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Research and interdisciplinary evaluation on the information society : networks,uses and roles of the State : second annual report : 1998: interuniversity poles of attraction : phase IV

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SECOND ANNUAL REPORT : 1998

Interuniversity Poles of Attraction (I.P.A.)

Phase IV

« Research and Interdisciplinary Evaluation on the Information Society : Networks, Uses and Roles of the State »

Promoters :

- **J.C. Burgelman (VUB SMIT)**
- **F. Pichault (ULg LENTIC)**
- **Y. Pouillet (FUNDP CITA&CRID)**

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1. Staff

The date of the beginning of a contract is given below only if it is different from the date of the beginning of the IPA.

1.1. CITA /CRID

1.1.1. Promoter/Coordinator

Yves POULLET Lawyer (Ph.D.)

1.1.2. Personnel on IPA (Interuniversity Poles of Attraction) contracts

Name	Background	Percentage on IPA
Paul BELLEFLAMME	Economist (Ph.D.)	100 % since 11/97
Dominique DIENG	Lawyer - Marketing & Management Specialist	100 % until 01/03/97 60 % since 01/03/97
Marie d'UDEKEM-GEVERS	Computer scientist - Biologist (Ph.D.) - Anthropologist	40 %
Axel LEFEBVRE	Lawyer	50 % since 1/1/98
Laura OGER	Secretary	25 %

1.1.3. Personnel being paid on other contracts but working within the IPA-network

Name	Background
Jacques BERLEUR	Civil Engineer - 'Meta - computer scientist', Philosopher Theologian
Jean-Marie CHEFFERT	Economist (Ph.D.)
Claire LOBET-MARIS	Sociologist (Ph.D.)
Robert QUECK	Lawyer
Béatrice van BASTELAER	Economist

1.2. LENTIC

1.2.1. Promoter

François PICHAULT Sociologist (Ph.D.)

1.2.2. Personnel on IPA contracts

Name	Background	Percentage on IAP
Marc MINON	Economist	100 %
Paola FAYS	Secretary	10 %

1.2.3. Personnel being paid on other contracts but working within the IPA-network

Name	Background
Linda AGRO	Business management specialist
Marc BOGDANOWICZ	Social psychologist
Jean-Noël BROUIR	Communication scientist
Dominique GILLEROT	Business management specialist

1.3. SMIT

1.3.1. Promoter

Jean-Claude BURGELMAN Communication scientist (Ph.D.)

1.3.2. Personnel on IPA contracts

Name	Background	Percentage on IPA
Bart CAMMAERTS	Political scientist	100 % since 15-5-97
Pascal VERHOEST	Communication scientist (Ph.D.)	10 % since 1-1-97

1.3.3. Personnel being paid on other contracts but working within the IPA-network

Name	Background
Franck NEUCKENS	Communication scientist
Gert NULENS	Communication scientist
Carolien PAUWELS	Communication scientist (Ph.D.)
Jo PIERSON	Communication scientist
Yves PUNIE	Communication scientist
Leo van AUDENHOVE	Communication scientist

2. Summary of the research

2.1. *Reminder of the project goals*

Based on a tradition of co-operation between the three parties involved (CITA-CRID, LENTIC and SMIT), the project aims to set up a pole of research and interdisciplinary assessment on the development of the Information Society, and in particular information superhighways in Belgium, and to increase basic knowledge about the impacts of information technology on society. Based on both conceptual studies and empirical analysis, this pole is meant to contribute to the definition of sustainable development policies of the Belgian Information Society, made possible through intensive work on the enhancement of its results.

The research is structured around three main axes, each one including a conceptual, an empirical and an evaluative/prospective dimension, which can be understood in the light of the application and development of the methodological results already acquired in Technology Assessment. Here follows a definition of these dimensions for each of the three axes.

Axis 1. Economy of innovation and development of networks

The first work axis deals with the identification of development scenarios for communication networks of the future. Its conceptual dimension aims at setting up an analytical framework enabling the study of the different existing technical solutions for communication networks. This task starts from an analysis of the interactions between and the strategies of the actors on the markets for telecommunications and information and communication technologies (ICT); the observations need then to be confronted with economic theories related to innovation, investment, standardisation and industrial organisation. The empirical dimension consists in drawing up a map of the actors, undertaking detailed analysis of their interests, of the means used by them, and of the strategies of alliance and conflict in which they engage. Finally, the evaluative/prospective dimension aims at establishing and assessing different existing scenarios, with special attention being brought to the interests and controversies at stake.

Axis 2. Dynamics of uses and logics of appropriation

The objective of the second axis is twofold: there is, first, the need to understand more deeply how ICT are used in their social, cultural and organisational contexts; then, such better understanding must lead to the identification of the conditions under which the demand for innovative services may arise and develop in the Information Society. In the conceptual dimension, the associated teams take advantage of their previous work and set up a common framework to understand the dynamics behind the usage of ICT, through the analysis of social appropriation behaviour, demand formation, and social as well as cultural transformations. The empirical dimension deals with the observation of some communities of users (or creators) of networks (or of communication services) which serve as prototypes for the communication systems of the future (Internet, inter-organisational communication systems, etc.). Finally, the evaluative/prospective dimension implies a definition of relevant action schemes in the field of formation (about new cognitive models, for instance), in the conduct of social experiments and in regulation. This dimension also consists in defining the role of the State and its expected actions concerning the promotion and regulation of innovating uses.

Axis 3. Management of the public/general interest and State intervention in the Information Society

The transformation of society into an information – and thus knowledge based – society prompts a multitude of questions hitherto unanswered. The third axis has the ambition to answer at least some of those questions through fundamental scientific research; that is, the axis focuses on the role of the state in the development towards an information society and its role as protector of the 'public interest'. The conceptual dimension aims at clarifying the current debate on the "public service" notion through work on the socio-historical evolution of the public/general interest notion, on the role of the State, and on the ethical foundations capable of taking into account cultural differences and assisting regulatory authorities. The empirical dimension implies an analysis and comparison of various existing approaches, both at the level of defining public/general interest and at the level of its subsidisation, as well as that of the regulatory role granted to the States. Finally, the evaluative/prospective dimension seeks to determine the economic feasibility and social relevance of the different approaches to the public/general interest standard and propose a novel framework for State intervention in the Information Society. This raises the issue of the relationship between self-regulation and the ethical considerations regarding public/general interest regulation in the Information Society.

2.2. Reminder of the research performed in 1997

Most of the work done in 1997 with respect to the three axes has concerned the first – conceptual – dimension. The first year of the project can thus be described as an intellectual and conceptual 'reconnaissance flight'. During this process, the associated research centres have exchanged their respective knowledge and competence in order to identify well-suited theoretical frameworks allowing them to tackle the various issues raised in the initial proposal. To this end, they have evaluated their past and present research in the light of the identified theoretical frameworks. Through a common reflection, they have then set up a research agenda for the years to come, based on the insights gained in the two previous stages.

This common learning process took shape, for each work axis, with extensive contacts between the associated centres, concluded by the organisation of a scientific closed workshop where methodological, theoretical and empirical papers were presented, and where a lot of room was left for global discussion and reflection about the directions to be given to future research. The three research teams also seized the opportunity offered by these regular meetings to design a strategy for the dissemination of the results of their common research: a series of four open workshops (to be held in the course of 1998) has been agreed upon. They also identified specific topics on which future research should be focused.

2.3. Overview of the research performed in 1998

We now give a bird's-eye view of the research performed in 1998, pertaining to each work axis (the details can be found in Section 3). It is worth noting that the distinction between the three axes is mostly drawn for the sake of the exposition. Two obvious facts should indeed be borne in mind during the reading of this report: (i) because of the very interdisciplinary and global nature of the research, there are a number of overlapping issues from one axis to the other; (ii) though specialised in a single work axis, the majority of the staff of the three research centres takes an active part in the common reflection about all three axes. Note in this respect that two main issues are on the global agenda of the whole IPA network: (i) the effects

of the emergent information society on employment, and (ii) the close observation of the international and Belgian telecom markets.

2.3.1. Axis 1. Economy of innovation and development of networks

At the end of the conceptual dimension, the associated centres decided to focus the research for Axis 1 mainly around three main projects:

- the first project was the organisation of an open workshop about the evolution of employment in the information society;
- the second, more prospective, project aimed at understanding the economic implications of the process of "digital convergence";
- the third project concerned the empirical description of the telecommunications and ICT markets and the identification of the players' strategies and interactions.

As far as the first project is concerned, an open workshop, entitled "*Information Society and Employment*", was held on May 14, 1998. The workshop concerned the multiform issue of the effects on employment of the development of the Information Society. The goal of the workshop was twofold: (i) to survey the research related to the effects of ICT on employment, and (ii) to identify directions that could be taken to conduct further research. To this aim, researchers were gathered to exchange on the fields chosen as well as on the methodologies used to study the subject. During the seminar, participants have discussed the relationships between the Information Society and the following three themes: (i) job creation, (ii) job location, (iii) new qualifications and the structure of the workforce.

On the same topic of "Information Society and Employment", a research has started at the end of 1998 that concerns the evolution of the specific jobs related to ICT, the so-called "Information Technicians" professions. Based on the findings that the classic theory of professions is incomplete to understand what is at stake today in this professional category of information technicians, the research aims at understanding the reasons of their poor professionalisation today.

Regarding the second project, significant progress has been made to analyse – both theoretically and empirically – the economic implications of the process of digital convergence. The first step has been a description of the two different trends that are embodied by digital convergence; that is, at the infrastructure level, the ability of different network platforms to carry essentially similar kinds of services and, at the service level, the coming together of consumer devices such as the telephone, television and personal computer. Then, the following research question has been identified and investigated: why, despite its popular image, the "service convergence" is today much less real than the "infrastructure convergence"? On the theoretical level, industrial organisation models have been analysed to shed light on the factors that potentially favour – or discourage – vertical alliances between firms belonging to the different sectors concerned by digital convergence. On the empirical level, the IPA team has set up a *study of the book industry* where the rise of electronic commerce introduces a potential for new goods and services, and for new relationships between the main actors. The work in progress with respect to the two facets of this research will be presented during an internal PAI workshop, scheduled on August 27, 1999.

Because the third project overlaps with the work of the other two axes, it was decided that the whole network would perform it transversely.

Finally, part of the activities performed in 1998 with respect to Axis 1 has also dealt with the

continuation of work initiated in the past. While this work does not exactly pertain to the main research projects identified in 1997, it is nevertheless closely connected with the global subject of Axis I, i.e., the economics of innovation and of network development and, more particularly, with strategic issues linked to the adoption of ICT.

2.3.2. Axis 2. Dynamics of uses and logics of appropriation

In 1997, the teams associated in the IPA IV have undertaken research projects along both the theoretical and the empirical dimension of Axis 2. Based on this research, several main questions of interest were identified for 1998.

- At the theoretical level, the aim was to carry on with the different paths of co-operation between the associated teams; these paths concern: (i) theoretical frameworks and the interpretation of IT case studies, (ii) the relationships between micro and macro levels of analysis, (iii) the approach of the user, and (iv) failure and success concepts.
- Various empirical fields of interests with respect to the public development of ICT were also identified: (i) the analysis of the new entrants in the public service sectors; (ii) the population's needs for new services and public applications; (iii) the growing importance of "digital cities". The empirical dimension of Axis 2 was also fully taken into account by the organisation of a second open workshop entitled "*Information Society, Administration and Citizens*".

During 1998, a theoretical approach has been built referring to different models of usage usually mobilised in the social sciences dealing with technological innovation: the *diffusion* model, the *appropriation* model, the *translation* model.

On this theoretical basis, different case studies have been undertaken by the members of the IPA.

