for success. I am optimistic that Costa Rica can play a much more significant role in the globe.

\* [www.witsa.org](http://www.witsa.org)