Policy for the IT society

Recommendations from the members of the IT Policy Strategy Group

Content

Summary

After three years of work, it's now time for the members of the governmental IT Policy Strategy Group to summarise their efforts. We wish to pass on the experiences and proposals we have gathered together and based on these, make recommendations to the Government within the framework of a **policy for the IT society**.

Visions are required if we are to all strive in the right direction. We therefore wish to underline the importance of the Government creating a common vision of a desirable future scenario for Sweden. Based on this vision, time-framed, monitorable goals can then be established, strategies can be formulated and processes created to enable the right choices to be made along the way.

Continued **coordination** is needed in order to guarantee effective implementation of the IT policy in all areas. We therefore recommend that the Government create an internal strategic coordination function in the Government Offices for a policy for an **IT society** from a holistic perspective. This internal coordination function shall also create coordination channels between central government, local authorities, county councils and the business sector focusing on business development and with the support of public eServices. Making national functional specifications of requirements available in digital form is a part of this.

Doing the right things at the right time demands good knowledge and analysis of what is happening in **the external world**. We therefore recommend that the Government appoint a strategic group (preferably within the framework of the coordination function) to track trends and carry out global analysis activities in the IT field. We also recommend that the large external network built up by the Strategy Group be made use of and be further developed in order to ensure that the dialogue established between the business sector and the Government Offices in IT issues is not lost.

Accessibility to the **IT infrastructure** and **public confidence** in IT are the fundamental conditions needed to allow the information society to develop in a positive direction. The Government should ensure that Sweden becomes a country with a robust and future-proof IT infrastructure. This means providing the best conditions for innovations, entrepreneurship, public eServices and other IT-intensive activi-

ties. Furthermore, Swedish people, with the help of IT and a high-level of security, shall be able to access the services they need, how and when they want, regardless of where in the world they find themselves. Achieving this requires good procurement competence and the use of fast, effective tools in order to eliminate current obstacles.

The IT and telecom industry is one of the industries in Sweden that possesses enormous potential for **growth**. The Government should therefore invest in both cutting edge (stimulate research) and breadth (increase general IT skills) in order to create a globally competitive industry as well as encourage citizens to feel a sense of belonging to the digital society. The commercialisation of research and future skills supply are hence two key issues which the Government can influence. We also recommend that the Government create a symbolic project so that Sweden can demonstrate its talents as an information society during the country's EU presidency in the autumn of 2009.

To achieve an **environmentally appropriate information society**, the opportunities created by IT in the form of resource- and energy-efficient solutions, greater efficiency, scope for modified lifestyles and international competitiveness, must be grasped. Transport must be rendered more efficient, travel and mobility replaced by accessibility, building and housing become more energy-efficient and the environmental impact of IT products themselves reduced. We therefore recommend that the Government create coordination mechanisms in the field, ensure that intelligent building functions are included in energy declarations for buildings, support the development of intelligent transport systems (ITS) and introduce flexible forms of work and virtual meetings in the Government Offices and central agencies.

Active implementation of **IT in the healthcare and social services** is an important precondition to be able to meet future healthcare and social care needs, despite the fact that fewer will have to do more for increasingly more people. The Strategy Group's working group for the healthcare and social services successfully achieved its aim of drawing up a coherent strategy for the healthcare and social services. The Ministry of Health and Social Affairs has transformed this into a "National Strategy for the Healthcare and Social Ser-

vices". We recommend that the Government secures financing, establishes clear goals and constantly monitors implementation of the strategy.

The development and competitiveness of the information society is dependent on the reinforcement of **IT** use in **schools and learning**. We recommend that the Government establish a clear vision and monitorable goals for how schools and learning in the information society are to develop. This includes defining modern knowledge requirements and goals for the individual regarding digital literacy. These requirements and goals shall be clearly elucidated in future school curricula and syllabi.

In order for **IT** to be able to help make **culture** more accessible using new methods, current technical and organisational boundaries must be boldly transgressed. We therefore recommend that the Government take a number of different initiatives in order to support this development, e.g. by establishing a centre of excellence for the integration of culture, digital technology and entrepreneurship, improving young people's participation in social development through innovative forms of interaction and dialogue, drawing up a national strategy for the digital preservation of and accessibility to our cultural heritage and creating the conditions for new

business opportunities based on its content and resources.

For the information society to realise its full potential, the **digital gap** must be closed, **eDemocracy** must be fully implemented and the **legal framework of the information society** must be future-proof and technology-neutral. We wish therefore to highlight the importance of the Government ensuring that the digital gap is as small as possible by always seeking to satisfy the diverse needs of everyone in the society when building up eDemocracy and public eServices. The Government should also ensure that laws and regulations are both future-proof and predictable, so that digital phenomena do not receive separate treatment but are treated in the same way as non-digital phenomena.

As an area of expertise, IT is well on its way to becoming a natural part of all policy areas - a very positive development. IT remains its own area of expertise, however and to a certain extent shall continue to do so. We hope that the new government will drive development in a positive direction and create an information society with a good infrastructure for growth and innovation, reliable and accessible eServices, especially public eServices and above all: put Sweden back on top of the global IT map.

Introduction

"Swedish IT policy must be an integral part of the country's overall development policy. IT policy measures in all policy areas and social sectors must have high priority and reflect common aims and objectives. Sweden's decision-makers must take account of IT in their decisions just as they do today in economic and legal policy spheres." This was the wording of the vision adopted by the IT Policy Strategy Group at its inception three years ago. The IT Policy Strategy Group's remit comes to an end on 31 October 2006 and it is time for us as members of the group to summarise our efforts, ponder over the past and submit summary recommendations for the future.

We can see that the work we have done both inside and outside the Government Offices has produced good results, not always on our own initiative, since the our ambition has been to help others succeed. As a result of assiduous guidance and proactive efforts, IT is now integrated into most policy areas. Our working methods have focused on supporting the various ministries in their efforts, including those who deal with specific IT policy issues, since the responsibility for the different issues has also been firmly rooted at the relevant "home" ministry. We have strived to show the way in order to create dialogue and to foster cooperation. Our efforts have proven successful. As a result of the monthly meetings we have had with IT Minister Ulrica Messing, we have been able to act as advisors and a "think tank" in informal discussions, which has been of considerable benefit both to the minister and to us. Over the course of the past three years, we have built up a sound network of over 300 people, from whom we have gathered information, expert knowledge and requests. These contacts have provided us with common expertise far in excess of our own individual skills; we have been able to supplement our own skills with expert knowledge and new perspectives when and where necessary.