- *A quantitative survey on equipment and use of computers by the Belgian households – Use of the non-profit services*

The survey analyses, on the basis of the diffusion model, the use by individuals of Internet services in Belgium and aims more particularly to seize the scope of the evolutions in the use of public services oriented Web sites. Although, Internet use is clearly spreading out, the consultation of public services WEB sites still remains marginal. However, Internet use is evolving very fast and a regular resumption of the survey will help understand the evolutions in progress, giving a new view on the actions to take in order to increase public services uses via the electronic networks.

- *Interorganisational use of groupware technologies within the industry*

This research aims at identifying the conditions that may influence the introduction and the use of groupware tools in the industry. The follow-up and the evaluation of experiments with groupware tools in different industry sectors showed the intervention of a complex mixture of technological, organisational, relational and individual conditions influencing the projects. Their analysis was based on a theoretical framework composed of the three models.

- *Social uses of interorganisational communication systems within Belgian federal administrations*

This study concentrates on the conditions that may contribute or on the contrary restrain the

diffusion and appropriation of ICT applications in public administrations. Starting from a clear identification of the specificities of the public sector, the study is based on 12 case studies analysing the introduction of telematic innovation projects in 12 federal administrations. Given the need to seize characteristics of users and of the organisations, as well as their modes of involvement, the study is based on both appropriation and translation models.

- *Social dialog within networks organisations*

This research aims at understanding the socio-organisational stakes involved by the intensive use of ICT in the new modalities of inter-company co-operation. It analyses first the evolution of the forms of human resources management that are developing in order to cope with these new organisational environments, as well as how social dialogue is brought to evolve. It refers to the translation model.

- *Methodology of users involvement in the development of ICT applications in the non-profit sector*

By identifying the elements that might explain, at least partially, the diversity of user's involvement modalities that are used in projects during development of telematics applications, the research aims at the creation of a user guide putting into evidence the key factors of success in user's involvement programs related to technological innovation. The translation model is most adequate to analyse these issues.

- *Improving the relation with the citizen using electronic services («Digital Cities»)*

The research on the virtual cities points out three main lines of analysis: (i) the management of multimedia projects; (ii) the concept of interactivity and the reorganisation of the administration; (iii) the concept of the transferability of results.

These studies will be an opportunity for further conceptual work within the IAP. They will notably lead in early 2000 to the organisation of a seminar devoted to the use of ICT within the administration.

2.3.3. Axis 3. Management of the public/general interest and State intervention

Whereas 1997 was set down as an intellectual and conceptual reconnaissance flight, 1998 could be described as the start of a voyage towards defined destinations. The deepening of theoretical insights and the refinement of analytical concepts were the central concerns. This phase of the project consisted therefore of two main objectives: on the one hand, an ongoing historical and theoretical reflection on the changing role of the state in the field of ICT and of the challenges for future public policy; on the other hand, the widening of co-operation between the different research centres in the light of the previous goal.

First of all, part of the research effort of Axis 3 was concentrated on the open seminar entitled 'Paving the Way for a New Public Telecommunication Policy' (21/10/1998). The purpose of this seminar was to examine how public policy has to be adapted in order to reconcile market and social objectives in a global, privatised and competitive communication market.

Besides this open seminar, the four main topics as delimited in 1997 were refined towards more tangible issues. These four topics are: (i) macro trends and their implications for telecommunication policy; (ii) regulatory frameworks: economic efficiency versus social equity; (iii) ethics, technical control and self-regulation; (iv) observation of the Belgian and

rules for enforcement, are rather disappointing. It looks like the reign of vagueness. As far as the law is concerned, the main question envisaged in the research has been to compare and assess the legal and the self-regulating systems and to explicit the conditions under which self-regulation may bring in the scope some more flexible and efficient governance of the Internet. A state of the art paper, entitled 'Some considerations on the Cyberspace Law', has been discussed and supplemented by some more specific analyses on the protection of privacy (with a discriminating analysis of the choices made by the Europeans and by the USA), and on the protection of copyrights (examining more closely the question of the competition between law and technology).

Regarding the role of law in the Information Society and especially the relationship between Internet and the Law, the way in which the development of the Internet challenges the law and in particular its production, application and enforcement was analysed. After an identification of the problems originated by the raise of Internet, solutions with regard to the needed adaptations of existing legal concepts as well as of the current methods of production, application and enforcement of the law were proposed and assessed. In this context were addressed the relationship between national and international law as well as between State regulation and other methods of regulation.

Finally, the findings derived above were also relevant for the observation of the Belgian and international telecommunications market. It is indeed difficult to describe the changes in the Belgian telecommunications market without taking into account the international context both on a political and an economic level. However, it is still early to make a sound assessment of the liberalisation of the Belgian telecom market. In the mean time data is being collected in order to incorporate this assessment in the theoretical research which has been done. This comprises: making an inventory of the players who have joined the Belgian market as well as the services they provide, monitoring the 'dominant' position of the incumbent operator (Belgacom), evaluating the position of the regulator (BIPT), and critically assessing the Belgian anti-trust policy. Its clear that during the following years, especially with regard to the comparative analysis which will start in the autumn of 1999, more attention will go to this issue. In the mean time, in 1998, much of the efforts concerning this issue went to the *Agora98* forum on the Information Society in Belgium.¹ Within each of the three sessions (industry, users and youth/democracy), members of the IPA network were active. All research centres involved in the IPA network; CRID/CITA, SMIT & LENTIC, collaborated to make this a success.

¹ Agora98 was an initiative of vice-prime minister and minister for economic affairs and telecommunication Elio Di Rupo, the regulator BIPT and Fabrimetal.

3. Description of the work performed in 1998

This section starts with a detailed description of the research undertaken under the three work axes. For each axis, the global evolution of the project is first recalled; then, the main results obtained during the year 1998 are presented; finally, work in progress and directions for future research are delineated. These forecasts for next year are gathered and further developed at the end of the section.

3.1. Axis 1: Economy of innovation and development of networks

3.1.1. General evolution of the project

The first work axis deals with the identification of development scenarios for communication networks of the future. As scheduled in the initial proposal, this work axis has been divided into three major dimensions.

- The first dimension of the work is of a theoretical and methodological nature. The aim is to finalise an analytical framework enabling the study of the different existing technical solutions for communication networks.
- The second dimension is empirical and consists in drawing up a map of the actors, undertaking detailed analysis of their interests, of the means used by them, and of the strategies of alliance and conflict in which they engage.
- The third dimension, implying assessment and prospective considerations, aims at establishing and assessing different existing scenarios, with special attention being brought to the interests and controversies at stake.

Most of the work done during 1997 has concerned the first dimension of the project; one has also started to tackle the second dimension. In particular, the three associated centres have mainly focused on the scientific representation of a communication network. Through a survey of different strands of the economic literature, adequate theoretical tools have been identified and, in the light of an empirical description of the main actual trends on the scene of information and communication technologies (ICT), a list of lines of future research was drawn up.

At the end of 1997, the associated centres decided to focus the research for Axis 1 mainly around three main projects:

- the first project was the organisation of an open workshop about the evolution of employment in the information society;
- the second, more prospective, project aimed at understanding the economic implications of the process of "digital convergence";
- the third project concerned the empirical description of the telecommunications and ICT markets and the identification of the players' strategies and of the interactions between them; since this task overlaps with the work of the other two axes, it was decided that the whole network would perform it transversely.

We now review in depth the two first projects, as well as other research related to Axis 1 (Section 3.1.2). The forecasts for next year are delineated in Section 3.1.3.

3.1.2. Work performed in 1998

A. Open seminar: Information Society and Employment

In order to disseminate the results of the IPA researchers and to confront them with the opinions of both international academics and practitioners, the associated teams decided to schedule in 1998 a series of three open seminars. The first of these seminars, entitled "Information Society and Employment", was held in ULg on May 14, 1998. This seminar was placed under the responsibility of the LENTIC team and benefited from the collaboration of the other associated centres. Here is a summary of the main insights gained during this seminar.

The seminar concerned the multiform issue of the effects of the development of the Information Society on employment. The goal of the seminar was twofold: (i) to survey the research related to the effects of ICT on employment, and (ii) to identify directions that could be taken to conduct further research. To this aim, researchers were gathered to exchange on the fields chosen as well as on the methodologies used to study the subject.

During the seminar, three main themes have been discussed:

- Information Society and job creation;
- Information Society and job location;
- Information Society, new qualifications and the structure of the workforce.

◆ **Information Society and job creation**

The first theme concentrates on the macro-social impact of the development of the Information Society. In other words, it aims to assess how the emergence of ICT modifies the traditional debate on the relation between technological innovation and employment.

This subject is the continuation of the research that has been lead by LENTIC on the effects of the liberalisation of the telecommunications sector on employment. Different studies have been conducted to measure the overall macro-economic employment effects of this evolution. However, the results between the different studies are not all converging. These studies all depart from the construction of an econometric model in order to run simulations on alternative scenarios and taking as reference a base scenario, which measures what would have been the situation if liberalisation would not have been operational. These models enable to isolate direct effects based on the changes in the structure of the telecommunication sector (emergence of new entrants) from the induced effects on the overall economy, related between other to changes in the price structure of telecommunications products.

The divergent results of the different researches that have been lead, are among others, related to the difficulty in measuring those induced effects on main industry and services.

◆ **Information Society and job location**

The second subject concentrates on the development of the information society, employment and territories. The idea is to examine whether the information society contributes to integration between regions or whether it favours a new geographical concentration and what could be in response potential strategies of regional actors.

The seminar has highlighted the fact that research on the effects of ICT on regional development and job location has evolved in its approach.

- First, the question has been treated through the viewpoint of job relocation from one place to another. This theme is integrated in one of the most spectacular aspects of the

ICT: being able to do at distance what used to be done necessarily nearby. The fear of main job relocation in the services sector and the first research conducted around teleworking have been motivated by this aspect.

- According to the limits of this approach, a new approach has been developed around the fact that ICT increased new co-ordination possibilities of existing activities, rather than leading to job relocation.
- More and more studies add an additional dimension to this approach which is more related to ICT as support to new activity development and consequently to the creation of new jobs.

What is generally accepted is that ICT will probably have a major impact on future patterns of work. They increase the tradability and codification of many service activities – which in turn will alter the geographic concentration of industry. The result, however, is unlikely to be simply either decentralisation or increased centralisation – but a complex mixture of both.

◆ **Information Society, new qualifications and the structure of the workforce**

Another important aspect of ICT relates to the organisation of the work patterns inside the structure of the companies, which is the last theme developed in the seminar. Two main streams have been in this respect.

- ICT become an integrative part of the production process in companies. This integration is the result of an organisation with an increasing number of transfers where information and communication are at the same time products, methods and means of work. The information and its management, the knowledge and its codification become strategic factors for the organisation. ICT imply transformation of the organisation of work enabling at the same time control and autonomy and encourage new modes of involvement. ICT become means of work but also means of training. These two dimensions are more and more convergent. It increases the importance given to skill's management inside the organisation.
- At the same time, ICT enable development of flexible working organisation, including increased time and space flexibility as well as contractual flexibility. This evolution may lead to precarious job situations that use the potential offered by ICT to use interim workforce, to foster individualism, to disintegrate the salaried class, to question collective solidarity. Without judging the evolution towards an economy which requires flexible job solutions, there is probably a need to take distance from traditional organisation and regulation of work towards a conceptual approach of flexible work which may discard the development of precarious work situations.

The papers presented during the seminar will be published in 1999 in a special issue of *Technologies de l'Information et Société* (TIS, Vol. 9, n° 3-4).

