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## “Re-engineering Cyprus”<sup>1</sup>

### Information Technologies and Transformation Processes in the Republic of Cyprus<sup>2</sup>

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By most Western Europeans Cyprus is probably perceived as a tourist resort rather than a technologically highly developed country. Interested German visitors are informed by the travel brochure published by the Republic of Cyprus’ tourist office that “in the villages old customs and traditions still exist” (Zypern. 9000 Jahre Geschichte und Kultur 1997, 11). Pictures of places of antiquity, churches, monasteries, fortresses, archaic villages and of people engaged in agricultural work and crafts convey the image of a traditional Mediterranean society. However, the Republic of Cyprus is a rapidly modernising country. It has developed recently “from a poor agrarian into a high-income service economy” (Christodoulou 1995, 11) and “radical transformation processes” are observed (cf. *ibid.*, 18). The forthcoming accession to the European Union additionally accelerates the pace of these transformation processes.

Due to its position on the extreme rim of Europe in the Eastern Mediterranean region at the crossroads of three continents, the island is perceived both as marginal (cf. Pace 1999) and as a link between Europe and the Asian and African continents (cf. Kasoulides 1999). Cyprus is conceptualised for the future as a centre and intersection: as regional hub of the modern capital market, as communications and trade centre in the Eastern Mediterranean, as “telecommunications hub for the Eastern Mediterranean and Middle East region”, as “international services centre”.<sup>4</sup>

The Republic of Cyprus has a highly developed telecommunications infrastructure, which is the basic prerequisite for the conversion into such a centre and is one of the most important factors for the economic competitiveness of Cyprus. The global nature of communication platforms today, especially the Internet, is regarded as the key to the integration of Cyprus into the world

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<sup>1</sup>“Re-engineering Cyprus for the Digital Age” was the title of a conference in Nicosia in December 1999 (cf. Cyprus Weekly January 14-20, 2000).

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<sup>3</sup>Fieldwork for this paper was conducted October/November 1999 and April 2000.

<sup>4</sup>Cf. Cyprus Weekly December 18-23, 1998 and September 10-16, 1999; Cyprus Mail January 13, 1999; The Cyprus News Agency January 26, 1999; Cyprus Today, vol XXXVI 1998, 13f.

economy. By implementing information technologies and promoting necessary expertise, economic progress and modernisation of the country as well as its global competitiveness is assumed to be guaranteed. Investments in the information technology infrastructure are regarded as essential for the development of Cyprus, fostering the implementation of the information society. This aim and the necessary implementation measures feature increasingly on the agendas of scientific and economic conferences and symposia in Cyprus.

### **Definitions and theoretical context: “Exploring the Information Society”<sup>5</sup>**

The Dutch anthropologists Zeitlyn and Houtman define information technology as “the branch of technology concerned with the dissemination, processing, and storage of information, especially by means of computers” (Zeitlyn/Houtman 1996). However, the term information technology (abbreviated IT) is not always used in the same way. Often the term information and communications technologies (ICTs) is used instead. Information technologies are conceived as the crucial element of new global, dynamic markets and are closely related to the concept of the information society. The information society is, for instance, defined as “the society currently being put into place, where low-cost information and data storage and transmission technologies are in general use. This generalisation of information and data use is being accompanied by organisational, commercial, social and legal innovations that will profoundly change life both in the world of work and in society generally” (Building the European Information Society for Us All 1997).

The term became prominent in European discourse through the Bangemann Report<sup>6</sup>: The goals of the information society are basically defined as more efficient organisation and communication, the development of new products and cost-saving. Time-saving through faster access to information and just-in-time production as well as changes in competition, management, and industries structures are supposed to lead to greater competitiveness in the new world economy (cf. Europe and the global information society 1994). Calls for restructuring are justified with the concept of the information society. Information technology is regarded as a “tool for the effective implementation of processes of socio-economic restructuring” (Mas/Belzunegui 1999).

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<sup>5</sup>Title of a EU-conference on the development of the Information society, in Helsinki, November 1999.

<sup>6</sup>In 1994 a report was written for the EU by the former EU-commissioner Martin Bangemann. It recommended strongly the fast redirecting of Europe towards an information society, and in connection with it the development of a European information infrastructure and the liberalisation of the telecommunications markets. The report is still considered as the basis for the programmes of the EU-policies for the development of Europe.

