



Message from the Prime Minister

No society in the modern world can reach its full potential if it does not provide its citizens with not only the benefit of a strong education but the capacity to continue learning throughout life. In Thailand, we are very aware of the importance of a workforce and citizenry that is both skilled and adaptable, that has basic skills and an ability to adapt to a rapidly changing world and to be itself the source of innovations that continue the process of economic expansion and human development. To achieve the goal of educating such a workforce, a country like Thailand needs to use all of the resources at its disposal, resources that will allow it to provide skills and knowledge to all classes of people even in the remotest sections of the country. This can only be achieved by the use of all available means and eLearning has the greatest potential for making this advancement possible.

Technology provides new ways of enabling men and women of all ages and backgrounds to achieve an education that is personalized to their current educational level, cultural background, and interests and abilities. It has the capacity through distance learning to bridge the educational gap between urban centers and remote areas. It provides the capacity of men and women to continually upgrade their skills and obtain the information they need and want. The expansion of educational possibilities made possible by computers, the Internet, and other innovations constitutes an important step in human social development.

We often emphasize the educational benefits of eLearning but we also should emphasize the importance of these advances for political development. A democratic society cannot exist without an informed and educated citizenry and the techniques of eLearning can be invaluable in creating such a citizenry. Not only can these techniques help provide the basic skills to segments of the population that currently is educationally underserved, it also potentially provides all members of the population with the information that they need to make informed decisions in the electoral process and throughout their lives. It is imperative that all members of society be able not only to obtain information but also to evaluate it and integrate it.

I am thus very pleased that Thailand is once again hosting the International Conference on eLearning for Knowledge-Based Society and that the Ministry of Information and Communications Technology has played such a central role in organizing this year's conference. This indicates how critical we believe that this technology is for our economic and political life. I am certain that the presentations and discussions that take place at the conference will be invaluable for the realization of the potential of eLearning and thus for the social and economic development of Thailand, the Asia-Pacific area, and the entire world.

A handwritten signature in blue ink, which appears to be 'T. S.', written in a fluid, cursive style.

(Thaksin Shinawatra)
Prime Minister

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สำนักงานส่งเสริมอุตสาหกรรมซอฟต์แวร์แห่งชาติ (องค์การมหาชน)
Software Industry Promotion Agency (Public Organization)

**Software Industry Promotion Agency
(Public Organization)
www.sipa.or.th**

[Role and Mission](#)

The Software Industry Promotion Agency (Public Organization), a state agency under the Minister of Information Technology and Communications, has come into being in a time of great change in software technology. This change will open world software markets and provide Thailand an opportunity to claim a greater share of these markets, particularly in the areas of enterprise software, animation and multimedia, and embedded software.

The Software Industry Promotion Agency (Public Organization) has thus made devising approaches to improving the Thai software industry its primary mission. These approaches are improving the software industry through drives to build skills, to increase jobs, and to create marketing channels both at home and abroad.

Objectives

1. The Software Industry Promotion Agency (Public Organization) is to be the nation's primary agency for planning and formulating policy on development of the software industry.

2. The Software Industry Promotion Agency (Public Organization) is to promote the software industry through firm dedication to supporting development of the nation's software industry, through developing personnel, marketing, investment, production, and service to international standards, and through creating incentives to investment in the software industry by proposing tax measures and other privileges to the Cabinet.

3. The Software Industry Promotion Agency (Public Organization) is to support research and technology transfer and to devise regulations and measures needed to support the software industry.

4. The Software Industry Promotion Agency (Public Organization) is to foster the protection of intellectual property for software and is to serve as the primary agency for coordination and for solving problems related to the software industry

[Software Industry Promotion Agency \(SIPA\)](#)
[Keeping Thailand's software development on course](#)

The 24th of September, 2003, was a time of many great challenges in the business sector characterised by increased competition and razor-thin margins. It was on this day that the Software Industry Promotion Agency came into being with a mandate to promote, support and develop Thailand's software industry, leading it from strength to strength and building it into a major contributor to the Thai economy. SIPA's mission takes on three key areas.

Creating people with the right software development skills and at internationally acclaimed standards that will make the world confident of the quality of Thai software and Thai software development.

Creating jobs, encouraging investment and expanding the base of ICT users in order to stimulate ICT adoption nationwide.

Creating markets through carefully planned strategies to enable Thai software to enter overseas markets.

By 2010, SIPA will bring Thailand to the forefront of the world's software development map through the introduction of four carefully planned strategies.

The first strategy centres around the promotion of enterprise software and the creation of new and innovative software modules and intellectual property which can be reused within our industry.

Industries such as the tourism and hospitality industry will benefit through the adoption of tourism collaborative commerce or c-Commerce, bringing together the hospitality industry and software providers who can provide the latest innovations to help expand the market and services offered.