B. Microeconomic implications of digital convergence

This research project has been launched by CITA, in collaboration with LENTIC. Digital convergence embodies a "coming-together" of the telecommunications, information technology and the audio-visual sectors; it implies the uniting of the functions of PCs, TVs, and telephones, and creates thereby a managerial and technological challenge for a very large number of firms belonging to various industries. Convergence has become a highly debated topic in the ICT and business press; surprisingly however, it has inspired so far very few theoretical contributions in the economic literature.

In each of the three sectors just mentioned, firms have traditionally developed horizontal strategies: winning firms are the ones with a large, and usually dominant share in a horizontal layer (such as operating systems (Microsoft) and microprocessors (Intel) in PCs); similarly, standards are generally agreed upon horizontally (see, for example, the long-standing arrangements between consumer electronics companies such as Sharp, Hitachi, Sony and Philips, or between large computer manufacturers). While horizontal strategies are critical for firms, they are also big obstacles to digital convergence. One critical factor for convergence to take place is therefore the creation of "vertical coalitions" between firms belonging to the three sectors; strong associations between inhabitants of these different worlds need to be formed in order either to market new "converging" products, or at least to design "plug and play" standards allowing products from different industries to be easily combined. Such vertical alliances are still, however, fraught with difficulty.

The aim of the theoretical research is to shed some light on the factors that potentially favour – or discourage – vertical alliances between firms belonging to different sectors. Once the theoretical research achieved, an empirical research is planned to validate it, with a special reference to the Belgian situation.

As far as the theoretical part of the research is concerned, Paul Belleflamme (CITA) has produced two working papers (unpublished manuscripts) in 1998, and has started to write a third one.

- The first paper is entitled "*A research agenda for an economic appraisal of digital service convergence*". It starts by describing the two different trends that are embodied by digital convergence: at the infrastructure level, the ability of different network platforms to carry essentially similar kinds of services and, at the service level, the coming together of consumer devices such as the telephone, television and personal computer. The aim of the paper is then to understand why, despite its popular image, the latter trend is today much less real than the former. A review of the recent on-line business and IT press leads the author to single out the lack of vertical alliances as one of the major explanatory factors. To analyse its influence, three well-suited strands of the industrial organisation literature are identified, respectively related to (i) the endogenous formation of coalitions, (ii) the economics of compatibility and standardisation, and (iii) 'mix-and-match'. The author sets up a research agenda on the basis of the potential contributions and limitations of these three strands for the analysis of the issue at stake.
- The second paper, entitled "*Firms' incentives to market new convergent goods in the era of digital convergence*", is a sequel of the first paper. Here, the author addresses the following question: what are the incentives for firms belonging to different industries to jointly introduce 'convergent' goods in situations where only 'pure' goods are marketed (where 'convergent' goods refer to combinations of components produced by different industries, while 'pure' goods refer to goods produced within a single industry)? The main conclusion is that the degree of 'horizontal competition' (i.e., within an industry) plays a critical role. In particular, it is shown that the incentives to introduce new convergent goods *increase* with the degree of competition on the *pure* goods market, and *decrease* with the degree of competition on the *convergent* goods market.
- A third working paper devoted to the analysis of digital service convergence is currently in progress. Its provisional title is: "*Institutional arrangements for marketing new convergent goods*". The idea behind this project is fully described in the next section.

As far as the empirical part of this research is concerned, the LENTIC team has set up a *study of the book industry* where the rise of electronic commerce introduces a potential for new goods and services, and for new relationships between the main actors. This project is also described in the next section.

C. Strategic issues linked to the adoption of ICT

Part of the activities performed in 1998 with respect to Axis 1 has also dealt with the continuation of work initiated in the past. While this work does not exactly pertain to the main research projects described above, it is nevertheless closely connected with the global subject of Axis I, i.e., the economics of innovation and of network development. Here follows a brief description of this work.

- An important question that lies at the heart of the development of the 'information society' and that has been debated for almost a decade is whether ICT contribute to productivity growth. Empirical studies suggest that the huge investment in information technologies (IT) of the past two decades has led to no significant increase in productivity; this phenomenon is known as the 'productivity paradox'. Among various explanations, it has been argued that the paradox might result from oligopolistic competition: because of strategic interaction, each individual firm might find it profitable to invest in cost-reducing IT, but total investment might then be excessive from the industry's point of view. In a paper entitled "*Oligopolistic competition, IT use for product differentiation and the productivity paradox*", Paul Belleflamme confirms this view and strengthens it by allowing IT investment to be also devoted to product differentiation which makes the productivity paradox more likely. The emergence of Web-based electronic commerce provides an illustration of the forces identified in the model. This paper has been submitted for publication to *International Journal of Industrial Organization*. Moreover, this paper has been presented at the IPA members during a closed workshop, held on September 21, 1998 (hosted by CITA).
- Firms most often use ICT to decrease their production costs. In the presence of network externalities and of compatibility benefits, the cost reduction stemming from the use of ICT can be seen as an increasing function of the number of firms adhering to a specific standard. As a result, some form of co-operation appears between firms that, otherwise, are competitors (they benefit indeed from each other when they choose the same standard). In such a context, it is interesting to understand how rival firms may succeed in co-ordinating their technology choices. This question can be addressed within a particular field of the microeconomic literature, devoted to the endogenous formation of coalitions. This is what Paul Belleflamme does with his paper "*Stable coalition structures with open membership and asymmetric firms*". In this paper, the author studies games of coalition formation with open membership where firms form associations in order to decrease their costs before competing on the market. According to previous analyses, only the grand coalition forms at the Nash equilibrium of such games. The author shows that this result hinges on the assumption of symmetric firms. He therefore introduces asymmetric firms in a game where only two associations can form. He demonstrates that there exists in this game a Nash equilibrium coalition structure that resists to credible deviations by groups of players, and that when the equilibrium involves two associations, all the members of an association have a higher taste for this association than all non-members do. This paper has been accepted for publication in *Games and Economic Behavior* as of November 6, 1998.

- To understand the development of networks, it is also instructive to look at the diffusion of specific ICT, and in particular to ICT whose adoption involve different organisations. This is the certainly the case of Electronic Data Interchange (EDI), which can be defined as the transfer of structured data, by agreed message standards, from one computer system to another, by electronic means. In a paper entitled "*Assessing the diffusion of EDI standards across business communities*", Paul Belleflamme studies the diffusion of a universal EDI message standard. Overall diffusion of such standard may be hindered by the slowness of its development, and by the locally bounded nature of EDI positive network externalities. A model that captures these two factors is analysed: two firms choose one of two possible standards whose performances evolve differently through time; they use either verbal negotiation or unilateral adoption as co-ordinating principle. It is shown that if the performance of the universal standard at the end of the game and/or the degree of interconnection between business communities are too low, then the chances for the standard to permeate from one community to another are rather weak. This paper has been accepted for publication in *EURAS Yearbook of Standardization* as of November 26, 1998.

3.1.3. Forecasts for 1999

Are listed hereafter the lines of analysis which will be followed in 1999. It is understood that, if individual researchers or centres are listed, this is only for identification of the main responsible, and that all the lines are conducted in close collaboration of all the researchers concerned.

A. Microeconomic implications of digital convergence

The main research project for 1999 is the continuation of what has been started with respect to the analysis of digital convergence in services. This project is both theoretical and empirical.

- On the *theoretical* side, Paul Belleflamme (CITA) (in collaboration with Marc Minon from LENTIC) will pursue his analysis of the microeconomic implications of digital convergence, by comparing different institutional arrangements for marketing new convergent goods. This analysis starts from the finding that firms own specific assets that are complementary for the development of new convergent goods. They have thus an incentive to set up a research joint venture to take advantage of this complementarity. They might also be interested in pursuing their collaboration on the marketing stage (letting the *research* joint venture become a *production* joint venture). Different collaboration modes can thus be encountered and the firms' choice among these modes is likely to depend on the degree of 'cannibalisation' between new convergent goods and existing pure goods. The aim of the research is to characterise the firms' private equilibrium in terms of institutional arrangements and of prices and quantities of the convergent and pure goods. The private equilibrium should then be compared to the social optimum; anti-trust issues should be addressed in the light of such comparison (so, this research a clear connection with the analysis of the *Regulatory framework* carried out under Axis 3; see below).
- On the *empirical* side, Marc Minon (LENTIC) (in collaboration with Paul Belleflamme from CITA) will go on with an analysis of the Belgian book industry. The aim of this research is the following. The development of electronic commerce is probably putting into question most of the economic sectors. But, some of them seem today more

concerned than others. This is specially true for the book industry, or for the cultural goods industry in general. This may probably be explained by several factors linked to the type of product itself (small, easy to deliver by mail, comprising a very wide variety,...). In any case, a variety of actors are positioning themselves on the market, at the same time start-ups as well as traditional players of the industry who are diversifying their offer and their distribution channels using the Internet. Four main themes may be addressed in this context: the evolution of the intermediary functions, the positioning of the publishing companies, the consumer's behaviour, as well as the way public authority are brought to rethink their intervention in this industry.

- The work in progress with respect to the two facets of this research will be presented during an internal PAI workshop, scheduled on August 27, 1999.

B. Analysis of «Information Technicians» professions

In the framework of the analysis of qualifications, LENTIC (in particular, Marc ZUNE who is starting a Ph.D. thesis on this topic) is also conducting research on the evolution of the specific jobs related to ICT. What is called today, the Information Technicians cover a professional field difficult to define due to its vague and unstable borders. Based on the findings that the classic theory of professions is incomplete to understand what is at stake today in this professional category of information technicians, the research tries, by using the expertise concept to understand the reasons of their poor professionalisation today. The fact that ICT become a feature of life and the diffusion of the knowledge in a large public is probably one of the important factors to master towards professionalisation. But first, it will be necessary to study the real nature of the work and the modalities of the relation of these professionals with the users, but also the organisational and social frameworks in which those actions take place.

An internal PAI workshop is scheduled on January 22, 1999 to discuss about that topic.

3.2. Axis 2: Dynamics of uses and logics of appropriation

3.2.1. General evolution of the project

The objective of the second axis is twofold: there is, first, the need to understand more deeply how information and communication technologies (ICT) are used in their social, cultural and organisational contexts; then, such better understanding must lead to the identification of the conditions under which the demand for innovative services may arise and develop in the Information Society. This objective is pursued along three dimensions.

- In the theoretical dimension, the associated teams take advantage of their previous work and set up a common framework to understand the dynamics behind the usage of ICT, through the analysis of social appropriation behaviour, demand formation, and social as well as cultural transformations.
- The empirical dimension deals with the observation of some communities of users (or creators) of networks (or of communication services) which serve as prototypes for the communication systems of the future (Internet, inter-organisational communication systems, etc.).

- The assessment and prospective dimension implies a definition of relevant action schemes in the field of formation (about new cognitive models, for instance), in the conduct of social experiments and in regulation. This dimension also consists in defining the role of the State and its expected actions concerning the promotion and regulation of innovating uses.

In 1997, the teams associated in the IPA IV have undertaken research projects along both the theoretical and the empirical dimension. Several main questions of interest were identified for 1998.

- At the theoretical level, the aim was to carry on with the different paths of co-operation between the associated teams; these paths concern: (i) theoretical frameworks and the interpretation of IT case studies, (ii) the relationships between micro and macro levels of analysis, (iii) the approach of the user, and (iv) failure and success concepts.
- Various empirical fields of interests with respect to the public development of ICT were also identified: (i) the analysis of the new entrants in the public service sectors; (ii) the population's needs for new services and public applications; (iii) the growing importance of "digital cities. The empirical dimension of Axis 2 was also fully taken into account by the organisation of a second open workshop entitled "*Information Society, Administration and Citizens*".