For a couple of years Cyprus has been participating in EU programmes. Besides taking part in academic exchange programmes and special supportive measures for Euro-Mediterranean cooperation it also participates in the IST program.<sup>7</sup> Its aim is “(t)o realize the benefits of the information society for Europe both by accelerating its emergence and by ensuring that the needs of individuals and enterprises are met” (Programme for research, technological development and demonstration on a ‘User-friendly information society, 1998-2002’ 1999).

At the IST conference “Exploring the Information Society” in Helsinki in November 1999 which, according to the announcement, was visited by “Europe’s main IT business leaders, Information Society specialists and EU policy-makers”, EU commissioner Erkki Liikanen emphasised that the IST programme was designed to help develop the new market potentials of the information society. Against the background of globalisation it seems Europe must “pool” its resources and develop common strategies in order not to lag behind. “The stakes are high, as the Information Society holds the key to our future: jobs, growth, and quality of life”. A new initiative is currently under way to provide access to on-line services as fast as possible for “every citizen, every company, every administration” (Liikanen 1999).

Europe must hurry not to lag behind the new development: “We are forced through international competition to adopt new information technologies as rapidly as possible” (Building the European Information Society for Us All 1997). Accordingly, special measures are conceived: improvement of competitiveness, creation of new markets, standardisation, re-engineering of structures, benchmarking, promoting the use of IT in the population, cost-effective public services, introducing IT in the school curricula and supplying schools with an adequate infrastructure (cf. The competitiveness of the European Information and Communications Technologies Industries 1997).

This discourse with its urgent impetus accelerating the information society as social vision is also the predominant discourse of my interview partners in Cyprus. Recurrently they emphasised the necessity to act fast. Typical statements were: *“if you are not ahead, you’re not in the game”* and *“we must move on very fast, if we want to be part of this new world, or we stay behind”*. The aims for a competitive Europe as defined in the EU programmes and papers were formulated by my interview partners in a similar way for the digital future of Cyprus. These aims seem adequate and the only plausible option for Cyprus to compete in the global market.

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<sup>7</sup>IST is the abbreviation for the Programme for research, technological development and demonstration (RTD) on a ‘User-friendly information society, 1998-2002’ and is part of the Fifth Framework Programme of the EU, 1998-2002 (Fifth RTD Framework Programme, abbreviated FP5).

Since the 1980s scholars observe an increasing globalisation of business, international trade and competition as well as the implementation of IT on a global basis. Globalisation became the buzz word of the late 20th century and one of the most important key terms in the economic-political discourse, especially in arguing for massive social restructuring of labour and production. A rapid acceleration of economic, technological, social, and cultural processes is expected, all of which are phenomena discussed under the umbrella of globalisation. These developments are supposed to create new patterns of overlapping social and cultural relations, which will in turn lead to far-reaching changes in cultural spheres. There are diverse assessments of what will happen when globalisation makes its way into localised contemporary life. Homogenisation scenarios stand in opposition to the concept of a proliferation of multiple modernities (cf. Welz 2000).

Proponents of a modern cultural anthropology take a specific perspective on globalisation. New cultural concepts allow for “the sense of a complex culture as a network of perspectives, or as an ongoing debate” (Hannerz 1992, 266). They also acquiesce consideration of diverse forms of social strata, like “occupational cultures” (Hess 1992, 10; see also Hannerz 1992, 249) which for instance form around technologies or in transnational networks. They are sometimes called “new cultures” in which common agendas and focal points are shared by different individuals and groups (cf. Hess 1992, 11). Most academic disciplines and communities today are transnational, and traditional cultural differences are perceived as relatively unimportant in comparison with the shared features of these communities (cf. *ibid.*). Tendencies towards a redefinition of collective boundaries are observed, for instance the development of new “nuclei” of cultural and social identity which transcend socio-political and cultural boundaries (cf. Eisenstadt 1992, 56f.)

In this setting the new communications and media technologies become of increasing importance because they allow people to organise their activities across vast distances (cf. Löfgren 1995, 362f.). Hess suggests that computers are the technology “of an era of self-organisation and boundary transgression”. However, Hess goes on to state, the advancement of computerisation varies radically according to the social configuration in which it is embedded (Hess 1992, 183). In the context of media research Hannerz points out that a well-rounded view at the place is necessary where media are used and are embedded in everyday life, because the interaction of diverse factors produces multifarious meanings for the users of these media (cf. Hannerz 1998, 244). The same perspective can be effective in research on new technologies in general. Global standards are taken up locally in a variety of ways. “Influx does not enter into a vacuum, but enters into various kinds of interaction with already existing meanings and meaningful forms” (Hannerz 1992, 262).