We can see clear results of our efforts within all the focus areas we have chosen to tackle, but our efforts and initiatives are more prominent in some areas than in others. We have been able to consult and collaborate with the relevant ministries, as well as with the business sector and organisations. With the help of working groups, we have compiled reports with proposals for national strategies within each focus area respectively. A successful example of this is the "IT in the healthcare and social services" focus area, where our efforts were taken over by the Ministry of Health and Social Affairs resulting in a national strategy and intensive efforts are currently being made to implement it. Summaries of all the focus areas can be found further on in this report.

One of our most important tasks has been to promote contacts between the business sector, the Government Offices and the rest of the public sector. Using our role and our working groups, we have been able to disseminate information, provide knowledge and background information leading to more securely underpinned decisions and, above all, give all the parties the opportunity to unite around a common assessment of the current situation and, based on this, convey their approach and attitudes to IT-related issues. This has led to more open discussions and a greater mutual understanding of the rules and processes to which the various parties must adhere. The intersectoral and contact-promoting efforts made by the Strategy Group's secretariat in this context have been invaluable.

Much of our work has been done within the walls of the Government Offices, where the location of our secretariat at the Ministry of Industry, Employment and Communications has enabled us to participate in the reviewing of proposals and bills. As a result of the broad composition of our members, our competent secretariat and large network, we have been able to supply expert knowledge within the IT area, provide the IT perspective when no such perspective was present and contribute resources to put more force behind certain initiatives. The IT policy bill was tabled by the Government during our remit. We took an active part in the preparatory work, not least by contributing opinions and proposals that emerged as a result of the intensive efforts of our working groups. It is pleasing to see how many of the Strategy Group's proposals have been concretised and now are part of the policy and exciting social development. We are above all proud of the fact that, with the help of all other parties involved, we managed to clarify a shift of focus in IT policy, something which is reflected in the title of the bill ("From IT policy for society to policy for the IT society"), a title that was the result of a Strategy Group proposal. It im-

plies that the IT issue is to be pursued in all policy areas and no longer seen as it own specific domain. The broad understanding for IT shown by decision-makers, especially within the Government Offices, with the help of our very competent secretariat, has resulted in several ministries now working actively and innovatively with the issues. In addition, IT has been identified by the Government as one of Sweden's six most important future industries, as a result of initiatives within the framework of the sector programmes.

With this final report, we would like to thank all those who have worked with us over the years. Without the good cooperation of all the people in our network, the results of our work had not been so far-reaching. We would also like to extend our immense gratitude to our fantastic secretariat, which has unfalteringly stood by us in our more or less im-

possible initiatives, constantly encouraged all those involved to initiate intersectoral contact both within, between and outside the Government Offices and last but not least been a persistent driving force. Without their knowledge, commitment and inexhaustible energy, very few of those who now understand the potential of IT would actually have done so.

The report is arranged as follows. Chapter 1 describes the Strategy Group's proposals for future vision conception, coordination and guidance within the IT policy. Chapters 2-8 outline proposals for future efforts within the framework of the various focus areas, which have been drafted by the Strategy Group. The report reflects only the thoughts and proposals of the members of the IT Policy Strategy Group and has hence not been jointly prepared within the Government Offices.

Stockholm, 26 October 2006

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Please refer to our website at:
www.regeringen.se/sb/d/2495 for further information

1 Vision conception, coordination and guidance

It is clear that continued national coordination and guidance as regards IT policy are necessary. IT is central to social issues and is dealt with by a large number of ministries, agencies, organisations and companies. In order to get these actors to cooperate, a continuous dialogue is needed in which coordination effects and gains can be achieved. Without such a dialogue, initiatives, development and efforts will go in several different directions to the detriment of society. Someone must take responsibility for overall coordination! The Strategy Group has developed different fora, networks and constellations for this and we hope these will be promoted further.

We have worked extensively with visions and coordination as the framework of our activities. Guidance has been of vital importance to be able to provide political leaders, government officials and other stakeholders with expertise in IT policy issues. These three areas are essential to be able to pursue coherent strategic and political work towards the **IT society** we want to create.

The Strategy Group (members and secretariat) has taken on a number of different roles during its three years of existence: advisor, driving force and coordinator. An external party (the members) with an internal secretariat has been given the opportunity to work in a new way, which has been both exciting and challenging.

We have based our work on several different perspectives, which we have identified via some of the Strategy Group's stakeholders; the political leadership, government officials and the external world. The most important role has been coordinator, both external and internal at the Government Offices, a role fulfilled very successfully by our secretariat. In the process of their work, they have utilised both their own expertise as well as the external expertise that has been close to hand in the form of the Strategy Group's members and the large network built up by the working group participants.

A function similar to that of coordinator is the role of think-tank, which we have had at our meetings with the minister and the IT R&D Division at the Ministry of Industry, Employment and Communications (IT R&D). In addition to providing scope for mutual dialogue in confidence, the monthly meetings with the minister have also had an important symbolic value. The same has been true of the meetings with IT R&D.

A third important function is the dialogue we have successfully struck up between the Government Offices and the external world. The direct and indirect efforts made by the Strategy Group members, together with the secretariat as regards the internal process, as well as the direct contact between the members and the minister have played a key part in this. We have also helped to allocate high priority to IT policy issues, both inside and outside the Government Offices. Our monthly newsletter, published to disseminate information about IT policy issues, has had more subscribers than any other newsletter produced by the Government Offices. This is evidence of the substantial interest these issues attract in the world at large and at the same time confirms the need for a dialogue.