The work performed along these various research directions is described in the next section (Section 3.2.2); this work is gathered under several main headlines related to specific fields of application. Then, directions for future research are identified in Section 3.2.3.

3.2.2. Work performed in 1998

A. Open seminar: Information Society, Administration and Citizens

As indicated above, the associated teams decided to schedule in 1998 a series of three open seminars in order to disseminate the results of the IPA researchers and to confront them with the opinions of both international academics and practitioners. The second of these seminars, entitled "Information Society, Administration and Citizens", was held in FUNDP-Namur on June 25, 1998. This seminar was placed under the responsibility of the CITA-CRID team and benefited from the collaboration of the other associated centres. Here is a summary of the main insights gained during this seminar.

*** Objective of the seminar.** Administration and Government in their relations with citizens are a main focus of the Information Society. Everywhere in the world, rhetoric claiming radical transformation of public administrations and government by new technologies is very active and persuasive. Better access to information, transparency, efficiency and reinforced people participation in the public policy are the basic pieces of this rhetoric.

Far from this, the social and political reality seems to resist to those promises of change. The public use of Internet remains very conventional and quite external to the core relationships between public authorities and citizens. New on-line services which bring about real social value added to citizens remain very rare and the public imagination and capacity to create those new services and transform the organisation appear to be quite deficient.

The aim of the conference was to address research questions regarding this situation and to compare it to North-American policies and realisations. In this respect, Monique Charbonneau (CEFRIO-Quebec) and Michel Audet (Université de Laval-Quebec) presented the North-

American perspective, while Philippe Pochet (Observatoire Social Européen) presented the European Perspective; furthermore, Stefano Rodota (Garante per la protezione dei dati personali - Italy) gave some reflections on Virtual Democracy, and Béatrice van Bastelaer (CITA-FUNDP) talked about «Social Learning In Multimedia» by presenting the main insights from seven case studies of digital cities. Finally, three parallel workshops were held around the following themes: (i) Modernisation of Administrations : Changes and Promises; (ii) Potential Impact of Information Society on Citizenship and Democracy; (iii) Analysis of the Digital Cities Phenomenon.

* **Synthesis.** In the USA, in Canada and now in Europe, with more delay, administrations share common experience : modernisation of the State becomes the key-word, with priorities given to a few fields. Those fields are health, education, general public administration and electronic commerce.

This evolution concerns all the stage of the government: at the State level, but also at the local level. The phenomenon of « digital cities » is increasing. More and more cities have a Web site (official or not) where citizens can find information (tourist, official, professional,...) and develop electronic « window » one-stop shopping. Reflections are been developed around the theme of electronic democracy which will allow citizens to participate in the political life.

ICT offer a significant and unique opportunity to transform public services and undoubtedly constitute inevitable progress for society. The change means a significant evolution of mentality in administrations: they have experienced a move from a conception of a limited role restrained to the execution of laws and regulations and the production of data to a new role (the diffusion of information) and new ways of working (networking). That means interact with colleagues, users, and also servers.

But the implementation of these technologies must take into account a few conditions. Re-organisation is an inescapable condition for the implementation of new technologies. The stakeholders must not forget that an organisation is much more than a technological system. It is also a social, political and cultural system. «They must shift from a determinist-technological paradigm to an interactionist - organisational - technological paradigm.» (see JACOB R., «Reorganising the public service along the information highway : towards a strategic transformational model and decision-making criteria »).

R. JACOB identifies the decisional processes that must be managed in order to identify the more contingent solution for a given solution: the process of evaluating the actual presence or absence of success factors, and particularly the identification of leaders of change. The other steps are an information and awareness phases in order to make easier the understanding of the technological innovations and their consequences, training and development programs in order to make appropriation easier, and the generalisation of the technology. The next step consists in developing performance indicators that will indicate the measurement of the impact of the transformational process (rational, political, human and systemic).

The re-organisation must take into account the internal human factor. These factors must also be considered when regarding the users' needs. Developing a strategy of better diffusion of public information means internal re-organisation and public awareness (information of the citizens, users' access to the new services) .

On the technological point of view, the decision makers must not forget that technologies offers a wide range of communication ways. Currently, the tendency consists in promoting the use of Internet. But there are other technologies. We can refer to CD-ROM, the cellular phone, the voice mail, the call-centre or to teletext ... They must not also forget that all citizens must

be able to access to public information, so it is important to maintain the paper documents in parallel with the implementation of new technologies.

Some authors identify factors that influence the diffusion of networking in public administrations. The favourable factors are the following: (i) the internet phenomena and the acceleration of technological change; (ii) the influence of new ways in the consumption of market services; (iii) the increasing competition within the non profit sector; (iv) a driving force from the sector-based environment. Among the unfavourable factors, one finds: (i) organisational constraints; (ii) technical obsolescence; (iii) regulatory and institutional aspects; (iv) specific constraints (accessibility, simplicity, security). Finally, one can also identify some diffusion factors, i.e., training, accompanying measures, and the innovative capacity of the non profit sector.

In conclusion, we have to underline the fact that the development of new technologies must be comprehensive and include socio-organisational, legal dimensions.

B. Theoretical and empirical work

The theoretical approach which has been progressively built by the IPA members lays on the recourse of three models of understanding ICT usage :

- The first one which may be called the diffusionist approach is based on a clear separation between technological innovation and social diffusion. Its main aims are to identify who are the early adopters of a technological innovation, what are their socio-demographic characteristics, and the frequency of use of the systems in order to calculate the rhythm of diffusion and how quickly the critical mass of users can be reached.
- The second model called the appropriation model is based on the postulate of the social construction of the technologies. In this model, a special attention is paid to the context of use and the meaning given by the users to the technological innovation. Its main aims are to identify via case studies and field works the social conditions which favour the emergence of certain forms of innovation.
- The third model called the translation model views the innovation process as a networking activity. It stresses the role of key players directly or indirectly involved in the innovation process and their capacity of mobilisation. Its main aims are to identify the critical factors leading to an irreversible innovation process.

On the empirical level, the studies undertaken by the UIAP members refer to one or a combination of these paradigms (as indicated in the table below).

These different studies are now briefly presented.

- *Quantitative survey on equipment and use of computers by the Belgian households – Use of the non-profit services*

Based on the achievements of the diffusion model, a quantitative survey has been lead on the use of internet services in Belgium (telephone survey on a sample of 1500 individuals, ageing from 15 years and more). This survey evaluates the number of regular internet users (more than once a week), and occasional users (less than once a week) : they totalize 920.000 individuals (550.000 for the regular users only). The survey enables the analysis of the socio-demographic profiles of these users. It gives as well a good basis to understand better the conditions and motivations leading to the use of the network.

If the internet users, although still a minority, can not be considered as a marginal phenomenon, this is far from being the case when we consider the consultation of WEB

pages related to public services organisations. Based on the figures of this survey, less than 310.000 individuals consult on a regular or occasional basis such sites.

Less than a third of the internet users refer to those types of sites. This contributes probably to relativize the impact of such services and to give a new insight on the question of emergency in developing such applications.

In any case, the situation is evolving very fast and the number of users is increasing on a regular basis. The resumption of the survey end of 1999, constructed on a comparable methodology, should enable a better understanding of the evolutions in progress.

	Diffusion	Appropriation	Translation
* Quantitative survey on equipment and use of computers by the Belgian households – Use of non-profit services			
* Interorganisational use of groupware technologies within the industry			
* Social uses of interorganisational communication systems within Belgian federal administrations			
* Social dialog within network organisations			
* Methodology of users involvement in the development of ICT applications in the non-profit sector			
* Improving the relation with the citizen using electronic services («Digital Cities»)			

– *Interorganisational use of groupware technologies within the industry*

This topic has been approached by the follow-up and the evaluation of experiments aiming the introduction of groupware applications in companies from different economic sectors (automobile industry, electricity, aerospace,...)

The objective is to identify the organisational, relational and individual conditions that act upon the introduction and the appropriation of groupware tools.

In order to understand the environments in which the groupware applications are introduced, different tasks need to be performed :

- Analysis of work environments and information flows
- Definition of the hypothesis on the communication flows and modes of work that may be concerned by the introduction of groupware applications
- Identification of the users' expectations
- Evaluation of the economic impact of the introduction of groupware applications
- Questioning of the technical innovation processes in the companies, based on the fact that the implementation of such tools may meet technical and organisational difficulties.

The three models have been used as a basis for the analysis:

- The diffusion model putting the emphasis on the technical and ergonomic characteristics of the innovation, of its degree of interoperability with the existing technical infrastructure, etc.
 - The appropriation model as it is based on the modes of use of the tools by the users, on the individual and collective strategies...
 - The translation model as it concentrates on the communication, training and awareness actions,...
- *Social uses of interorganisational communication systems within Belgian federal administrations*

This project aims at the identification of the technical, legal and organisational constraints that impede an optimal diffusion and appropriation of ICT applications in public administrations.

A pluridisciplinary team of computer analysts, lawyers, documentary management specialists, sociologists... analyses and accompanies, in 12 federal administrations, various telematic innovation projects (electronic messaging, WEB sites, electronic commerce, documentary archiving, etc.).

These different case studies will also contribute to a transversal approach enabling the definition of general recommendations.

The theoretical approach is based on the construction of an «original» typology to distinguish the different types of innovations (informational, communicational and transactional applications). For each type of application, the environment in which the innovation takes place is analysed with special attention on the specificities of the public sector (low penetration rate of technologies, budget annualisation...). This approach is inspired from the appropriation model - analysing the characteristics of the users and of the organisational environment - , as well as from the translation model – analysing the implementation process and its management mode (user's implication, communication and awareness actions, human resources dedicated to the project).

- *Social dialog within network organisations*

This research aims at understanding the socio-organisational stakes involved by the intensive use of ICT in the new modalities of inter-company co-operation. The research is structured around three levels of analysis:

- The first level concerns the jobs of the operators taken in these new organisational environments. Bringing together different work units induce very often procedures of what is called hybridization of organisational variables and of the resources management policies. This was generally avoided in the traditional organisation. The question of new forms of flexibility, of types of jobs created and of the modes of control of the work (virtual hierarchy, bodyshopping,...) are more specifically analysed.
- The second level of analysis concerns the types of interorganisational partnerships existing between the different units. A distinction is made between two variables of this partnership:
 - The types of partnerships (based on a market relation, for instance, type client-supplier, or based on a hierarchical relation, for instance, headquarter vs. periphery)

- The style of partnership (either «panoptical» where the aim is to define in the most transparent way all the modalities of the partnership, either more «political» which enables negotiations between the parties and which recognises the specificity and the contributions of each. The use of ICT in the constitution and the co-ordination of such partnerships is of course put forward in our analysis.

This research specifically uses the translation model analysing the role of the key players involved in the innovation process.

– *Methodology of users involvement in the development of ICT applications in the non-profit sector*

This project concentrates on users implication in the development of technological innovation. It is indeed generally accepted that the users involvement during conception and development of telematics applications one of the main critical factors of success of computerisation projects is.

The specificity of the approach resides in the fact that instead of concentrating on the link between user involvement and success of an application, we rather examine the concrete modalities that the involvement processes may take and the factors that may influence these modalities. An «original» typology enables the description of involvement processes. This typology articulates around four elements :

- The period of involvement (initialisation, analysis and conception, development and realisation, operationalisation).
- The type of actor involved (decision user, operational user, customer user, partner user)
- The mode and intensity of the implication (informational, consultative or participative)
- The object of the implication (objectives, functionality or ergonomics of the application).