## Mediators of change

The purpose of my field research in Cyprus was to investigate and evaluate the opinions of experts on the development of IT in Cyprus. My research interest was aimed at the way experts assess the role of information and communications technologies for promoting social and cultural change in Cyprus. I wanted to identify what they perceive as the specific conditions for the implementation of IT in Cyprus as well as which perspectives they would prioritise for the development of a digital future in Cyprus. Some of my interview partners can be regarded as opinion makers and mediators – persons who demand, instigate and promote change. I suggest that in their capacity as experts in a field with a promising future they can play a specific role in the development of their society. Hannerz defines experts as highly specialised occupational groups which share specific perspectives and experiences, opinions and values of specialists. They have vast amounts of organised knowledge at their disposal, acquired in a formal educational system, as well as long-term experience. Additionally they are in continuous contact with professional colleagues (cf. Hannerz 1992, 119). These consistent criteria hold fast for most of my interview partners. They are both technical experts and persons with expertise in different fields which are connected in some way with IT. Those include eg. computer and network experts, IT managers, academics who work on issues of social change through IT, journalists who write about everyday use of the Internet, as well as influential Internet subcultures like communities of young computer specialists and programmers/developers. Most of my interview partners have studied abroad – most of them in the US – and many have taken a degree in electronic engineering, systems engineering, computer sciences and similar disciplines. Some have also lived and worked abroad for some time. I spoke to persons in the following fields in the Republic of Cyprus:<sup>8</sup>

**Education and Research:** two professors of the Computer Science Department of the University of Cyprus, a professor of the Department of Social and Political Sciences of the University of Cyprus, the director of a private college, an economist of the European Institute of Cyprus<sup>9</sup>, a media expert and professor of the media unit, and two members of the radio and TV unit of a private college.

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<sup>8</sup>Statements by my interview partners cited here are taken from the recordings on mini discs M1 to M9, cassettes No. 6, 17, 48-50, 61, 77, and also from my interview protocols, October/November 1999 and April 2000. Quotes from my interview material are printed in italics.

<sup>9</sup>A research and policy consulting institution in Cyprus partly financed by the EU.

**Business:** the head of the informatics department at the telecommunications authority CyTA<sup>10</sup>, the Commercial & Financial Administrator of the Internet Service Provider Cytanet, the General Manager of an Internet magazine and also of an e-commerce company, the owner of an Internet café in Nicosia, the owner of a chain of computer schools for children, a project manager of a Web and software developing company.

**Other:** a representative of a national IT interest group, a journalist writing about everyday use of the Internet in Cyprus, a Linux activist and also administrator of a Cypriot chat channel, a film producer who works extensively with digital technologies.

### **IT-presence in everyday life in Cyprus: “*Technology is already part of our lives.*”**

The rapid development of Cyprus into a technologically highly developed country was repeatedly stressed by my interview partners. At the beginning of the 1980s, I was told, there were hardly any computers and no IT infrastructure to speak of. At that time the national telecommunications authority CyTA launched the nation-wide implementation of a digital communications infrastructure: *“In 1982, 1983 . . . we invested in digital technology both in exchanges and in transmission and we started a programme for connecting Cyprus with fibre optic cables with the neighbouring countries. It was . . . a government policy to develop telecommunications to . . . attract the service sector to [make] Cyprus the services centre for the Middle East”*.

However, in 1992, so I was told by the owner of a chain of computer schools for children, when he returned to Cyprus after university education and academic career in the United States, he was ridiculed because he planned to teach computers to children in Cyprus: *“In a country without computers!”* But since then many things have changed. One of my interview partners told me that on returning home in 1998 after six years living in the US she was *“shocked”* by the rapid technological development of her country.

My questions about the development of the IT sector and its influence on Cypriot society were answered in most cases with reference to the rapid expansion of the Internet. Internet is fairly recent in Cyprus. The boom started in 1996 (cf. Internet.Cy Oct-Nov 1996, 16f.) facilitated by the new technical infrastructure and the emergence of private, commercial Internet Service Providers (ISPs). One of my interview partners suggested that the popularity of Internet in Cyprus was greatly helped by Internet cafés which opened up *“in almost every village”* at that time.

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<sup>10</sup>Abbreviation for Cyprus Telecommunications Authority.