We have, however, met with some difficulties along the way. One such difficulty has been reconciling an external perspective with the rules and routines that characterise the Government Offices. For example, the organisational placement of our secretariat as a unit within the IT R&D Division at the Ministry of Industry, Employment and Communications, which has constituted a new working method for the Government Offices, has been both positive and negative. In our opinion, the positives have outweighed the negatives, especially compared to if the secretariat had been placed outside the Government Offices. One of the positives has been the close contact enjoyed by some of us as members and the secretariat with desk officers at IT R&D. This has provided us with a sound and necessary insight into IT policy work, both on a national and international level, as well as early on in the internal process. A negative aspect has been the shared leadership. The secretariat has been managed by both the Strategy Group and the director of IT R&D. The latter has also had staff and budget responsibilities, whilst the head of the secretariat has had a supervisory responsibility. The result has been a shared leadership, sometimes with contradictory requests and demands and staff responsibility has been exercised without much of an insight into the day-to-

day activities and the development of individual members of staff. Furthermore, the secretariat staff have not been permanently employed but have had their employment contracts extended every year. This lack of clarity caused by a shared staff and management responsibility has led to a certain amount of staff turnover and a feeling of insecurity at the secretariat - the very secretariat that has been the key driving force behind the work of the Strategy Group. An evaluation of the Strategy Group unequivocally shows that this shared leadership has not been successful.

We have appreciated the fact that we have been allowed to work in a new way. Our experiences have been important for our recommendations as regards future IT policy organisation.

1.1 The future scenario

Recommendation:

Visions are required if we are to all strive in the right direction. We therefore wish to underline the importance of the Government creating a common vision of a desirable future scenario for Sweden. Based on this vision, time-framed, monitorable goals can then be established, strategies can be formulated and processes created to enable the right choices to be made along the way. The future scenario we present here can be used as a basis for the vision.

Since our inception, our ambition has been to participate in the public debate on the information society. For a long time, our focus was on contributing input, proposals and ideas for the IT bill that was adopted by the Riksdag in January 2006. The title of the bill, "From IT policy for the society to policy for the IT society", was tabled as a way of initiating a discussion on what an information society actually means. As long as the rapid development of technology continues to scare people and in the wake of the IT bubble, there will always be citizens who associate IT with the risk of losing their jobs. An open discussion is therefore needed that can lead to a more balanced picture of the future - a future society which many may wish to strive towards. In the final phase of its work, the Strategy Group has chosen to present a future scenario (one of several possible scenarios) and not another vision. For us, a vision is a picture of the future steeped in values and political

aspiration and this, in our opinion, should be left up to the politicians. There has been a lack of political visions for the future and have noted with astonishment that no political parties in recent years have tried or even dared to discuss our future society, not even during this year's election campaign. They have instead concentrated on dealing with present-day defects and deficiencies.

The future scenario has formed the basis of several discussions in various fora over the last six months and we hope it will continue to inspire people to further open discussion.

On-going social change, with the Internet as a powerful driving force and with processes such as globalisation, automation, commercialisation, systemisation and rationalisation, is transforming countries into global players, competing with each other on an increasingly coherent, mobile and global market. Predicting a generally accepted future scenario of where development will take us in 15-20 years time is, in the light of these processes, not particularly difficult. The difficult thing is to assess how the politically desired vision can be achieved bearing this future scenario in mind; what should be combated and what should be promoted? Politics must encapsulate this future scenario into political visions of the future society with adherent strategies for their realisation.

Sweden built a modern industrial society in the 20th century, with its central pillars of welfare and military non-alignment; the "Swedish factory", a welfare society that with introverted pride in its achievements sometimes deluded itself into believing it was independent from the external world. Now, the world is instead dominated by trade, business, consumption, services and markets. The vast majority of Swedish people have left the factories and can now be found on the global market, either out in the world or at home in Swedish meeting-places. In the 21st century, we should not be building an introverted factory, but rather a "global Sweden", a swift-footed player enjoying success on the global market.

"Global Sweden" is an open society with a business sector and population that use globalisation to serve their purposes and make the entire world into their arena. It is a technology-friendly society, a master in production automation and service provision, a testing ground for the latest technology, a commercial society where trade is the main occupation, with

attractive meeting-places and a superior ability to commercialise and sell services. Furthermore, it is a mobile society that has becoming increasingly independent of location, with Swedish people and Swedish business rather than Swedish territory being the focus of attention, a rational knowledge society, which monitors the world around and has a high level of education, with research, innovation and knowledge as its competitive devices, and an education system oriented towards the skills requirements of the global market society. The world is now growing together, services are being automated and integrated, trade and consumption globalised.

An entirely new Sweden is emerging. The Sweden of the 21st century is where Swedish people are and we are much more often out in the world, working, studying, socialising and experiencing. And when we travel out in the world, we want to take Sweden with us.

The global Sweden is out in the world, with public services for Swedish people in place abroad, helping Swedish companies and individuals, promoting Swedish interests and contributing to sustainable development, security and global welfare. This extrovert **Global Sweden** has at the same time created inviting, attractive meeting and market-places at home for business, culture, experiences and recreation.

Sweden as a meeting-place is an open, attractive society, with good communications and corporate establishment potential. The population is increasingly found in larger cities, especially Stockholm, which has grown and developed fantastic meeting-places with cutting-edge infrastructure - IT, logistics and transport. These meeting-places, with the commerce and culture they offer and the skills needed to operate them, provide Sweden in 2020 with its character. They also provide excellent opportunities for corporate establishments, where the regulatory framework and structures positively contribute to making Sweden an attractive location for companies to establish themselves. Other parts of Sweden are also developing into increasingly attractive destinations for visitors for experience, adventure and recreation, which, in combination with a strategic IT development, has made us into one of the best in the world at developing and deepening the experience prior to, during and after a visit.

In Global Sweden, the structure of public services has been adapted to suit an ever-more mobile population. Healthcare, education, social services and the exercising of official authority are all online for self-service and as outreach services and supervision at all meeting-places in society. The significance of public sector offices, hospitals and school buildings has diminished. More and more services will be extra dimensions of your life, available everywhere, at any time. The market for such services is growing and Global Sweden is fostering a superior ability to develop, commercialise and sell services.

Global Sweden has a labour market characterised on the one hand by the idea of Sweden as the attractive meeting-place, and on the other the idea of Sweden as a global player. Swedish people have skills that are adapted to this new society, skills acquired as a result of lifelong learning in an education system that has become well integrated into a rapidly changing, globalised society.