This typology has been used for the description of the involvement modalities of users in the development of telematics applications in the non-profit sector. LENTIC participates, in collaboration with SMIT, in the conduction of a research in the framework of the Program of scientific support to the diffusion of telecommunications in the non-profit sector (part C). The objective of this project is to develop a user guide in order to support user's involvement in the development of telematics applications in the non-profit sector. The technological innovations observed during this research have been developed in a specific context which has rarely been approached in the MIS literature : applications developed in partnership between very diversified publicly subsidised organisations, offered to user unfamiliar to new technologies and presenting no commercial impact to the developer...The analysis of this particular context enabled us to identify some factors that might explain partially the diversity of involvement modalities used : the type of application (intra-organisational, interorganisational, or supplied to external customers), the sector in which the application is developed (non-profit or public), the size and the stability of the partnership, the profile of the coordinator, the decision process in the partnership... These factors will be integrated in the user guide. The translation model forms the overall theoretical framework in order to identify the key factors needed to succeed in the involvement of users in technological applications.

– *Improving the relation with the citizen using electronic services («Digital Cities»)*

The study of digital cities provides interesting elements regarding the main theoretical questions identified above; in particular, this research provides insights into the approach of the user. Here follows a description of what the IPA network has achieved in this respect in 1998.

As planned in the first annual report, a meeting entitled 'Rencontre réelle des villes virtuelles' (i.e. 'Real meeting of virtual cities') organised by CITA took place at Institut d'Informatique on June 16 1998 (see <http://www.info.fundp.ac.be/~cita/renc.html>). This meeting was aiming at empirically testing the ideas described below. Around 100 people, mainly local government officers or city representatives attended it. In the morning, three papers were presented : one concerned 37 Belgian French-speaking web sites set up in the framework of a city or a commune and resulting from spontaneous initiatives and two others focused on more important and advanced digital cities through the European Union. During lunchtime, an organised 'virtual walk' in several significant webcities was available on PCs. In the afternoon, three panels took place : the first one gathered representatives of virtual cities edited by the authorities of the city or commune, the second one collected citizens or non-profit associations in charge of digital cities and the third one put forward more commercial initiatives. And to close the meeting, the Walloon Minister of Equipment and Transport took the floor.

Most of the empirical elements about digital cities come from two pieces of research:

- on the one hand, there is the SLIM (Social Learning in Multimedia) research conducted within the TSER program of the DGXII by some members of CITA in close collaboration with the IPA CITA team; this research relies on seven case studies of digital cities (see <http://www.info.fundp.ac.be/~cita/slim/synthesis.html>);
- on the other hand, there is a survey of 37 Belgian French-speaking websites devoted to cities or, more generally to communes of the Walloon or Brussels regions which was conducted by the CITA in summer 1997.² This research has been finalised in 1998. The results have been largely published and presented in various conferences or seminars (see sections 5.2 and 6 of the present report). Note that these results have been completed by analysing the history of the current 'digital cities' since the sixties and by suggesting that these cities have a twofold origin: on the one hand, national political projects sometimes with a metaphorical vision, and, on the other hand, local spontaneous initiatives (American 'community networks'). Moreover, the comparison between the official texts of the European Union and the data of the survey has been deepened.

Moreover, as foreseen, a part of Seminar 2 (June 25 1998; see the description above) 'State, Citizens and Markets in the Information Society' was devoted to digital cities : a paper in the morning session and a workshop in the afternoon focused on this topic. In this workshop, members of CITA and of SMIT played a part in introducing the topic, speaking and discussing.

The research on the virtual cities points out three main lines of analysis :

- the management of multimedia projects;
- the concept of interactivity and the reorganisation of the administration;
- the concept of the transferability of results.

² For a thorough description, see the First Annual Report (1997, pp. 20 and 21).

For further details, the reader is invited to report to the following URL:

<http://www.info.fundp.ac.be/~cita/slim/synthesis.html>

3.2.3. Forecasts for 1999

Are listed hereafter the lines of analysis which will be followed in 1999. As indicated above, it is understood that, if individual researchers or centres are listed, this is only for identification of the main responsible, and that all the lines are conducted in close collaboration of all the researchers concerned.

A. Measuring regional Information Society development

The development of the ICT market resides on both a production and innovation capacity in the ICT sector itself, as well as on the diffusion capacity of ICT among individuals, companies and other actors. When it comes to measure the effects of job creation or to develop regional strategies in order to foster development of ICT, there is obviously a lack of quantitative and qualitative tools to support such questioning. Today, it is an important preoccupation of different regions which want to be able to take full advantage of the evolution of ICT.

In this framework, LENTIC is conducting a research in collaboration with CITA on identifying the methodology to adopt for the development of an observatory of the Information Society at regional level. The aim is to identify indicators enabling the measurement of the state of development of a region towards the information society, to have an idea of the dynamics of diffusion of ICT in the economy and to identify the needs in supporting economic activity, education, public services... in order to direct public policy. This methodology is developed on the construction of six levels of indicators, each level supporting the following:

- supply indicators giving the level of development of supporting infrastructure to the development of the use of ICT services;
- access and price indicators measuring the degree of effective access to this infrastructure by the different actors;
- qualifications and employment indicators identifying the need or the presence of qualifications needed to develop the use of ICT services and products;
- market and usage indicators giving the degree of diffusion of ICT;
- flexibility indicators measuring the adaptation of work organisation schemes inside companies and public institutions;
- production and innovation indicators.

B. Digital cities

Two workshops about digital cities are foreseen in 1999.

The first one will be organised in the framework of the IPA network and closed. It will be devoted to the so-called '*Models of development*' (see <http://www.info.fundp.ac.be/~cita/slim/synthesis.html>) and *uses*. After an introduction to the models of development concept by Béatrice van BASTELAER (CITA), these models will be applied, first, to the 37 Belgian digital cities of her sample by Marie d'UDEKEM-GEVERS (CITA) and, then, to the education by Marc van LIESHOUT (University of Maastricht).

viles virtuelles' organised in 1998. It is already planned that, for this workshop, the results of a new survey to be realised by CITA on a new sample of Belgian digital cities will be presented. There will be also a paper which will evaluate the evolution in 1999 of the 37 digital cities already analysed by CITA in 1997.

C. Telematics applications in public administrations

An open seminar on this topic is scheduled on January 2000 and will be prepared in 1999, principally by Linda Agro and Marc Minon (LENTIC), in collaboration with the CITA and CRID teams. The seminar will focus on what can be identified as being success factors for the introduction of ICT in public administrations (legal and economic aspects, contents and application procedures, including users involvement procedures). After having pointed out the specificities of the public sector (human resources management oriented by the status of civil servant, low penetration rate of ICT, organisations depending on administrative supervision...), the starting point will be the typology of applications that could make the object of an introduction in administrations comprising communication applications (e.g., e-mail system between administrations), transactions applications (e.g., electronic commerce applications, on-line administrative procedures for the citizen,...) and document networks (e.g., Fedenet).

3.3. Axis 3: Management of the public/general interest and State intervention in the Information Society

3.3.1. General evolution of the project

The transformation of society into an information–and thus knowledge based–society prompts a multitude of questions hitherto unanswered. This project has the ambition to answer at least some of those questions through fundamental scientific research. This third axis focuses on the role of the state in the development towards an information society and its role as protector of the ‘public interest’.

Motives of public interest can justify specific regulatory intervention by public authorities. A fair balance has then to be struck between economic efficiency (e.g., optimal pricing and innovation) and social equity (e.g., protection of minorities and less favoured groups). From this follows that policy and law have to provide for a regulatory framework capable of arbitrating between the multiple and contradictory interests and liberties of producers and users.

The aim of this research is to contribute to the setting up of such a regulatory framework for information and communication technology (ICT). The concept of regulation is analysed in a wide theoretical perspective. The focus is not only on the national state but also takes into account the increasing role of international organisations such as the EU and the WTO. Moreover, ethics, self regulation and technical control are also taken into account

Whereas 1997 was set down as an intellectual and conceptual reconnaissance flight, 1998 could be described as the start of a voyage towards defined destinations. The deepening of theoretical insights and the refinement of analytical concepts were the central concerns. This phase of the project consisted therefore of two main objectives:

- An ongoing historical and theoretical reflection on the changing role of the state in the field of ICT and of the challenges for future public policy;
- the widening of co-operation between the different research centres in the light of the previous goal.

The four main topics as delimited last year were refined towards more tangible issues as will become apparent in what follows. The four topics were;

- macro trends and their implications for telecommunication policy;
- regulatory frameworks: economic efficiency versus social equity;
- ethics, technical control and self-regulation;
- observation of the Belgian and international telecommunications market.

3.3.2. Work performed in 1998

Part of the research effort was concentrated on the open seminar entitled ‘Paving the Way for a New Public Telecommunication Policy’ and organised by SMIT (21/10/1998) and internal workshops organised by the different participating centres. Besides this open seminar, the

network has focussed its efforts on four main research topics; macro trends, regulatory framework, ethics in relation to self-regulation and observing the Belgian and international telecommunication market.

*A. Open Seminar: 'Paving the Way for a New Public Telecommunication Policy'
(21/10/1998)*

The purpose of this seminar was to examine how public policy has to be adapted in order to reconcile market and social objectives in a global, privatised and competitive communication market. After a plenary session in the morning, three workshops were organised in parallel sessions in the afternoon: (1) Political Perspectives; (2) Social Regulation; (3) Market Regulation. Members of the IPA network presented papers. There were a total of 62 participants present coming from 6 countries. The persons attending the seminar came from the academic world, the corporate world, the policy field and civil society. Due to the presence of internationally recognised scholars and experts from the field the discussions were fruitful and enlightening. In the morning 3 keynote speeches were given by well-known scholars, in the afternoon 3 workshops, each linked to a keynote, were conducted. In those workshops mainly papers of IPA members were presented and thus confronted with international research on these matters. In the autumn a book will be published bundling the papers as well as reports from the different workshops³.

B. Macro trends and the role of the State

Within this section, the following issues have been on the research agenda in 1998:

- the impact of political and economic transformations restructuring processes on the state and its capacity to respond to these evolutions;
- the conceptual re-appraisal of the welfare state and welfare regimes as backbone of the information society;
- access and protection as key-issues of public interest to be guaranteed;
- the concept of social citizenship and the notions of social rights and the social contract;
- ways to transcend the classic dichotomies 'State versus Market', 'Public versus Private' interest or 'Social versus Economic' policy;
- assessment of the possible role ICT play in development theory and in development policy.

The first line of research looks for macro trends related to the information society and the role of the state. As put forward in the previous point the more general research topics of last year have crystallised into more specific research – issues. The socio-political and conceptual insights gained from the study of macro trends serve to identify the priorities for policy in the evolution towards an information society. It also serves to monitor how the role of the state in this process is perceived on an institutional level, but also in academic circles.

Exemplary in this regard has been the conceptual re-appraisal of the welfare state as opposed to the minimal state. The laws of Foulcaults pendulum have apparently not been affected by recent evolutions. In spite of globalism, thatcherism and reagonomics, many of the European welfare state regimes remain rather strong. As the nature of the nation state is changing due to growing political and economic interdependence, budget constraints, privatisation, and anti-state rhetoric, the nature and mechanisms of the welfare state needs to be reviewed and

³ Cammaerts, B., Burgelman, JC, (eds), (1999) Communication Policy as Social Policy, VUBpress, Brussel

adapted to the (new) needs of the post-industrial society and its citizens. Conservatism on both sides of the political spectrum has hitherto prevented the formulation of innovative answers to the crisis of the welfare state. Possibly the time is right to reformulate the so-called social welfare contract and to include new rights such as access to and protection from. Historical evidence shows that if this reformulation is to be successful, it should be done on the basis of consensus between public and private sector. The social contract for the industrial society was also a compromise between labour and capital. Moreover, due to political and economic transformations the state is no longer able to guarantee every right on its own, it needs all other actors. The lack of a social welfare contract for the post-industrial society in combination with growing interdependence leads towards a legitimacy crisis and the strengthening of dualism's within our societies which in turn might affect the potentials for long-term economic growth. The knife cuts both ways.