According to my interview partners the number of users in Cyprus doubles or triples every year. In the first year there were about 6,000 accounts<sup>11</sup>, in the second year the number climbed to about 12,000, and at the end of 1999 they estimated an increase to about 50,000 accounts. These numbers correspond to the user statistic of the Internet Service Provider CytaNet. CytaNet started out in 1995 with some other ISPs in Cyprus and has a growth of customers of 200 to 300 percent per year. The Commercial & Financial Administrator of CytaNet believes that most Internet users in Cyprus are between 16 and 34 years old and that there were about 40,000 ISP customers in Cyprus at the time of my research, not including cases of multiply used accounts as for instance at the university or in big enterprises.

My interview partners notice a high acceptance of new technologies in Cyprus. They offer mainly two explanations. One is that Cypriots are very amenable to technological innovations. *“Cypriots like changes . . . They are people who adjust very easily to new environments”*. It is suggested that Cypriots accept new developments very quickly, as was demonstrated to me with respect to the Internet. This is seen to be related with the fact that Cyprus is a small community where everyone is oriented towards what their neighbours do: *“A lot of things happen by osmosis”*. It is suggested that Cypriots are ready to accept changes which make their lives easier. I was informed that even in remote villages satellite reception, video players, and Internet are widespread. *“People adapted to the new technologies. The Cypriots are very progressive. They always try to make use of new technologies, the opportunities they offer”*.

The second explanation is related to the fact that Cyprus is in a geographically peripheral position, and that computers and computer-mediated communication now make people *“feel not so isolated anymore”*. The Net connects the many Cypriots living in diasporas all over the world. The new technology offers better and cheaper worldwide communication and facilitates the meeting of people – *“so they have the incentives, it seems, to use it”*.

Immediately after the emergence of commercial ISPs Internet cafés flourished in Cyprus. The young owner of an Internet café, whose place is situated in the “heart of modernity” (Argyrou 1996, 17) of New Nicosia, told me that in August 1996, after finishing a technical university education abroad, he opened one of the first Internet cafés in Cyprus.<sup>12</sup> When he started, he told me, no one knew anything about Internet, except some computer professionals. He did not know anything about networks and applications himself and learned by doing and by the help of his friends. Many of his clients, he told me, only learned

<sup>11</sup>A Cypriot Internet magazine reported 1996 that the number of active users was estimated by experts as “close to 4,000 active users” (Internet.Cy Oct-Nov 1996b, 16).

<sup>12</sup>“A second Internet café is already in operation in the city of Nicosia . . . The friendly owners . . . are always nearby to facilitate customers with their various enquiries and introduce them at the same time to this new world” (Internet.Cy Oct-Nov 1996a, 7).

about computers and acquired basic competency in Internet cafés. This seems to sustain the assumption that Internet cafés played a considerable role in the popularisation of computers and Internet and also in the development of “*digital literacy*” in Cyprus. The owner reported that his customers use the Internet for a variety of purposes. Many students come to the café, because the computers at the university are often occupied, and because the systems in the café are very fast and well maintained, and all common applications are available. Some customers chat but not as many as was expected – mostly the younger ones, schoolchildren, who mainly frequent during weekends. Some customers play computer games. Some tourists come, too, mainly to get at their email.

The café, I was explained, is mainly visited by local clients between 18 and 50 years maximum. There is a specific group of regular customers, including some young computer users and programmers interested in Linux and Open Source, some founders and administrators of a Cypriot chat channel, and some young Web developers who work in newly established Internet companies. They seem to know each other since some time and visit the café more or less regularly: “*He belongs to the furniture!*” was how the owner presented one of his customers to me, who works in a well-known Web and software developing company.

It is generally believed that computers and Internet will soon be household commodities similar to television sets, and it is assumed that already today many people have a home computer. More than 60 percent of his class-mates have their own computer with Internet access at home, I was told by a student of a Nicosia highschool. However, he criticised that most people do not make full use of the opportunities offered by computers and the Internet. Only few in his age group, he stated, were seriously interested in computer technologies.

Some of my interview partners assume that nowadays at least two or three members of a Cypriot family use computers daily.<sup>13</sup> Typically children use the Internet on a daily basis, communicating with their friends on-line or searching information for their homework. At the time of my research there were no official figures on Internet users and use in Cyprus.<sup>14</sup>

The Computer Science Department of the University of Cyprus conducted a study recently on the issue of computer-literacy and understanding of the new developments in Cyprus. The results of the study were not public yet at the time of my research. As a departmental Professor explained to me, it was found that a consciousness for new technologies was not obvious everywhere: in the big cities it is more wide-spread than in the rural areas. However, some of my interview partners perceive information technologies as a chance to prosper in

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<sup>13</sup>“A Cyprus University survey revealed that one in two Cypriots use computers” (Cyprus Weekly March 26-April 1, 1999).