The business sector on the global market is characterised by ever faster innovation. Global Sweden is characterised by flexibility and change, by innovation and rapid adjustment. Businesses come and go but the society is designed for just such a business climate. The public sector has found new forms for both its own continuous improvement and for how the sector can support a changing and developing business sector, both domestically and abroad.

1.2 Coordination

Recommendation:

Continued coordination is needed in order to guarantee effective implementation of the IT policy in all areas. We therefore would like to recommend that the Government create an internal strategic coordination function in the Government Offices for a policy for an IT society from a holistic perspective. This internal coordination function shall also create coordination channels between central government, local authorities, county councils and the business sector focusing on business development and with the support of public eServices. Making national functional specifications of requirements available in digital form is a part of this.

The intersectoral and inter-organisational nature of IT makes greater coordination and cooperation in the IT policy

field essential if the information society is to show its true colours. It is also important in order to avoid isolated islands of technical development. This is true for logistic, technical and organisational structures alike, but it is also a question of how decisions in various policy areas can influence or can be influenced by IT policy. IT policy straddles all other policy areas and an understanding that everyone's efforts are important for a strong IT policy, or rather a strong policy for an **IT society**, is needed. The use of IT cannot be viewed separately from other developments and the modernisation of public administration. It may also be difficult for an organisation to motivate an investment, the effect of which primarily manifests itself elsewhere, regardless of how large this effect will be. The healthcare and social services sector is such an example, where development is dependent on information under controlled forms being available to all parts of the healthcare chain. Such operational and process development requires that all parties have the same conception of the world, the same conceptual notions and the same security classification of information. This demands well-coordinated efforts. Central government has a key role and shall take the responsibility for coordinating, financing or facilitating financing across organisational borders, especially within the public sector. The Government also has, in a similar way, a special responsibility for IT policy coordination within the Government Offices, within all the ministries.

During our remit, we have chosen to prioritise efforts that contribute to coordination and a holistic approach. In the area of "coordination", we have looked at ideas on national basic functions/specifications. The expression "basic functions" was coined by the Strategy Group in the 2005 IT bill. It describes how the Swedish Administrative Development Agency, Verva, in consultation with Sweden's local authorities, county councils and business sector, shall develop common national specifications of requirements (basic functions) to facilitate inter-organisational efforts. IT system procurements must facilitate effective exchange of information by focusing not only on functionality but also on user-friendliness and robust systems. Examples of important areas in which common specifications of requirements need to be established are identification and authentification. These functions are two of the cornerstones in the development of public eServices.

Developing national specifications of requirements and making these available digitally and free of charge is an example of a important coordinated effort. Consistent use of common national specifications of requirements leads to technology- and supplier-neutral solutions that minimise the risk of bad investments and enable intersectoral communication. Such an approach provides scope for actors to apply these solutions where appropriate instead of having to wait for or be precipitated by the actions of third parties.

It is important to distinguish between coordination and implementation. Good operational implementation demands a great deal of effort and in particular a central coordination function so as not to miss out on e.g. synergy effects. We feel therefore that the responsibility for IT coordination should be separated from (pure) IT issues. The responsibility for coordination could be given to a party close to the political leadership in order to obtain a good overview and provide scope for putting any legislation, other implementations/measures and investments into a holistic perspective. Furthermore, it should be possible for this party to act in all policy areas. It is also important to distinguish inter-ministerial IT policy coordination from the handling of pure IT policy issues e.g. concerning communication in an infrastructure perspective, which should be dealt with in accordance with current practice within each area of responsibility respectively.

Further recommendations:

- Continued and more in-depth work with common standards. In the efforts being primarily made by the Swedish Administrative Development Agency, Verva, to develop and allocate responsibility for common national specifications of requirements, we propose further coordination and that central government takes the responsibility for implementation when necessary. It is of key importance that common standards and specifications to be used in procurements of public eServices are developed for the entire public administration sector. Verva should therefore establish focus groups with participants from local authorities, county councils, agencies and the business sector alike. These groups shall assist with expertise on common standards (or develop new ones if they do not already exist), based on what are al-

ready used as "de facto standards" in the business sector and internationally. These standards shall be available digitally, openly and free of charge so that they can be used for public and private procurements. The development of the functional specifications of requirements (basic functions) is urgent!

- Ensure that IT is considered in all decisions in the same way as e.g. economic, legal and HR issues are currently considered (see our vision). In other words, put the efforts in a holistic perspective to be able to compare the different degrees of influence they have on growth, the need of legislation and their impact on society.

1.3   Guidance

Recommendation:

Doing the right things at the right time demands good knowledge and analysis of what is happening in the external world. We therefore recommend that the Government appoint a strategic group to track trends and carry out environmental analysis activities in the IT field. We also recommend that the large external network built up by the Strategy Group be made use of and be further developed in order to ensure that the dialogue established between the business sector and the Government Offices in IT issues is not lost. This can be aptly combined with the IT policy coordination function as described above under 1.2.

The Government appointed the first IT commission to create scope for external contacts and guidance in relation to the Government and the Government Offices. When creating the IT Policy Strategy Group, the Government chose to take another step, by preserving the external element whilst creating closer ties with the Government Offices by locating the Group's secretariat at the Ministry of Industry, Employment and Communication. The focus was on more practical work rather than the writing of reports. Our activities have constituted a channel from the external world in and out of the Government Offices. This has allowed important issues concerning the external world to be identified at an early stage and dealt with when appropriate. The broad skills of the Group's members have also enabled IT policy issues within

widely different areas to be identified, elucidated and in certain cases rectified. Our large network of over 300 people has also given the political leadership, government officials and other stakeholders access to expertise in various IT-related fields. In our opinion, this has also helped to enhance IT skills in the Government Offices whilst the external world's understanding of the working methods of the Government Offices has also increased. We therefore see a continued need for a function that can provide the Government Offices with environmental analyses that is forward-looking, active and systematic. Such a function should be swift-footed and be able to identify relevant subjects and also have access to experts that have a holistic view of IT use.

Further recommendations:

- Invest in greater international presence and monitoring in IT contexts. In addition to the many international events, groups and organisations that require our presence, Sweden will also need to make intensive efforts prior to taking over the EU Presidency in 2009. More benchmarking is also required in order to ensure IT-Sweden's competitiveness remains strong. This will also increase the need for strategic analyses to support the political leadership.