As new media and ICT services increasingly play an important and intrinsic part in the development of new needs with respect to the welfare of citizens, it is only logical that they should be part of a broad revision of the welfare state. The role of ICTs in job destruction (-creation) and education, in the modernisation of administrations, in the medical services, etc. make that access to these services and the capability to use them becomes of prime importance for every citizen wanting to participate economically, socially, politically and/or culturally in our post-industrial or so-called 'information society'.

Considering all this the need to widen the scope of (tele)communication-policy in terms of other policy areas; e.g. social policy, education policy, economic policy is put forward. In this respect the classic dichotomy between state and market must be overcome. Simplistic analyses such as 'the state is concerned with the public interest and the private sector with profit maximisation' or 'the state is inefficient and should leave everything to an effective and flexible private sector' are no longer valid. Telecommunication history shows that state-owned monopolies are not per se a condition for a universal, qualitative and cheap service. On the other hand liberalisation and privatisation aren't either. Competition on the European residential market is rare, prices stay high, often with the consent of the regulator in order to compensate lost international traffic and big users. However, the divide between social and economic goals isn't as deep as often perceived. Why should more welfare not be in the interest of the market? And if so, why would the market not contribute to more welfare? This logic can be turned around. Why should a prosperous economy not be in the public interest?

Although the context in developing countries differs markedly from those in the West, the debate on the Information Society—and the scenarios to arrive at such a society—have often been extrapolated to developing countries. Organisations as the World Bank, followed in recent years by the ITU, the WTO and the UN Economic Commission on Africa, foster the opening up of ICT markets, the liberalisation of the telecommunication and broadcasting sectors and the privatisation of large operators. The adoption of such policies in a development context is believed to have the same positive effects as in the West. The assumption is however questionable. Historical research shows that the state has a fundamental role to play in fostering counter-strategies based on selective protectionism and strong innovation. A basic question is to what extent ICT open up new possibilities for such strategies. In this respect much can be learned from countries such as South Africa whose Information Society policy is directed at social and economic development through the uplifting—by way of ICT in education, training, health, and agriculture—of its population. However global political and economic transformations restructuring processes risk limiting the developmental states room for action. Changes in the international regulatory field and the impact of organisations such as the World Bank, ITU WTO and ECA on national Information

Society policies must therefore be critically assessed. Here again a balance has to be struck between private initiative and governmental policy, between freeing up international markets and international solidarity.

Many of these issues were discussed in depth during the open seminar 'paving the way for a new public communication policy' (21/10/1998 – Centrum voor Internationale Verenigingen - Brussel), organised by SMIT. Especially in the workshops political perspectives and social regulation much attention went to the concept of the welfare state, the social contract, the widening of communication policy, access and protection. In the workshop on market regulation the question of the public responsibility of private sector was raised.

On the other hand the closed workshop on access to infrastructure, services and content (26/02/1999 - VUB), organised by SMIT & CRID also dealt with the widening of communication policy and the right to access. In this regard a joint publication is planned.

A number of publications and papers in the framework of the UIAP network also focussed on these macro-issues (cf. § 5. IPA publications by SMIT & CRID).

C. Regulatory framework

This section is closely linked to the first one. When studying macro trends the focus lies on the mechanisms and concepts behind the formation and the enforcement of regulation. This section is more concrete and poses questions with regard to which instruments can be used to obtain the public interest goals as defined in the first section. For analytical and operational reasons, a distinction was made between market regulation – which is seen in a sector specific perspective – and social regulation – which is seen in a cross sectorial perspective. Market regulation encompasses universal service, interconnection, standardisation, consumer protection and anti-trust policy. Social regulation encompasses efforts to reduce dualism, to improve education and training and to stimulate the emancipatory use of ICT. The sector-specific market regulation as well as the cross sectorial social regulation focus on two key-rights, namely access to and protection from. The different economic and social issues regarded by these two modes of regulation can be linked to access or protection.

The following research topics have been on the agenda:

- the possibilities for integrating telecommunication policy with other policy areas such as fiscal, competition, education, social policy;
- the functions of the telecommunication regulator;
- The effects of convergence on the communication regulation

Integrating Policies

As stated above, it is becoming apparent that the widening of the scope towards other policy areas such as; social policy, education policy, economic policy and fiscal policy, will be essential in the development towards the Information Society. Although this sounds logical, it often isn't. In Belgium for instance this widening proves to be very difficult due to a complex constitutional context, whereby the federal government is responsible for telecommunication and fiscal policy and regional governments are responsible for media, social matters and education.

One possible answer to this is the development of a two-track policy approach concentrated on access and protection, the two key-issues as defined in the previous section. The first track is an economic and market oriented regulatory framework axed on the communication sector,

thus sector-specific. The second track is a more social and mixed regulatory framework axed on a multitude of sectors such as education, social affairs, equal chances, taxation, etc, thus cross-sectorial. A mixed framework refers to a balance between state intervention (through subsidies from the social budget for instance) and social obligations to be paid by the industry (through a system of funds for instance). The effective implementation of such a dual framework, will however not only depend on the willingness of the industry, legislation and enforcement by state institutions such as regulatory agencies and anti-trust bodies. Consumer organisations and other social actors such as labour organisations, consumer commissioners should assert constant pressure on the industry and government agencies when representing the users/citizens. In a sense they must forge a counter-weight to corporate dominance and build a dike against regulatory capture.

This issue was extensively elaborated during the three workshops of the open seminar 'Paving the way towards a new public communication policy' and will also be one of the cornerstones of the book which bundles the results of that seminar. Besides that several papers and articles have been devoted to this issue (cf. § 5. Publications SMIT & CRID). Furthermore at an academic-government-corporate seminar 'Convergence: Bottlenecks and Institutional Competition' hosted by SMIT in association with ESRC-European Media Regulation Seminar Group (16/11/1998) the need for integrating policy fields was felt as well.

Regulation

Adaptation of the traditional legal system to the new technologies of information and communication is difficult. A lot of legal concepts can indeed not be transposed without problems to the electronic area. That concerns for example distinctions like private communication vs. public communication, telecommunication vs. television, signature vs. electronic certification, individual liability vs. collective liability. Internet transforms the balance between different interests; new equilibrium has to be found in some important fields of the society: access to the network, protection of privacy, security of transactions, freedom of expression, intellectual property, antitrust law,...

The research first examines new methods in order to solve the problems raised by the new technologies. Self-regulation, international co-operation, independents administrative authority, technical systems are used to help the law in the information society. The traditional ways of production and application of law show their limits.

The study then evaluates these new solutions. With these instruments, we indeed need guarantees in order to preserve the democratic legitimacy.

In the context of the open seminar 'Paving the way for a new public communication policy' two workshops were dedicated to regulation, one on a social level and another on market level. IPA members collaborated actively to make them a success. This also goes for the forthcoming book where several articles have been written by IPA-members individually and together. The recently held closed workshop (26/02/1999) on access to infrastructure, services and content, organised by SMIT/CRID also dealt with issues of regulation and more specifically the issue of interconnection.

Convergence

The expected explosion of new services and applications—especially in the area of entertainment—have fostered convergence in the ICT, audio-visual, and telecommunications industries. Convergence is however not restricted to changes at the level of technology and content industries alone. Convergence touches upon and instigates changes at the level of the general economy and society, and brings about change at the level of international and

national governance and regulatory systems. Unlike other technological changes, the rapid developments and diffusion of ICT and the emergence of interactive multimedia applications have the potential to affect all economic sectors, organisational and work structures, public services, cultural and social activities.

At the international level these evolutions are accompanied by a changing regulatory regime characterised by a strong preference for liberalisation and free trade. At the national level convergence and related service developments imply the need for an adaptation of existing definitions and concepts—such as universal service—used in the regulation of these markets. However, the debate is much broader than this. Converting the potential into actual gains in productivity, living standards and quality of life, requires a lengthy process of learning and institutional change, according to the *High-Level Expert Group on social aspects on the Information Society* (HLEG (1997) *Building the European information society for us all. Final report of the high-level expert group*. Luxembourg: European Communities, p. 13). Moreover, leaving the development of the Information Society to the private sector—as proposed by the dominant scenario—is to take an exclusively minimalist approach to the role of the public authorities in the process towards an Information Society (*ibid.* p. 25). As the Information Society is a learning society, educational policy will have to play an overall underpinning role. Also social concerns will have to be addressed. As already pointed out but reinforced by convergence, separating policy domains is proving inadequate to confront the challenges ahead. Many countries have separate ministries for technology, industry, telecommunications and the media. It is not unusual that the formulation and implementation of new policies that cut across existing policy domains are hampered by turf wars between ministries. Information Society policy will thus have to encompass and co-ordinate a broad body of different and formerly separated policy areas and frameworks. New methodologies for policy formulation and implementation will have to be adopted in order to overcome current obstacles.

In this regard an academic-government-corporate seminar 'Convergence: Bottlenecks and Institutional Competition' was hosted by SMIT in association with ESRC-European Media Regulation Seminar Group (16/11/1998). The seminar was chaired by Carolien Pauwels (SMIT) and Chris Marsden (ESRC – University of Warwick, UK). 32 persons coming from 8 countries attended the seminar. Several members of the IPA-network participated actively to this seminar. The status of the different participants can be subdivided into academics, consultants and regulators (Belgian as well as European). The confrontation between telecom- and broadcasting-specialists revealed quite clearly the bottlenecks of the convergence-concept. The conclusion of the confrontation was that there is still a big gap, but that it is not unbridgeable. The presence of representatives of the European Commission made that the institutional conflicts concerning convergence between the interests of certain nation states and those of Europe were highlighted as well.

In AV-industrie an article was published concerning the use of cable for telephony and the prospect of competition in the Flemish residential market (cf. § 5. publications SMIT). Furthermore an article covering the consequences of convergence and policy with respect to the Global Information Society is due to be published in *Third World Quarterly* (Van Audenhove, L., Burgelman, J.C., Nulens, G., Cammaerts, B., Information society policy in the developing world : a critical assessment, *Third World Quarterly*, vol.20, n°2, 1999).

D. Ethics, technical, self-regulating and legal governance

Members of CITA and of CRID were involved in preparing and participating actively in a process of what has been called "rolling workshops" culminating in a round-table entitled

'Ethical Governance of the Internet', and organized within the framework of IFIP-SIG9.2.2 during the last IFIP-TC9 "Human Choice and Computers" International conference (Geneva, August 1998).

So, first CITA undertook in 1998 a research on the technical regulation of the Internet. The main question to be answered was : What can be regulated by control/filtering software ? In this framework, CITA suggested first a general grid to analyze the scope of current filtering services (control of topics at the level of the entry point to an address or a file, control of topics at the level of the content itself, and time control) and considered some corresponding possible technical solutions. The famous set of technical standards called PICS (Platform for Internet Content Selection) concerns only the control at the level of the entry point to anything with an URL. It implies labeling/rating (describing the content) and filtering (making the content inaccessible to some audience). Currently most off-the-shelf filtering software are based not on PICS but on lists of URL : they use generally 'black' lists (i.e. lists of bad sites) or, sometimes, lists of good and suggested sites.

CITA's study also compared the different topics taken into account in a sample of 10 PICS rating services (see: <http://www.w3.org/PICS/raters>) It underlined that in this sample, the most frequent categories or topics are : sex (7/10), violence (7/10), age (5/10), intolerance/hate speech (5/10), gambling (4/10), drugs (3/10), language (3/10), nudity (3/10).