<sup>14</sup>Cf. Cyprus Weekly, December 17-23, 1999: “According to Cytanet chief, Rois Issaias, there are no available statistics on how many people are online in Cyprus, so no one cannot truly gauge the Internet’s impact on Cypriot society”.



structurally decentralised, economically underdeveloped remote areas in Cyprus. They regret that people living there are not sufficiently informed about the advantages of the new technologies. The danger of an unequal development is seen on the island: “*We’re turning into an island of the haves and have-nots*”. The necessity is felt that people in remote villages should be informed how they can make use of the communications technologies. These were often rejected or feared and disapproved of by some as part of uninvited Western influences. One of my interview partners was convinced, however, if people had computers in the villages, new economic options would open up.

### **New Business Developments: “Cyprus’ potential to face the digital age is indeed excellent”<sup>15</sup>**

Because of its strategic geopolitical position at the intersection of the European, the Arab and the Asian world the island of Cyprus with its troubled history has always been a strategic focal point for the dominant world powers with specific reference to security and economic interests in the face of political fragmentation in the region. Today its geopolitical position is perceived as an advantage (cf. Odysseos 1997; cf. also Pace 1999 and Theophanous 1999). The Cypriot defence minister Socrates Hasikos observes: “Cyprus is located at the crucial south eastern corner of this region, at the crossroads of the oil transportation routes towards Europe. Cyprus’ strategic importance for Europe is evident” (as quoted in Cyprus Weekly March 24-30, 2000a). The future for Cyprus is conceptualised as “*a gateway for communication in the Middle East . . . a kind of regional center of service, a regional center of IT*”. The redirection towards a “service center”, “regional hub”, “bridge”, “entry point” and “model telecoms hub” in the Eastern Mediterranean is regarded as the only feasible economic option for the future.<sup>16</sup>

Future service provision by the telecommunications sector is considered as “*the vision of Cyprus*” because the island is too small to engage in large scale industrial production. With its already existing telecommunications infrastructure Cyprus has the necessary prerequisite to meet the service demands of the diverse sectors. Commerce, Industry and Tourism Minister Nicos Rolandis emphasises: “Cyprus has the ability to develop into an international centre since it constitutes a pivot for European countries and the Mediterranean basin” (as quoted by CNA February 29, 2000). This vision is seen as feasible by my interview partners because, as they argue, Europe wants to have access to the regional market and the region wants access to the European market. Cyprus’ minister for external affairs Ioannis Kasoulides points out: “Cyprus . . . can act

<sup>15</sup>Chrysostomos L. Nikias, director of the Integrated Media Systems Centre, University of Southern California, cited in Cyprus Weekly January 14-20, 2000.

<sup>16</sup>Cf. Cyprus Weekly December 18-23, 1998; October 15-20a,b, September 10-16, July 16-22; May 14-20 1999; Financial Mirror October 27, 1999.

as a bridge between Europe and the Eastern Mediterranean basin” (Kasoulides 1999, 16).

However, some of my interview partners express doubts concerning the largesse by which Cyprus may be transformed into an international or regional information technologies centre. The first impediment identified is the necessary legal basis required: “*We have to fix the law about telecommunications, we have to fix the law about property purchase for foreign companies*”. More sceptical attitudes towards the vision of Cyprus as an information technology and services hub stress two main obstacles: first, the dominant position of the US in the IT sector, having an enormous advantage with respect to knowledge and experience, against which Cyprus is not in a position to compete. Second, the prognosis is that the services sector outside the tourism segment will play a smaller role in Cyprus in the future: “*All these services, which have nothing to do with tourism, such as off-shore companies, are services, whose economic importance will decrease, not increase*”, believes an economist of the European Institute of Cyprus. Because of their special tax status offshore companies (OFCs) represent a problem for Cyprus in the accession to the EU (cf. Regular Report from the Commission on Cyprus 1998). However, the OFC sector plays a considerable role in the positive development of the Cypriot economy, also with respect to technology transfer (cf. Odysseos 1997). Accordingly, some people view economic disadvantages for this sector by the necessary adjustments to EU standards (cf. Hermes September 1999, 136).

In 1998 Cyprus’ former Finance Minister Christodoulos Christodoulou pointed to the “world-wide trend towards globalisation” with a recommendation for Cyprus: “Enhancing competitiveness in world markets is the only road to success” (Christodoulou 1998). Andreas Pittas, businessman and former chairman of the Employers and Industrialists Federation of Cyprus, stressed that Cyprus could benefit from the possibilities which the developments in the IT sector offer to participate successfully in the “new economy” (cf. Cyprus Weekly May 12-18, 2000a).