2 Accessibility, public confidence and IT infrastructure

Recommendation:

Accessibility to the IT infrastructure and public confidence in IT are the fundamental conditions needed to allow the information society to be able to develop in a positive direction. The Government should ensure that Sweden becomes a country with a robust and future-proof IT infrastructure. This means providing the best conditions for innovations, entrepreneurship, public eServices and other IT-intensive activities. Furthermore, Swedish people, with the help of IT and a high level of security, shall be able to access the services they need, how and when they want, regardless of where in the world they find themselves. Achieving this requires good purchasing skills and the use of fast, effective tools in order to eliminate current obstacles.

Accessibility, in the form of access, when, where and how the user wants it, is a prerequisite for an information society for all. Citizens and companies shall have access to a stable and reliable IT infrastructure (both fixed and mobile) which in turn provides access to a broad range of services with extensive freedom of choice. Public confidence in IT and the Internet are also of central importance. This implies a number of demands being placed on various players - both in the business sector (operators, network owners and other stakeholders) and the public sector (legislators, regulators, etc. and network owners and financiers). By means of this vision we want to bring about both a growth-oriented climate and freedom of choice for the end-user, given the future scenario of globalisation and of Sweden as a meeting-place that is described in Chapter 1.1.

Growth and innovation in the broadband area require a number of investments going far beyond IT policy. Among them are a changed attitude to public procurement; procurement competence; new building standards to promote broadband installation during rebuilding, building extension and new construction; investment in research and education; etc. Sweden must become an attractive place in which to develop and test new services, as well as a meeting-place for expertise in the area.

The government broadband initiative has laid the foundation for an IT infrastructure over the entire country, and we see an increased focus on services, user-friendliness and benefit. Through the development of both public and private eServices and eCommerce and an increased need to disseminate and obtain information, considerable demands will be placed on the existing and emerging IT infrastructure. Issues relating to robustness, mobility (accessibility when, how and where the user wants it) and transparency and competition are central and require measures and cooperation between all the players involved, private and public as well as international, national, regional and local.

The guidance given by the Strategy Group in this area has mostly been a question of assisting the Government Offices by supplying technical and strategic expertise in different issues. We see however that the main focus of the support given by the Strategy Group has been on coordination, i.e. ensuring that the various measures and proposals are in line with the overall IT policy goal of an information society for all, and also with our own vision of IT being a integral part of all policy areas.

We appointed a working group in April 2004, which worked on issues relating to infrastructure and broadband for just over two and a half years. Similar to other working groups, this group began by providing an unequivocal definition of the current situation. Getting the participants of the group (various operators, agencies, urban networks, the Swedish Association of Local Authorities and Regions, etc.) to agree on such a description has proven to be a difficult and time-consuming task. Both the Strategy Group and the working group have contributed proposals in the area, mostly for the IT bill but also for communications within the Government Offices. We have also tried to encourage a shift in focus, from IT infrastructure to services, use and benefit, where the IT infrastructure and its development is still nevertheless essential. There are still issues left to be resolved, mostly market obstacles such as "price squeezing" effects and lock-in and lock-out.

See also our report "Broadband for growth, innovation and competitiveness" for more information, comments and proposals in the area of Accessibility, public confidence and infrastructure.

Further recommendations:

- An IT policy agenda must be developed as part of the general industrial policy for greater growth and innovation based on Swedish IT infrastructure.

- Regulations, interventions, ownership and the roles of the public sector must be characterised by predictability and a long-term approach, as well as adopting a holistic perspective over all policy areas. Government initiatives should primarily complement sector initiatives and agreements, stimulate demand and have clear, monitorable goals.

- Introduce a holistic approach, within the framework of which public ownership is coordinated and central government sets a good example in its ownership role. Central government should actively work to ensure that the current problems in relation to the copper network do not arise in the new infrastructures already existing and now emerging (fibre networks).

- The broadband subsidy should be retained to stimulate a continuation of network roll-out, both as regards the subsidy for the diffusion network and in the form of a subsidy to households for connection costs. Such a "home broadband subsidy" should be implemented similar to or as an extension to the government "home PC initiative", whereby employers subsidise the purchase of a home PC. Furthermore, the support should also be extended to include new groups, e.g. students, the unemployed, pensioners, etc.

- In consultation, the industry should set down game rules for cooperation between the country's dominant network owners. Central agencies should initiate and support such a development. The market should be encouraged to increase cooperation among the owners of physical infrastructures for electronic communication and electricity supply, etc. Electricity supply focusing on reserve power supply should be studied in particular. Greater cooperation among electricity supply and electronic communication network owners is currently being promoted by the National Post and Telecom Agency

and the Swedish national grid but should be further encouraged or formalised by means of central government initiatives.

- A fibre network coverage map should be established, showing the areas where the black fibre product or equivalent is available, which acts as a guide for operators and other actors who want to establish themselves in different areas. In addition, plans should be drawn up for an expanding surface coverage, including the formulation of goals.

- Pipe-laying should be coordinated, including the allocation of costs, the goal being that empty piping should at least be laid when excavation must in any case be carried out. A review of documentation rules should be performed, with the aim of creating uniformity and increasing precision and quality in the work. Central government should take the initiative in such agreements.

- The industry should initiate cooperation for the drawing-up of game rules for communications operators.

- The Telephone Advice Bureau, in consultation with the industry, the National Post and Telecom Agency, the Swedish Consumer Agency, Verva and others, should produce a proposal for labelling broadband products and services with different quality and quality standards for the consumer market, as well as a specification for labelling different IP services and standard agreements for a basic Internet service.

- Purchasers and especially Verva, which represents the public sector, should ensure clear requirements are formulated. In addition, continue to develop specifications of basic functions focusing on IT infrastructure and the Internet.

3 Growth

Recommendation:

The IT and telecom industry is one of the industries in Sweden that possesses enormous potential for growth. The Government should therefore invest in both cutting edge (stimulate research) and breadth (increase general IT skills) in order to create a globally competitive industry as well as encourage citizens to feel a sense of belonging to the digital society. The commercialisation of research and future skills supply are hence two key issues which the Government has potential to influence. We also recommend that the Government create a symbolic project so that Sweden can demonstrate its talents as an information society during the country's EU presidency in the autumn of 2009.