Another key target will be the small to medium enterprise. Adoption of ICT will help them increase their potential especially through the added efficiency of supply chain management which only the modern ICT revolution can address.

The second strategic industry is Animation and Multimedia, using the latest software to help creative Thai artists and talent express themselves through modern channels. This will help Thailand achieve its status as a regional centre for digital arts.

The third strategic industry builds on the second, that of games and mobile applications. The mobile platform is one which still has immense potential for growth and training Thai programmers to tap into this area is a key priority. The need for expertise in human-computer interaction will also help expand into the growing market of what has become known as edutainment and is expected to be a great money-earner for the country.

Last but not least is the embedded software industry which is an integral part of the many electrical appliances that Thailand is increasingly producing for the world market. With talented programmers in the market, the country can gain a larger slice of the value chain and work with industry to continue to be a major industrial producer.

In addition to these four key industries, SIPA has many other projects under our wing ranging from promotion of Open Source, software industry investment promotion and the ICT cities pilot projects to apply ICT to an entire new demographic segment of society.

SIPA has released two compilations of Open Source solutions, Suriyan, a server-solution, and Chantra, for workstations. Both are expected to help uplift the potential of both individuals and the SME.

The role of investment promotion lies with Thailand's Board of Investment, with SIPA helping to provide technical assistance and clarification where necessary. One of the fruits of cooperation is the ICT knowledge-worker project which will bring in talented foreigners to help develop the pilot projects in Chiang Mai, Khon Kaen and Phuket. In order to qualify, a prospective ICT worker must work in an ICT-related unit within the civil service; provide education in ICT; enhance the potential of Thailand's ICT industry; or develop the three provinces to become major software development hubs of Thailand.

Within the ICT cities, SIPA also offers support to citizens both in person and through the Internet, training on Animation and Multimedia and enhancing their local tourism industry through e-Commerce.

2010 will be the year where SIPA puts Thailand on the forefront of the world's software development map.

Address

89/2 Moo.3 Building 9 11th Floor, Changwattana Rd., Thungsonghong, Laksi Bangkok 10210 Tel. 0-2554 0400 Fax. 0-2554 0401-3 <http://www.sipa.or.th>



Message from the Deputy Prime Minister and Minister of Information and Communication Technology

In the past one often obtained a knowledge and skill set early in life and spent the rest of one's life working within the constraints of what one had learned in one's apprentice years. One might develop those skills and even make innovations that could be passed down to later generations, but the pace of change was so slow that at the end of one's life one was generally still living in the world of knowledge in which one began life. For some, this life of continuity and tradition is very attractive, offering a vision of stability and security. But it is also a limited life that does not allow full reign to the human capacity to grow throughout life nor the possibilities of social and scientific advancement that are possible today.

In recent years Information and Communications Technology has played the most critical role in this continuing social and historical development. Such technology allows us to produce and share knowledge and skills to a level that would have seemed impossible within the lifetimes of many of the participants of this conference. The technology has changed the relationships among peoples and nations, making the world a smaller place and providing opportunities for advancement in areas where positive change had seemed inconceivable just a short time ago. As we continue to build a knowledge-based society, the acceleration of change has reached an unprecedented level, making possible new forms of e-Commerce, e-Government, and e-Society.

At the heart of these changes is e-Learning, a set of processes and technologies that provides the basic, yet continually developing, skill set for all the other ways that ICT has an impact on modern lives. Without e-Learning we would, in short, remain in the traditional world from which we have been liberated. It is important, however, to not simply accept e-Learning as a slogan, simply assuming that it and its benefits are already in place throughout the world. We must continue to confront a Digital Divide between the developed and the modernizing world that has begun to dissipate but that remains an important factor. We must not be complacent but must work hard to achieve the full potential of these benefits.

The International Conference on e-Learning for Knowledge-Based Society has in the past played an important role in providing a forum where experts can meet and continue the progress made in this essential field. We are honored that this important event is taking place in Thailand for the third time and I am certain that the conference will be as productive this year as it has been in the past.

A handwritten signature in black ink that reads "Suchai" followed by a stylized flourish.

(Professor Suchai Charoenratanakul)
Deputy Prime Minister
Acting Minister of Information and Communication Technology



Message from the Permanent Secretary of the Ministry of Information and Communication Technology

In the past decades the nature of learning has changed dramatically. Hitherto formal education was not only open to the few but also limited to the early years of life. One would, of course, increase one's stock of information throughout life but this would occur by happenstance rather than by any formal educational process. The world has changed rapidly, however, and now all people want and need to continually grow and expand their knowledge and abilities and this change is made possible through advances in ICT. In the old world, education was a matter of face-to-face learning supplemented by the printed word. The introduction of Information and Communication Technology expands the possibilities of education beyond these traditional means, as important as those means continue to be.