My interview partners assume that information technologies will open up new options for Cyprus, especially the Internet. The “*Internet revolution*” is a frequently cited term. “We know the future is the Internet”, says Christou Constantinou, Managing Director of the Cypriot ISP SpiderNet (as quoted in Cyprus Weekly May 12-18, 2000c). My interview partners suggest that the geographically peripheral island, “*isolated from the rest of the world*”, is now – thanks to the Internet – “*on the global map . . . now we can export many things: services, products, we can make them well-known through the Internet*” (see also Cyprus Weekly September 22-28, 2000).

The Internet has developed into a powerful communications and trade platform. Electronic spaces have become an important new site for capital accumu-

lation and activities of global players (cf. Sassen 1999). Electronic commerce is regarded as the most important practical implementation of the information society, “the first ‘massive application’ of the future” (The Competitiveness of the European Information and Communications Technologies Industries 1997). Being present in the World Wide Web at low costs allows enterprises of any size to operate on a regional or a global scale. It is conceived that consumers will thus have a wider choice of goods and services. However, small and medium enterprises (SMEs) in Cyprus, I was told, do not yet make use of these strategic possibilities, in contrast to the big companies. European programmes currently concentrate on the support of SMEs with respect to the use of new communications technologies for electronic business.

My interview partners point out that much remains to be done with regards to the implementation of Internet in Cypriot enterprises. The industry, I was told, initially reacted hesitantly towards the new developments. Today, however, it has recognised the possibilities and uses them excellently, although the developments are perceived as delayed. The technical infrastructure is considered excellent, but Internet business has not really advanced yet. A young entrepreneur who stepped into electronic business with an on-line shop recently, estimates that today 1,200 to 1,500 enterprises in Cyprus have their own Web sites. However, he complained, the Internet is mainly used for corporate identity and there were hardly any interesting applications like database interfaces for electronic commerce. But he expects rapid changes. The industry invests strongly in new technologies: *“In Cyprus IT and Internet has penetrated lots of organisations . . . whatever company you will go, you will see the basic infrastructure for computing and technology and the Web”*.

The technical infrastructure is there, this was repeatedly pointed out to me. Now it is time for the enterprises to innovate ways to adapt their business to the new possibilities. Two tendencies can be detected here: on one hand, there is a demand for more government support, especially with regards to improving information flows: *“I don’t think the business men in Cyprus should go after hidden places to find out what can help them. I think it’s the government’s responsibility to make it well-known so that everybody who needs that kind of information can find it and use it”*. On the other hand, there is a call for the services sector to develop, f.ex more IT consultation services are necessary – which, indeed, is a field in which already a series of new enterprises have emerged. The IT business is expanding, the new market seems promising, “interest in Internet companies is growing” (Financial Mirror January 5, 2000). New strategies are developed to secure market shares. Mergers and cooperations happen on a large scale.<sup>17</sup>

<sup>17</sup>Cf. Cyprus Weekly June 18-24, December 24-30, 1999 and May 12-18, 2000d, and Financial Mirror, January 5, 2000.

The development of the software industry is generally regarded as a prerequisite for global competitiveness. “The ability to produce software efficiently, effectively, and with consistently high quality will become increasingly important for all industries across Europe if they are to maintain and enhance their competitiveness” (Supporting the growth and the spread of the Information Society 1997). Cyprus wants to increase its presence in the software market. Expertise for software development, I was told, exists on the island, but until now there is not yet production on a large scale: *“I think we are in a starting stage right now”*. However, everyone is conscious that it will not be easy to compete in this sector dominated by the US. The Cypriot economy develops new strategies eg. by increased merging of enterprises (cf. Financial Mirror, November 3-9, 1999). Additionally the Cypriot government is planning to establish “high-tech incubators” or “technology incubation centres”.<sup>18</sup>

**The development of competence and expertise: *“If you are not computer-literate, you are an illiterate today in Cyprus”***

Education is highly valued in Cypriot society. As the Cypriot cultural anthropologist Vassos Argyrou points out, one of the significant changes after World War II was introduced by the recognition that “education provided the best opportunities for a ‘better life’”. The highest aim was a university education which was and is provided for children by their parents, sometimes under great financial strain, at universities abroad (cf. Argyrou 1996, 35). Cyprus shows a high level of education: “In the present day adult population of Cyprus 43,3 per cent have had secondary school education while an additional 16,2 per cent have acquired post-secondary and university education” (Christodoulou 1995, 17f).