Finally, CITA investigated the three roles implied as a rule by filtering services which are very significant from an ethical point of view : to fix criteria for classifying (/categorizing) or rating (/assigning labels), to classify (into lists) or rate, to select filtering criteria (/customize). Interesting conclusions are drawn from the analysis of these roles in the sample. Indeed the analysis showed that half of the analyzed rating services have been developed in the framework of firms. Moreover, in the sample, firms either ask 'representative' committee to set labeling vocabulary and criteria for assigning labels or do it themselves (2/10). The firms in charge of defining criteria and vocabulary for assigning labels in the sample do not realize themselves the labeling.

From a cultural point of view, the great majority of the studied ratings is in English (but one is written in Italian) and with criteria defined in U.S. [except for Net Shepherd's Rating and Vancouver WebPages Rating Service (both made in the Western part of Canada), Safe For Kids (made in U.K.) and IT-RA (made in Italy)]. Moreover, several ethical issues generally linked to these roles are underlined. The most important question to be asked currently is probably the following : Can the person or body in charge of the customization (for instance a parent) find both criteria and a rating (or categorizing) in accordance with his /her (its) own value judgements ?

Second, the approach undertaken by CITA examined the content of some specific Internet self-regulations. Here one must say that the vocabulary denotes the Babel of the Internet: Ten Commandments and Rules of Netiquette, Charters, Charta, Carta, Guidelines, Guiding Principles, Codes of ethics, Standards, Rules, etc.; and even within those categories some proposals are more Manifestos than charters for instance.

A grid of analysis was applied to some 15 such documents and 30 codes of ethics/conduct trying to distinguish, and most of the time in the analysis of the law the *ratione personae* (actors present and people concerned), the *ratione loci*, and the *ratione materiae* (topics covered). We also added questions about enforcement (sanctions and procedures), as well as a category *alia* or miscellaneous.

The analysis revealed repetitions but also a rather convergent final result. Some 'issues', if not

'categories', emerged:

- fairness and kindness
- respect, honesty, competence, sincerity, right information, ...
- privacy (and deriving rights such as right to know about his/her own data)
- computer crime
- intellectual property right, copyright, trademark, patent, ...
- free speech, right to information and communication
- illegal, dubious, harmful material
- etc.

The other features of the analysis: people involved and concerned, places where self-regulation is applicable, rules for enforcement, were rather disappointing. It looked like the reign of vagueness.

This meant that, if the topics and issues appeared relatively clearly, the main concern, in terms of governance, revealed that we have to make further decisive progress. It could be also added that the real problem with such codes is not that they exist, but that in some short pages they try to cover what the law needs many well crafted numerous articles for!

Under the final and legal approach, the main question in our research was to compare and assess the legal and the self-regulating systems and to explicit the conditions under which self-regulation may bring in the scope some more flexible and efficient governance of the Internet. A state of the art paper was written, entitled 'Some considerations on the Cyberspace Law', and supplemented by some more specific analyses on the protection of privacy (with a discriminating analysis of the choices made by the Europeans and by the USA), and on the protection of copyrights (examining more closely the question of the competition between law and technology).

The results were presented to different national (a/o the Belgian Royal Academy, where CITA, CRID, LENTIC and SMIT are associated with others in a work undertaken by CAWET-CAPAS) and international audiences (IFIP, UNESCO, University of Lausanne, ...) in order to refine the results. We shall come back later on the topics, presenting our future research orientation.

E. The role of law in the Information Society

The increasing role of ICT in social and economic activity brings up several questions concerning the capacity of the existing rules (laws) to regulate the activities developed through network applications and more specifically through the Internet. This topic has been studied in a particular research commissioned by the « Fondation Roi Baudouin ».

Without aiming the provision of an exhaustive list of the legal questions relative to the use of the Internet, this research tries to seize the scope of the following evolutions:

- National and regional legal systems are challenged by the transnational character of the Internet.
- New forms of regulation appear which probably cannot supplement the Law, however which may be complementary in the application and sanction of the general principles that should be defined by Law.
- Actors of the network themselves, including companies, individuals, organisations are required to participate to the definition of a reasonable conduct on the Internet, through self-regulatory processes, the definition of codes of conduct, the use of content selection

techniques etc.

As is generally accepted, the use of ICT and more specifically the use of the internet answers to new economic rules. To seize the scope of questions like the technological evolution, the liberalisation of communication sectors, the internationalisation of business, the increasing role of information,... an interdisciplinary approach enabled the integration of the legal aspects (commercial transactions, transborder data flow, privacy, intellectual property rights, ...) in the overall socio-economic approach of the phenomenon. Based on these complementary inputs, the study evaluates the reasons leading the evolutions as self-regulation, certification, the development of technical solutions... Beyond this global approach, it tries to formulate questions in order to understand whether this evolution fundamentally leads to the redefinition of the role of Law and consequently of the role of the State.

It is indeed the role of the State that is questioned and which seems to be evolving taking a more regulatory than reglementary function. The State is playing in this environment the mediator of public debate by managing the participation to it. This leaves necessarily less weight to the institutionalised democratic structures to the benefit of private entities. And it would be probably vain to counter this evolution. However, the counterpart of it is the necessary emergence of new ways of political empowerment of citizens, which used to be taken in charge by their representatives. The development of citizen initiatives is a first step towards this empowerment. They will probably need further political education to increase political awareness of citizens.

F. Observation of the Belgian and international telecom market

The findings derived above were also relevant for this section as it is difficult to describe the changes in the Belgian telecommunications market without taking into account the international context both on a political and an economic level. In the following years more attention will go to this section as we will be able to assess the effects of liberalisation after the 1st of January 1998 and focus on the following topics:

- inventory of the players that have joined the Belgian market and of the services that they provide;
- determining whether Belgacom can still be regarded as dominant actor in a market which is supposed to be competitive;
- evaluation of the position of the regulator (BIPT) to determine its autonomy and to assess the quality of its rulings;
- a critical assessment of the Belgian anti-trust policy and the weakness of the 'Raad voor Mededinging - Conseil de la Concurrence'.

Due to the importance of this point, and because work is being done on the same topic for the first work axis, the network decided to consider the observation of the Belgian telecom market as a priority that must be collectively addressed by the three work axes (see Section 3.4.3).

It is still early to make a sound assessment of the liberalisation of the Belgian telecom market. In the mean time data is being collected in order to incorporate this assessment in the theoretical research which has been done. As outlined above, this comprises: making an inventory of the players who have joined the Belgian market as well as the services they provide, monitoring the 'dominant' position of the incumbent operator (Belgacom), evaluate the position of the regulator (BIPT), and a critical assessment of the Belgian anti-trust policy. It is clear that during

the following years, especially with regard to the comparative analysis (see forecasts), which will start in the autumn of 1999, more attention will go to this section.

In the mean time in 1998 much of the efforts concerning this section went to the Agora98 forum on the Information Society in Belgium. Agora98 was an initiative of vice-prime minister Elio Di Rupo, the ministry of economic affairs, the regulator BIPT and Fabrimetal to assess what is to be done in order to foster the development of the information society in Belgium. Within each of the three sessions; industry, users and youth/democracy, members of the IPA-network were active. All research centres involved in the IPA network; CRID/CITA, SMIT & LENTIC, collaborated to make this a success⁴.

3.3.3. Forecasts for 1999

Are listed hereafter the lines of analysis which will be followed in 1999. (Again, it is understood that, if individual researchers or centres are listed, this is only for identification of the main responsible, and that all the lines are conducted in close collaboration of all the researchers concerned.)

- **The Regulation of Information Society, especially of the Internet and of Telecommunications: types of regulation (including technical control and self-regulation) and of regulators.**

The analyses conducted within this topic regards the research carried out until today under axis 3 "Managing the public interest and State intervention in the Information Society". More specifically this issue concerns the activity of regulation realised either by the State or by institutions of self-regulation. Two lines of analysis will be followed.

- * On the one hand Internet governance and namely the role of technical means, self-regulation and ethics will be the subject of ongoing consideration. The research into the technical regulation of the Internet, undertaken in 1998 by CITA, will be completed, and finalised.

First of all the sample analysed will be extended to about fifty off-the-shelf filtering services. A grid of analysis focusing on the authors of the filtering criteria, on the authors of the rating/classifying and on the filtering techniques will be suggested and applied to the sample. Moreover, the number of services using PICS ratings in the sample will be underlined in order to evaluate the current impact of this standard. On the other hand, links between filtering services of the sample and languages other than English will be pointed out in order to investigate the status of the cultural diversity at the level of the filtering providing. Also, the various classifying/rating categories used in the sample will be reported and their frequencies calculated. Finally, the research into filtering services will be replaced in the framework of the official document of the European Union (and particularly the recent Internet Action Plan decision published in Official Journal Decision No 276/1999/EC of the European Parliament and of the Council of 25 January 1999 adopting a multi-annual Community action plan on promoting safer use of the Internet by combating illegal and harmful content on global networks. OJ L 33 6 February 1999 p.1.).

The current results of the Rolling workshops and Round-table of the IFIP-HCC5

⁴ See <http://www.agora98.org/> for the position papers

International Conference (Geneva, August 1998) will be distributed world-widely through the channel of the IFIP member Societies, and an international survey will be undertaken and started at the end of 1999 to assess the sensitivity of different cultures on how the Internet governance concept is perceived today. It already appears that there are some litigious interpretation about topics such as: censorship, freedom of information, Internet ethical arbitrage, justice (inequality, access, ...), universal service, ethical regulation and/or governance, surveillance, «Promoting best use, preventing misuse» (<http://www2.echo.lu/>) etc. Some of them could be deepened in a specific small Europe-USA workshop of no more than 25 people under the ETHICOMP auspices (<http://www.ccsr.cms.dmu.ac.uk/conferences/ccsrconf/>)

- * On the other hand the research work carried out by Robert Queck, the last two years, at the University of Münster (FRG) in the context of a European Commission Marie Curie Research Grant (TMR-Programme – contract Nr. ERBFMB I CT 961106) on the topic of "The Regulation of the Telecommunications Sector in the European Union: between competition law and sector specific regulation" will be continued and broadened (Robert Queck has recently joined back the CRID team). Will be considered :

- the contents of the concept of "regulation" ("réglementation" vs. "régulation");
- the concept of "regulatory activity" (political/normative function – technical function);
- the relationships between regulations and regulators, types of regulations /regulators present in the telecommunications sector;
- interactions between these different types, criteria and reasons of choice of one or the other type of regulation/regulator or of one or the other combination of regulations/regulators;
- the factors (economical context, technological evolution) having an influence on these choices;
- criteria implying the application of a specific regulation (i.e. dominance or significant market power);
- the criteria of "good regulation" and of "good regulator" in the context of the Information Society and especially the telecommunications sector.

At least during the first half of 1999, a special emphasis will be put on the concept of "activity of regulation" as such and on the regulators rather than on the different types of regulations.

The following publications are envisaged :

- "Et ne nous soumet pas à la tentation... De la fonction de réglementation, du régulateur et de son indépendance". This article, to be published in Ubiquité, Nr. 2 (Spring 1999) will be dedicated to the definition of the " activity of regulation" and to the definition of the concept of "independence of the regulator". It will scrutinise the origin of the latter concept and the importance of this independence. It will furthermore analyse how the regulatory function is organised in the Belgian telecommunications sector as well as whether independence of the telecommunications regulator is guaranteed. Conclusions will be drawn from the findings.
- "La 'puissance sur le marché'; concept autonome ou chimère". This article, to be published in autumn 1999 will analyse the concept of "significant market power" as criterion for obligations imposed under telecommunications sector specific regulation

on organisations having this position the market and therefore as criterion for the application of this sector specific regulation. the concept and its application will be compared to the concept of "dominant position" as key element of the application of competition law. Conclusions on the future of the concept will be drawn with regard to the "1999 Review" of the European telecommunications regulatory framework.