The IT and telecom industry has considerable growth potential and is of substantial significance for the Swedish economy. After the decline in the industry at the beginning of the 2000s, powerful recovery is now underway. It is the Strategy Group's assessment that Sweden's growth in the foreseeable future is dependent on innovative IT use. IT contributes to growth not only by being part of new services and products, but also indirectly by being used to increase efficiency. Efficient use of IT can free up resources which in turn can be used to create new products and services. This is true of all areas of activity and industries in the business and public sectors. It is however important to focus efforts in research and innovation so that Sweden can maintain a prominent position within the area. Three areas which we feel are of particular importance in tackling the economic boom are skills provision for the public sector (especially as regards purchasers), the commercialisation of research findings and the commercialisation of business and process solutions in the public sector.

Another important area is IT use among small and medium-sized enterprises (SMEs). They currently only use IT to a limited extent for their own business development, e.g. eCommerce, eInvoicing and digitalised processes. Instead, these enterprises use IT mostly for marketing purposes and to send email. Growth in Sweden is very dependent on SMEs and good IT skills and a high degree of IT use among them will increase their competitiveness.

In the future Sweden, the focus is on knowledge and citizens take an active part in the digital society. Swedish industry has transformed itself and now focuses on the areas where it has skills: complex systems, design and research, which has given us a higher position in the value chain. Universities and university colleges have actively contributed to an increased level of education both regarding undergraduate and postgraduate studies. In certain areas, this has made Sweden an attractive centre for foreign researchers in the IT and telecom sector.

See also the report from the working group for "A strong IT and telecom sector" for more information, comments and suggestions in the area of Growth and the Government's sector programmes for IT and telecommunications.

Further recommendations:

- The broadband subsidy should remain in order to stimulate continued roll-out of the distribution network.

- Frequency allocation should stimulate new products and services as well as network roll-out and the development of existing networks.

- Place traditional services and eServices on an equal footing in every aspect, i.e. adapt Swedish legislation and regulations so that they don't obstruct or discriminate electronic services.

- Continuously strive to increase the motivation of compulsory school and upper secondary school graduates to choose IT and technology-related higher education programmes.

- Work out a solution in relation to the Swedish Public Procurement Act, which provides companies with scope to participate in pilot projects without the risk of being disqualified from subsequent procurements. The current ban constitutes an formidable obstacle for small companies. Testing small-scale pilot projects is also very important in order to find new solutions and increase the efficiency of the public sector with the help of IT. It is also important for small companies to be given the opportunity to participate in public procurements, as is current the case in the United States through the Small Business Innovation Research (SBIR) mechanism.

- Symbolic projects are a good way of mustering resources and provide evidence of implementation that spans many sectors. The "Secure City" project, which could be a very successful Swedish export, is, for example, included in the Government's sector programmes.

4 An environmentally appropriate information society

Recommendation:

To achieve an environmentally appropriate information society, the opportunities created by IT in the form of resource- and energy-efficient solutions, greater efficiency, scope for modified lifestyles and international competitiveness, must be grasped. Transport must be rendered more efficient, travel and mobility replaced by accessibility, building and housing become more energy-efficient and the environmental impact of IT products themselves reduced. We therefore recommend that the Government create coordination functions in the field, ensure that intelligent building functions are included in energy declarations for buildings, support the development of intelligent transport systems (ITS) and introduce flexible forms of work and virtual meetings in the Government Offices and central agencies.

Sustainable development is a central concept in discussions about the future. The common natural assets at the disposal of the world's population are limited whilst economic growth mostly leads to increased environmental impact. At the same time, the current rapid development within the area of IT is contributing greatly to changes in society. Properly used, technology can be a tool to extract economic and environmental benefit from the increased needs. Within the framework of the concept of sustainable development, the Strategy Group has therefore elected to focus on the environmental perspective. Sweden should make use of the opportunities created by IT in the form of resource- and energy-efficient solutions, greater efficiency, changed lifestyles and international competitiveness. In addition to environment improvements, this can also lead to socioeconomic benefits. By investing in greater use of intelligent solutions in technology and above all different forms of environmental technology, the market in this area can grow even stronger. The public and private sectors must cooperate in order to increase the environmental consideration in their activities and to do this effectively, they must exploit the potential afforded by IT. IT is not the only tool but it is an important one that above all can be the catalyst for many other solutions.

In order to inspire and concretise, our IT and environment working group has drawn up a proposal for a national strategy for IT and an ecologically sustainable information society. The strategy focuses on efforts in the areas where the economic and environmental potential is greatest. These areas are transport and travel, building and housing as well as the environmental impact of IT products themselves throughout their lifecycle.

Central government is perfectly placed to drive development forward both as a user and a purchaser. While the domestic front is central in this task, Sweden's export dependency, increased globalisation and the transboundary nature of environmental problems all mean that active environmental work has to be directed not only towards Sweden. Scope should be provided to commercialise the solutions drawn up within the public sector and convert them into successful exports. The influence of IT on the environmental area must also be studied more widely to clarify the rebound effects, which will provide a better basis for decisions and investments.

For further reading, proposals for measures and examples of applications, see the Strategy Group report "An environmentally appropriate information society in 2020!"

Further recommendations:

- To be able to support the development of new technology in the environmental field and of IT products with considerable environmental potential, we propose that technical procurements be managed by a suitable party, for products within these categories, in order to further support the efforts made by the environmental technology and IT sector in this area. Public procurement can also be an important instrument in these efforts, although without compulsory requirements.

5 IT in the healthcare and social services

Recommendation:

Active implementation of IT in the healthcare and social services is an important precondition to be able to meet future healthcare and social care needs, despite the fact that fewer will have to do more for increasingly more people. The Strategy Group's working group for the healthcare and social services successfully achieved its aim of drawing up a coherent strategy for the healthcare and social services. The Ministry of Health and Social Affairs has transformed this into a "National IT-Strategy for the Healthcare and Social Services". We recommend that the Government secures financing, establishes clear goals and continuously monitors implementation of the strategy. We also recommend that this implementation be clearly linked to the coordination mentioned in Chapter 1.2.