The high priority placed on education is reflected in the attitude vis-a-vis today’s demands to acquire competencies in modern technologies. To be competitive in the contemporary world, I was repeatedly told, people must be competent in using the new technologies, which are regarded as playing a prominent role in almost every sector of contemporary life. The necessity is seen for children to be computer-literate and thereby equipped for a digital future. But public schools in Cyprus have not yet introduced computer lessons to their curricula, as I was told by my interview partners: *“Unfortunately we don’t give to our kids the basics in the national education system. We don’t invest for the future in these terms”*. The public educational sector is perceived as deficient. Therefore, as I was told, parents prefer to send their children to private schools offering

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<sup>18</sup>Cf. Cyprus Weekly, November 19-25, 1999 and March 24-30, 2000b, September 22-28, 2000

computer classes, if they can afford it. The proliferating enterprises offering commercial computer courses for children have to be located in this context. *“People are starting to understand that if you are computer-illiterate, in five or ten years you’re going to be someone who cannot read or write . . . if [you] cannot use a computer or cannot get connected to the Internet”*. Opinion makers demand measures to be taken in the interest of children in the public school system: *“The opportunities that lie ahead can only be realised if we embrace modern technology in education . . . We should give [children] the education and tools they need to be part of a global culture”*.<sup>19</sup>

Some of my interview partners demand the fostering of more information to convey to people in Cyprus what options new technologies can offer and thereby put them into a position to not only adapt and integrate, but to introduce modulated change according to localised need, as well as facilitating participation in the democratic processes. The Cypriot population should have the opportunity to prepare for a digital future which today also means acquiring key qualifications in the field of computers and Internet: *“Without the basic knowledge you will not be able to participate in this new society”*. The public sector is reproached for being short-sighted and incapable of taking the appropriate steps which prepare people for the information society. *“The first answer you will get: how much will it cost? And I think it’s the same everywhere. But for education this question should not be raised at all! Especially education in technology, computing skills”*. The generation in key positions today is regarded as a part of the problem: *“I’m pretty sure that most of the people in key positions might even be computer-illiterate. Because it’s the older generation that is controlling stuff”*. It is assumed that the greatest proportion of the older generation rejects computers and the Internet and thus prove an obstacle for necessary developments: *“A lot of people want to be a little regressive here . . . But you have to move forward, because if you are not computer-literate, you are an illiterate today in Cyprus”*.

The conviction that *“we must change and we must change fast”* seems to be ubiquitous. The pressure for change is generally voiced with reference to new technologies: *“Basically the Internet is going to change everything, the way we play, the way we work, the way we live, the way we learn”*. A member of parliament for the conservative DISY party explained that through the rapid development Cypriot social concepts and values are changed as well, leading to *“a lot of confusion”*. Cypriot self depiction may appear modernist, however, *“we are basically a conservative society”*, changes to traditions appear threatening. During some conversations it became apparent many Cypriots feel that traditional values are threatened in the contemporary modernisation processes.

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<sup>19</sup>Representative of IT interest groups Marios Eliades, as quoted in Cyprus Weekly January 14-20, 2000.

These threats are often seen in the context of both the forthcoming accession to the EU and the introduction of new technologies. However, everyone was conscious, as I was told repeatedly, that there was no choice. Changes had to take place if Cyprus wanted to participate in the world of tomorrow.

Among my interview partners the dominant view displays the orientation towards a global perspective and those issues related to it such as the acquisition of expertise, especially in the field of new technologies and the implementation of competitive structures – the predominant aim to pursue if Cyprus wants to participate in the digital future. This conviction is accompanied by a feeling of obstruction by obsolete structures which do not have the capacity to react quickly enough to changing conditions, especially with respect to the necessary requirements of the IT sector. *“Unfortunately the government sees information technology and globalisation in a very short-sighted way”*. This is supposed to slow down developments which are regarded as fundamental. It was necessary *“to shake our present government out of its slumber”* (letter to the editors of Cyprus Weekly January 28-February 3, 2000). *“The government has to move fast. They will have to get rid of those bureaucratic procedures and re-engineer the government services”*.