It is, however, too easy to get caught up in the latest fad or novelty, reacting as much to technical ingenuity as to actual usefulness. We must always be aware that technology itself is only a means and not a true goal. If new devices and techniques do not truly provide better services to users or consumers they may be hindrances to better lives rather than true advances.

E-Learning is a necessity for modern life and any forum that can contribute to its advancement is making an important contribution to social and economic development. I am very pleased that once again I and my staff have been able to work with Professor Dr. Srisakdi Charmonman and his very committed organizing committee in arranging the Third Annual International Conference on eLearning for Knowledge-Based Society. In the past, this conference played an important function in allowing eLearning experts to gather together to hear formal presentations and talk among themselves, trading ideas and cementing types of relationships that still tend to depend on direct contact. We are certain that, as in the past, many of these relationships will continue on-line and that the spirit of cooperation of the conference will accelerate the advances that will be discussed here.

And so I welcome all of the participants to the Conference and give special welcome to those who have traveled to Bangkok from outside of Thailand. I am certain that the Conference will be as productive as the ones of previous years and all participants will leave with a set of new ideas, new friends and colleagues, and a renewed willingness to allow this exciting technological advance to reach its full potential.

A handwritten signature in black ink, which appears to read "K. Pornsuthiee". The signature is fluid and cursive.

(Kraisorn Pornsuthiee)
Permanent Secretary



Message from Chairperson of the Software Industry Promotion Agency (SIPA)

As the Chairperson of the Board of SIPA it is a matter of great satisfaction that my organization is supporting the publication of the proceedings of eLearningAP 2006-Third International Conference on eLearning for Knowledge-based Society.

Information Technology plays a significant role in the development of all of the sectors of world business and government, as well as in research and educational institutions. The expanded productivity and customer and client satisfaction that has resulted from these advances has resulted in a new world where eGovernment, eCommerce, eBusiness, eEntertainment, and eEducation are increasingly dominant. The possibilities of this new world are endless and we are just beginning to grasp how lives may be changed through the many advances already implemented and still to come.

Like technology, learning is a never-ending process. New knowledge, new findings emerge everyday. In the new era of rapid communication and globalization, men and women must have the means to remain current if they are to play a meaningful role in the new economy and in social life in general. They must have desire to learn new things constantly. Anything that provides people an ability to continue their education throughout their lifetime is invaluable, benefiting both the lifetime learners themselves and the country and world to which they belong.

New technology continually creates more opportunities and offers more choices for learning and obtaining knowledge. With it, learning becomes not a special pursuit but an ubiquitous process that has fewer limitations than ever before. Through technology, education, which is a fundamental component of any modern society, can truly reach everyone everywhere, enabling the knowledge-based society we have all heard so much about. I am certain that the Third International Conference on eLearning for Knowledge-Based Society will continue to successfully focus attention on eLearning and bring us closer to the true knowledge-based society.

A handwritten signature in blue ink that reads "K. Somana".

**(Mrs. Krueval Somana)
Chairperson of the Software Industry Promotion Agency (SIPA)**



Message from the Chairman of Organizing Committee

The term “eLearning” is “learning through electronic means”. Notice that the emphasis is placed on “learning,” mentioning the technological component with an abbreviated “e”. We are here, therefore, as educators and facilitators of education rather than pure technologists and this must be a guiding principle of our endeavors at the conference and, indeed, throughout our work in this area. Technology is a means in eLearning, not an end, and while the possibilities of education can be expected to expand with the introduction of technology we must make sure that we focus mainly on the function of education rather than the technology.

In doing this we will be contributing to one of the greatest endeavors of the modern world, a world where education has an importance beyond that which it had in the past. In earlier times formal education was an activity for the elite but now any citizen who hopes to lead a satisfying life and to contribute to society and the economy must not only receive a basic education but also engage in a life-long process of learning. This great expansion of educational function – this ideal of an education “for anyone, anywhere, at any time” – could only be implemented through the technology of eLearning. The “e” may be a secondary factor here, but that does not imply that it is an unimportant one.

The conference has in the past and will again this year help further not only the technology of eLearning but also the vision of how eLearning can expand the educational process while building on centuries of past practice and insight. ELearning is transforming our world for the better.