In the coming years, Sweden faces a demographic development in which fewer people will have to support increasing numbers of people. IT therefore constitutes an important tool that can help to increase productivity and efficiency. It is the Strategy Group's assessment that the role of IT in the healthcare and social services is vital if society is to be able to meet its increased needs in the area. A policy for IT in the healthcare and social services must be based on the citizens' need for coherent healthcare and social services information.

This requires a reliable and cohesive national IT infrastructure for the healthcare and social services, the standardisation of common terminology and concepts and a uniform information structure. Other key issues are greater coordination, the development of national healthcare information and skills. IT must be an integral part of activities and this requires that managers on all levels understand its importance and the opportunities it can provide. IT can for example be used as a means of developing the skills of healthcare and social services personnel via e.g. simulations, to enable common or coordinated healthcare interventions and for further research and information exchange in the field.

Our work in this area has been very successful in that the report from the Strategy Group working group "IT in the healthcare and social services" provided the Ministry of Health and Social Affairs with a basis for work in the field, resulting in the national IT strategy for the healthcare and social services. This is a good example of effective coordination between different policy areas and the Strategy Group's working method of focusing and analysing a subject area, which an interested recipient has then been able to develop further, both on the political and the senior official level.

Further recommendations:

- A continued coherent national action plan at the Ministry of Health and Social Affairs is needed to remove a number of obstacles at the national level, e.g. how to make information accessible over organisational boundaries and how to allow intersectoral financing. Implementation of the national strategy must be partly supported by financing on the national level. It is important to continue to analyse the scope, cost distribution, structure of executive/administrative organisations and models for monitoring the effects. All this in a holistic and process perspective.

- Work with the national strategy should be done in cooperation with Verva and its efforts with common public sector specifications of requirements. It is important that the needs of these functional specifications of requirements are identified in a dialogue between the Swedish Association of Local Authorities and Regions, the Ministry of Health and Social Affairs, the National Board of Health and Welfare, suppliers and other relevant actors.

- Work with the national IT strategy for the healthcare and social services should be coordinated with the national strategy for eAdministration. It is important that issues concerning the development of new eServices consider people's need of services regardless of time or place, but with preserved citizen security and integrity.

6 IT in schools and learning
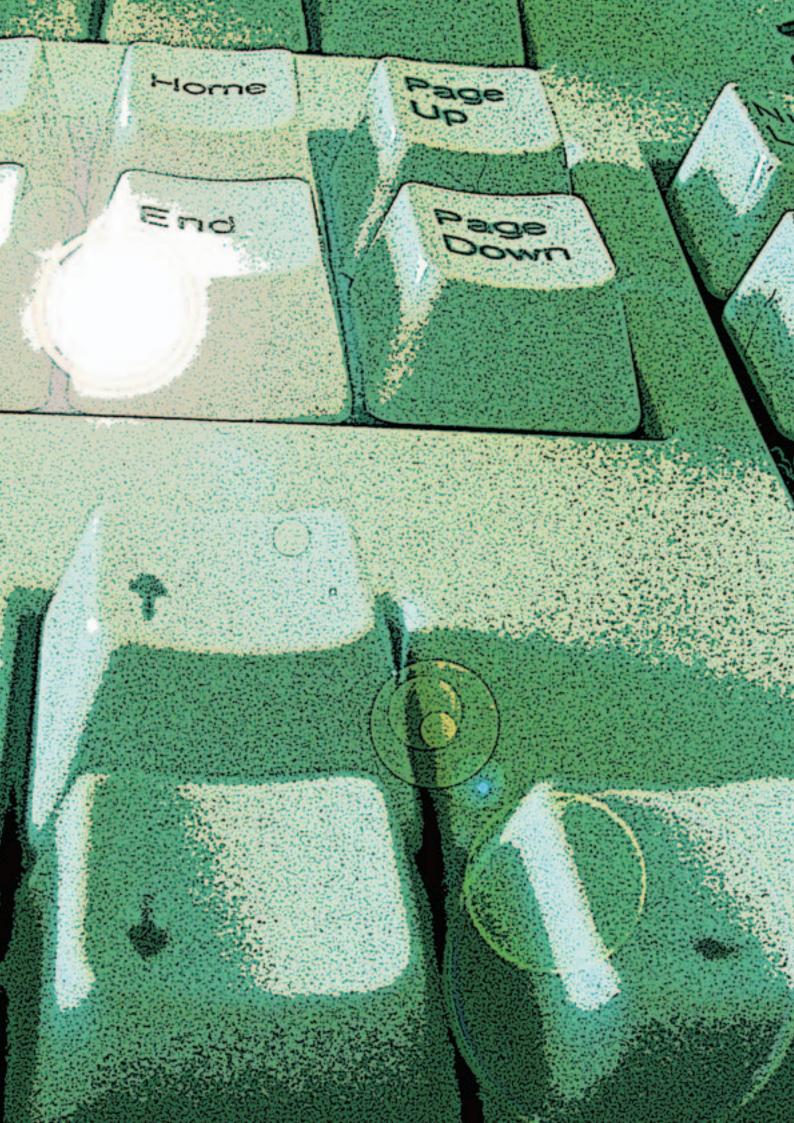
Recommendation:

The development and competitiveness of the information society is dependent on the reinforcement of IT use in schools and learning. We recommend that the Government establish a clear vision and monitorable goals for how schools and learning in the information society are to develop. This includes defining modern knowledge requirements and goals for the individual regarding digital literacy. These requirements and goals shall be clearly elucidated in future school curricula and syllabi.

In a learning society, every individual is provided with the right conditions in which to learn and develop by him/her being encouraged to take on challenges and being instilled with a desire and curiosity when it comes to testing their limits. IT is used in both a conventional and innovative way in learning processes. Learning and education increase competitiveness in individuals, organisations and Sweden as a country and are therefore of importance for growth in a national perspective.

The benefits of IT in learning are numerous. As far as the individual is concerned, IT can increase and develop the potential for learning by enabling new forms and processes of learning and communication. As regards organisations, IT can help develop working methods and activities, improve efficiency and create new opportunities for learning. From a society perspective, IT can widen the scope for coordinated learning, leading to efficiency and productivity gains. Furthermore, IT can improve accessibility, by enabling flexible forms and organisations for learning that are more adapted to the needs of both the individual and the society.