But where the government is not perceived as acting effectively and quickly enough the private sector takes the initiative, I was told: *“The government can do a lot more to help . . . Maybe the intentions are there. But maybe for us, who are moving with the private sector speed, [this is] not enough . . . But people who are involved in companies are going to make it happen anyway”*. One of my interview partners conceives bringing about the necessary social transformations himself by offering modern commercial computer courses for children. He describes his activities as *“social intervention”*: *“We start changing Cyprus by changing children massively, without anybody being in a position to stop us . . . social intervention without the danger of the system taking us over”*. New technologies and especially the Internet are perceived as tools for social renewal and the opening up of new horizons: *“Internet helped Cyprus to break out of the boundaries of a small island”*. The global reach of new technologies is perceived as an opportunity to further understanding between cultures. The question was raised as to the consequences of this technology for the solution of the Cyprus problem: *“What happens now – with the Internet and the ways of communication that make the boundaries very fluid?”* The Internet is perceived as a means to help the two communities of Cyprus to get closer to each other: *“In the case of the two communities in Cyprus, it can act as a leverage for the two communities to come together, even kind of virtually, before they get together physically”*.

One of my interview partners mentioned the *“cultural impact”* of the new communications technologies which affords new ways of contact: *“Now you can*

*talk with ... a Turkish Cypriot living across the so-called border, a few miles from here ... Now you have access to the whole thing, to a different world, to a different culture, to a different language, to a different way of thinking. So, you have ... to be ready ... to accept all these civilisations and cultures that one way or another in the future you will be living with ... because that's what the world demands now. So you cannot stay separate”.*

### **“Radical reform is needed. Modernisation here and now”<sup>20</sup>**

The perspective taken by my interview partners concerning the future of Cyprus is linked to the vision of a new economy and a society which is based on modern technology. An urgent impetus prevails: *“We must have changes”, “We can make it, but we have to move fast”, “We all know that those who do not embrace technology will be left behind”<sup>21</sup>, “Whoever is left behind is going to be kind of anachronistic”, “We must move on very fast, if we want to be part of this new world”.* The Swedish social anthropologist Paula Uimonen observes that this “general sense of urgency” is a wide-spread phenomenon in the world of today (Uimonen 1997). The US-American sociologist William Leiss speaks of the pressure of the “technical imperative”: *“We are led to believe that, if we hope to extract the collective benefit from new technologies, we shall have to make certain changes in the way we behave”* (Leiss 1992, 64). The concept of a digital future seems to be based on unavoidable structural necessities which are globally determined. However, it is not clear what “the better life” and “quality of life” actually will mean in the digital era. The term “quality of life” is defined in the Quality of Life Programme of the EU (1999) as “the quality of EU citizens’ individual lives (especially in terms of health), quality of the environment, and quality of communal life. It also includes harnessing the economic benefits of the expected developments in life sciences and technologies”. The focus of the political debate, so is emphasised, is shifting today away from a technical emphasis towards questions about “social embedding”, towards the social aspects of the information society, and the way in which organisational, commercial, social and legal innovations related to it have an actual impact on our lives (cf. Building the European Information Society for Us All 1997).

I questioned my interview partners how they envisioned their own life in the digital future. One of them, the General Manager of an e-commerce enterprise, answered: *“How do I envision myself in a digital age? Far away from anything digital actually! Where could I be in a digital age? Maybe in the same place I’m now, yes, in a not so digital age”.* Internet and computers, he added, are mere tools. *“I don’t know whether it’s good or bad for more technology or less*

<sup>20</sup>Glafcos Clerides, president of the Republic of Cyprus, as quoted in Cyprus Weekly May 12-18, 2000b.

<sup>21</sup>Marios Eliades, as quoted in Cyprus Weekly January 14-20, 2000.

*technology*”. The use of new technologies depends in his notion on the use people are putting it to. Every person could decide himself how much technology he wants in his life. However, the prerequisite was that individuals have access and are not excluded a priori. Additionally they have to have competencies which allow them to make a choice.

The argumentation of my interview partners recurrently points to a perspective on knowledge as a facilitating factor, in a similar vein as is expressed eg. in the World Bank Report of 1998/99: “Knowledge gives people a greater control over their fate” (World Development Report 1998/99, 2). My interview partners emphasise the necessity of change in Cyprus and the positive role for new technologies in Cyprus as a small, geographically isolated country, and especially for the economic sector, but also with respect to intercultural understanding in a globalising world as well as with regards to political and institutional changes. As experts in a significant future sector they are both able and willing to initiate and mediate change, thus playing a specific role in the development of their society. The political responsibility in their opinion lies in securing the option for Cyprus to meet the challenges of the information society. This means especially providing people with the qualifications necessary for a digital future. Change, progress, and modernisation in this perspective are less based on technology itself but on social and cultural development, government priorities, political will and the structure of institutions.

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