As Chairman of the Organizing Committee I would like very much to thank the Government of Thailand and the Ministry of Information and Communication Technology for the continued support for the conference. Also important for its success are the sponsors and the supporting organizations. The administration of Assumption University and the editors and staff of the IJCIM journal are to be thanked for once again publishing the proceedings of the conference, allowing a permanent record of the work presented. As Chairman I also like to express my sincere appreciation to all members of the Organizing Committee who have done so much to make the conference possible. I would like to acknowledge and thank Software Industry Promotion Agency (Public Organization) for its generosity in supporting the publication of the proceedings. And, of course, particular thanks go to the participants of the conference itself who have taken the time to present their papers and listen to the ideas and results of their colleagues. eLearning is an inherently cooperative activity and all those who have contributed to making this conference possible are to be congratulated on a job well done.

Professor Dr. Srisakdi Charmonman
Chairman of the Organizing Committee



Message from Deputy Chairpersons of the Organizing Committee

We are very pleased to welcome this distinguished gathering of scholars to Bangkok for the third International Conference on eLearning for Knowledge Based Society. It is recognized that eLearning would be an important element of all educational practice in the near future and that by taking leadership in this area we could make an important contribution to the development effort of all the countries. The previous conferences have exceeded our expectations and we are very excited about the insights that will be shared in this one.

At the Conference we will be as concerned with the theoretical aspects of eLearning as well as the technical aspects, with the very process of learning as much as with the implementation of that process. But we would like to suggest that we keep in the back of our minds a still deeper theoretical context, one that considers not simply how things are learned but what things should be learned. We should not, that is, simply consider how to implement and use educational technology but the nature of education in general.

A technology cannot be separated from its purpose. There are those who fear that any use of technology will be dehumanizing, reducing the learner – and the teacher – to a mechanical role. We are certain that such pessimism is unwarranted and that technology can be used to expand human potential rather than contract it. We believe that it is important for workers at every level – from the most theoretical to the most practical – to take into account this humanistic goal and to look for ways of accomplishing this goal. An important element of eLearning has to be efficiency and advances in educational productivity but we must always think about how we will use the time and resources made possible by technology.

This is an exciting time in education and the eLearning conference will play an important role in making basic advances. We look forward to hearing and reading the reports of the papers read on the conference and to meeting with many of the participants.

(Mrs. Maneerat Plipat)

(Mrs. Anchalaporn Siriwan)

Deputy Chairpersons of the Organizing Committee



Foreword

The International Journal of the Computer, the Internet and Management (IJCIM) at Srisakdi Charmonman IT Center of Assumption University of Thailand is delighted to once again publish the proceedings of the Third International Conference on eLearning for Knowledge-Based Society. eLearning is among the most important developments in modern education and provides one of the central building blocks for all aspects of the emerging structure of modern life. The continuation of the progress in the field demands that there be a cooperative effort of academics, businesspersons, IT and educational specialists, and members of many other fields. This range of interests is represented by both the varied participants at the conference and the wide range of institutions that sponsored or otherwise supported the conference, especially, the Ministry of Information and Communication Technology, Software Industry Promotion Agency (Public Organization), and the Asia-Pacific eLearning Association. The conference has the support of many organizations, including but not limited to the College of Internet Distance Education of Assumption University, Chulalongkorn University, Mahidol University, Kasetsart University, Sukhothai Thammathirat Open University, Ramkhamhaeng University, Civil Service Commission of Thailand, Higher Education Commission, the Computer Association of Thailand under the Royal Patronage of HM the King, Thailand Chapter of the Internet Society, Thailand Chapter of the ACM, Thailand Chapter of the Computer Society of the IEEE, Internet Association, the Association of Thai Internet Industry, and Srisakdi Charmonman Foundation.

The variety of relevant concerns can also be seen in the more than 50 papers from 17 countries which are very important and critical. As has been the case in past conferences the face to face interactions that occur at the conference are very significant. There may be those who see some irony in the need for an actual conference to explore matters of education mediated by electronic communications. But this is to have an overly reductive conception of eLearning: advocates are fully aware that there are aspects of the old ways that cannot be replaced by the new, however innovative those new techniques may be.

The scholarly papers from the conference that are included in this issue provide an interdisciplinary overview of the entire field of distance learning. The papers deal with the technological issues, the theory and practice of the educational content of eLearning, the training of professionals who can work effectively in the field, and the development of norms and standards. The conference and this publication will allow professionals and educational policy makers to gain a broad understanding of the entire field while allowing them to make contact with other interested workers, a development that promises to help further accelerate this rapidly changing field.

We thus expect the wide range of papers presented in this Third International Conference on eLearning for Knowledge-Based Society or eLearningAP 2006 conference will be useful and constitute material for long-time reference. We are delighted to participate in this important event within the eLearning community.



Prof. Dr. Srisakdi Charmonman
Editor-in-Chief
International Journal of the Computer,
the Internet and Management
Srisakdi Charmonman IT Center
Assumption University of Thailand