Further recommendations:

- Develop and design teacher education programmes to meet the tough requirements for development and renewal imposed by the information society.

- Create a national model for skills development of professionally active teachers so that they can develop their working methods in order to meet current and future requirements.

- Develop open common standards of information, terminology and concepts within the framework of a national soft infrastructure. This is important for the continued, efficient development of IT use and also promotes the use of open content in Swedish schools.

- Task central government actors to play a promoting and supportive role in order to increase the use of open standards and open software in the Swedish education system.

- Increase cooperation on PPP and Triple Helix, e.g. by supporting leading-edge projects on the use of new technology in the pedagogical process.

7 IT and culture

Recommendation:

In order for IT to help make culture more accessible using new methods, current technical and organisational boundaries must be boldly transgressed. We therefore recommend that the Government takes a number of different initiatives in order to support this development, e.g. by establishing a centre of excellence for the integration of culture, digital technology and entrepreneurship, improving young people's participation in social development through innovative forms of interaction and dialogue, drawing up a national strategy for the digital preservation of and accessibility to our cultural heritage and creating the conditions for new business opportunities based on its content and resources.

IT provides new prerequisites and opportunities to make culture accessible in new ways. Digital technology helps us to both preserve and develop our cultural heritage. Culture and the results of culture will be utilised in new ways and in new situations both in the field of culture itself as well as in the education system and business development. The questions that need answering include: How can more people, with the help of technology, obtain access to our cultural heritage and present-day culture? How do we also make cultural heritage accessible to future generations? How can we use cultural content and assets for knowledge, skills and business development for the benefit of cultural life, authors, education, business and the rest of society?

Sweden has the necessary prerequisites to be in the vanguard of this development and should derive advantage from the opportunities. This development imposes new demands on cooperative projects, intersectoral contacts and meeting-places. It is a question of allowing culture to become both an integrated part in the development of the content of IT services and an important element to inspire and drive technological development. One way of achieving this is to create new types of meeting-places that take a holistic approach to knowledge building and innovation in the meeting between culture and technology. The intersectoral knowledge area emerging from the meeting between IT and culture provides new potential for business development. Bringing together areas such as art and technology is a challenge that can re-sult in new opportunities for the development of services, products and enterprises. It is necessary to strike a balance between cultural development and cultural preservation to secure the free practice of different cultural forms and so that such practice can occur in parallel with profit-driven cultural development, thereby creating well-needed, new revenues for cultural life and its free practitioners.

For further reading, proposals for measures and examples of applications, see the Strategy Group's report "IT+culture=growth?"

Further recommendations:

- Create a national working group tasked to analyse future market needs, business models, business and funding possibilities, research programmes, educational requirements, etc., based on IT and culture. Bringing together areas such as art and technology is a challenge that can result in new opportunities for the development of services, products and enterprises.

- Launch a broad national skills development and idea-provoking initiative in cooperation with relevant foundations aimed at the future training of teachers based on IT, culture and creativity. We need alternative goals and guiding principles if we are to successfully broaden understanding for the potential of IT.

- Provide continued support to Sweden's efforts in the Bureau International des Expositions (BIE) by setting up a virtual world exhibition, in which Sweden can create a new cultural meeting-place.

8 Democracy, digital gaps and the law in the information society

Recommendation:

For the information society to realise its full potential, the digital gap must be closed, eDemocracy must be fully implemented and the legal framework of the information society must be future-proof and technology-neutral. We wish therefore to highlight the importance of the Government ensuring that the digital gap is as small as possible by always seeking to satisfy the diverse needs of everyone in the society when building up eDemocracy and public eServices. The Government should also ensure that laws and regulations are both future-proof and reliable, so that digital phenomena do not receive separate treatment but are treated in the same way as non-digital phenomena.

The direction of Swedish IT policy, with regard to democracy, implies that IT will increase everyone's accessibility to information on public sector activities and participation in democratic decision-making processes, both in Sweden and internationally. The issue of eDemocracy spans the entire society and its prerequisites are founded in IT infrastructure, public confidence, accessibility and access. Public eServices are an important part of our efforts. E-id, or rather identification and authentification, is a key issue in this focus area and the Strategy Group has striven to create discussion fora and consensus on the issue.

E-Democracy is closely linked to digital gaps. The information society provides completely new opportunities for accessibility and participation. Information and services being accessible 24 hours a day increases transparency in society. At the same time, however, these new and to a certain extent already self-explanatory information channels constitute an obstacle for those who, due to disability, age, other cultural or linguistic background or lack of education, cannot make use of the tools that provide the foundation of the information society. In many cases it is often people with e.g. serious disabilities that can derive the most benefit from eServices, which provide them with the opportunity of being more independent and not reliant on assistants etc., to do simple, everyday tasks. The digital gap is therefore an important area to work on and level out to enable Sweden to really become an sustainable information society for all.

The legal dimension is also a crucial factor in the creation of the information society. Laws and rules that can create stability, predictability, security and public confidence are needed in order to reach the goal of a sustainable information society for all. The increasingly important role of IT requires that existing regulatory frameworks be updated and that on occasion completely new laws be introduced. It is at the same time important that legislators do not impose more regulation on digital phenomena than on non-digital ones. The same rules shall apply to digital as to non-digital phenomena. Another important aspect is the protection of personal integrity, since IT provides new scope for tracing, storing and blocking information. The rules established must be weighed against the benefits they convey, the possible effect they have on growth, what the costs might be, how responsibility is to be allocated and how the technology will develop.

Further recommendations:

- Websites and other eServices should be made more accessible to persons with disabilities. Services that are accessible to persons with disabilities and older people are generally easily accessible to all users. Enable easy access to computers for people who currently have no such access and also provide support for such people in their computer use. Clear targets need to be established in this respect.

- Establish a prize within the industry for "simplicity". The complexity of many IT services hampers their use.

- As regards legislation in the field of IT, ensure that integrity, security, technology, growth and social development are all taken into consideration so as not to risk legislation that is technology or supplier-dependent.