- "The Regulation of the Telecommunications Sector: Quo Vadis – The Role of the Regulators". The article will be part of conference papers to be published in end 1999 / begin 2000. The presentation will address the criteria for a "good regulator", the type(s) of regulator(s) appropriate to rule a telecommunications sector (and specific issues arising in its context) facing convergence with other sectors , the principles which should rule the action of this (these) regulator(s), the level (National, European, global) on which the ideal regulator should be situated, the ways in which different concerned bodies of regulation could and should be co-ordinated,....

At the beginning of 2000 an IAP Workshop will be dedicated to the concept of "activity of regulation" as well as to the conceptual considerations carried out in 1999 with regard to regulators (and the types of regulations).

The conceptual considerations will be followed in 2000 by an application of the theoretical grid to practical topics of regulation like access to market, universal service ,... in order to define the type of regulation/regulators appropriate for the organisation of these different issues.

• **Welfare State Regimes and Social Citizenship in the Information Society: new rights in a comparative perspective**

A third focal point regards the concept of social citizenship and welfare systems, which will be explored further this year by SMIT. Essential here will be the identification of new needs in order to address the challenges of the post-industrial information society. Before doing so it will be necessary to examine structural changes in a political and an economic perspective and their effect upon welfare state regimes. In this respect can be referred to issues such as demographic shifts, budget constraints, competition and deregulation, increased mobility, reorganisation of labour, new modes of governance, etc. Information and communication technologies play an important role in almost each of these issues. The main question for ongoing research will be; how can the societal goals inherent to welfare regimes as we know them in Europe be attained, taking into account this changing environment. Societal goals refer to issues such as social cohesion, reducing inequalities, improving the quality of life, etc. These issues will be linked to the concept of social citizenship. Meaning that the 'social contract' which dates from the fordist/industrial era, should be renewed by incorporating new 'post-industrial' rights. In this respect two rights will be examined further, the right to access and the right to protection. Both are becoming increasingly important in the evolution towards an information society.

As already mentioned, in the autumn of 1999 the VUBpress will publish a book regarding these issues. 'Communication Policy as Social Policy' will bring together contributions by most members of the IPA network as well as internationally renowned scholars.

In the context of finding a new equilibrium between public and private, an article written by Pascal Verhoest (SMIT) and entitled 'The Myth of Universal Service: Hermeneutic Considerations and Political Recommendations' will be published shortly in *Media, Culture & Society*.

The paper entitled 'On the Role of government in the Information Society' written jointly by Claire Lobet-Maris (CITA), Beatrice van Bastelaer (CITA) et Bart Cammaerts (SMIT) will be published in 1999.

Also in the autumn of 1999 SMIT will start with a comparative analysis, aiming to examine various types of welfare state regimes in Europe, the way they respond to the structural changes as outlined above and the extent to which they develop policies directed towards the right to access and protection. The typology of welfare state regimes as outlined by Gøsta Esping-Andersen will prove to be very useful (see Esping-Andersen, G., (1990) *The Three Worlds of Welfare Capitalism*, Polity Press, Cambridge). Esping-Andersen delimits three kinds of welfare regimes, the liberal, the conservative and the social-democratic. A fourth type can be added to this, namely the Latin regime.

This comparative analysis of policies regarding access and protection will be published in a report, which is expected in the spring of 2000. This report will be used in 2000 and onwards to formulate policy relevant proposals on how welfare regimes can be preserved and even ameliorated in the light of the emerging Information Society in Belgium.

3.4. *Closed seminars in 1999*

The research forecast for each work axis has been described at the end of the previous three sections. In this section, we just list the various closed workshops that the network will hold in the course of 1999 to foster the work in progress related to these forecasts. These workshops will have the following form: a paper (or a preliminary version of a paper) will first be presented by its author(s) and then discussed by the participants. Such workshops pursue simultaneously several goals:

- drive researchers (if need be) to start writing papers on their current research;
- let the IAP members better know about each other's work;
- favour fruitful cross-fertilisations between teams and between disciplines;
- intensify (or start) collaboration on specific topics;
- eventually come up with better, and preferably jointly written, papers that should be more likely to get published

Note that one such workshop already took place on September 21, 1998. Paul Belleflamme (CITA) presented a paper entitled "Oligopolistic competition, ICT use for product differentiation and the productivity paradox".⁵

⁵ For a thorough description, see <http://www.info.fundp.ac.be/~pai/workshop0998.html>

The program of workshops scheduled for 1999 is the following.

Date	Venue	Subject	Axis	Organiser(s) and/or Speaker(s)
22/01/99	ULg	<i>Employment & ICT</i> : analysis of "Information Technicians" professions	1	Marc Zune (LENTIC)
26/02/99	VUB	The issue of <i>access to ICT</i> (with an extension to <i>universal service</i>)	3	Bart Cammaerts (SMIT) Robert Queck (CRID)
26/03/99	FUNDP	<i>Models of development and uses of ICT</i> (applied to digital cities and schools)	2	Béatrice Van Bastelaer (CITA) ; Marie d'Udekem-Gevers (CITA)
30/04/99	FUNDP	<i>Self-regulation and Internet governance</i>	3	Jacques Berleur (CITA) ; Marie d'Udekem-Gevers (CITA)
28/05/99	FUNDP	Towards a " <i>new citizenship</i> " ?	2/3	Axel Lefebvre (CRID)
27/08/99	ULg	<i>Digital convergence of services</i> : theoretical aspects (microeconomic models) and empirical aspects (book sector)	1	Paul Belleflamme (CITA) Marc Minon (LENTIC)
24/09/99	FUNDP	<i>Theoretical frameworks to think about ICT uses</i>	2	Claire Lobet (CITA)
29/10/99	VUB	<i>From Information Society to Electronic Commerce- Are there new issues to be taken into consideration in the context of our research ?</i>	3	Bart Cammaerts (SMIT) + Robert Queck (CRID)

The contents (text to be presented and directions for the discussion) of the three first workshops have already been delineated; a full description can be found, respectively, at the following URL:

- workshop 1 (22/01/99): see <http://www.info.fundp.ac.be/~pai/workshop0199.html>
- workshop 2 (26/02/99): see <http://www.info.fundp.ac.be/~pai/workshop0299.html>
- workshop 3 (26/03/99): see <http://www.info.fundp.ac.be/~pai/workshop0399.html>

4. Structure and functioning of the IPA network

4.1. Co-experiments

4.1.1. At the level of the IPA members

- LENTIC has developed together with CRID a study for the Foundation Roi Baudouin on the transformation of Law with the emergence of the information Society, and more specifically with the use of the Internet.
- All the IPA centres (CITA, CRID, LENTIC, SMIT) are participating strongly in the recent initiative of the Ministry of Economy (E. DI RUPO) entitled AGORA 98, les Assises de la Société de l'Information'. In this framework, members of LENTIC, CITA/CRID and SMIT have jointly participated in February 1998 to the first preparatory meeting (in Brussels, Office of the Minister E. DI RUPO) of AGORA 98. LENTIC has been in charge of the third workshop of AGOR@ 98 on teleworking and has participated to the discussions in the second workshop of AGOR@ 98 on the investments and promotion of technologies in companies. CITA has been in charge of the workshop of AGOR@ 98 on 'electronic democracy and virtual citizenship'. SMIT chaired and coordinated the third session on 'youth & democracy'.
- LENTIC and SMIT are members of ENCIP (European Network for Communication and Information Perspectives EEIG). Moreover CITA is actively involved in the ENCIP conferences.
- CITA and LENTIC do participate at the development of a forecasting and assessment methodology regarding the NTIC diffusion in Wallonia.

4.1.2. At the individual level

Since Sept. 1997 J.C. BURGELMAN (SMIT), Y. POULLET (CRID), J. BERLEUR & CL. LOBET-MARIS (CITA) and F. PICHULT (LENTIC) are experts for the group CAWET-CAPAS (Koninklijk Academie van Wetenschap en Technologie - Comité de l'Académie pour les Applications de la Science) on the Information Society.

Since October 1997 Cl. LOBET-MARIS (CITA) and M. MINON (LENTIC) are experts for the 'Collège d'Avis du Conseil Supérieur de l'Audiovisuel'

Jean-Claude BURGELMAN (SMIT), Bart CAMMAERTS (SMIT), Claire LOBET (CITA) and Beatrice van BASTELAER (CITA) worked together for the second day of Agora98 – youth and democracy

- March 1998 M. MINON (LENTIC), M. BOGDANOWICZ (LENTIC), P. BELLEFLAMME (CITA), C. PAUWELS (SMIT) and J.C. BURGELMAN (SMIT) have attended the EURO-CPR (European Communications Policy Research) Conference organised by the ENCIP (European Network for Communication & Information Perspectives), Venice (Italy).
- May 1998 Y. POULLET (CRID) & J. BERLEUR (CITA) have attended the E-CLIP Workshop (Electronic Commerce Legal Issues Platform - ESPRIT IV Project EP 27028), Electronic Commerce and Privacy Issues, Namur, CRID.
- June 1998 J. BERLEUR (CITA), M. d'UDEKEM-GEVERS (CITA), Cl. LOBET-MARIS (CITA), B. van BASTELAER (CITA) and J. PIRSON (SMIT) have collaborated to organise the first 'Rencontre réelle de villes virtuelles', held in Namur.
- A.M. DIEU (LENTIC), M. ZUNE (LENTIC), F. PICHAULT (LENTIC) and M. d'UDEKEM-GEVERS (CITA) have attended the '11ème Colloque Européen en Informatique et Société : Informatisation et anticipation - Entre promesses et réalisations', Strasbourg, organized by the CREIS,
- August 1998 J. BERLEUR (CITA), M. d'UDEKEM-GEVERS (CITA) & L. ROLIN (CRID) have attended the IFIP - HCC-5 Fifth World Conference on Computers and Networks in the Age of Globalization, Geneva.
- October 1998 M. MINON (LENTIC) and A. LEFEBVRE (CRID) have attended the Prospective Group of the Foundation Roi Baudouin (Brussels).
- A. LEFEBVRE (CRID), Y. POULLET (CRID) & J. BERLEUR (CITA) have attended the *Info-Ethics '98, Ethical, legal and societal challenges of cyberspace*, Second international Congress of UNESCO, Monaco.
- Jean-Claude BURGELMAN (SMIT) and Yves POULLET (CRID) have attended the 'Congres over de betekenis van ICT voor de overheid. Telesens', Genval.
- J.C. BURGEMAN (SMIT) and Cl. LOBET-MARIS (CITA) have supported the animation of the first 'Telesens Forum' (CIGER-CIPAL-TELEPOLIS) in the framework of 'volet 3', SSTC Telecommunication Programme.

- November 1998 J.C. BURGEMAN (SMIT) and Cl. LOBET-MARIS (CITA) have been associated as experts in the 3rd Multimedia Award Jury, Alcatel Bell.
- December 1998 Marie d'UDEKEM-GEVERS (CITA), B. van BASTELAER (CITA) & Y. POULLET (CRID)) have attended the 'Séminaire IX : Les nouvelles technologies de l'information au service des communes', Charleroi, INEMAP.

4.2. *Exchange of materials, data, ...*

4.2.1. World-Wide-Web site of the IPA programme ' Information society '

In order to facilitate their collaboration and to offer an integrated view of the research vis-à-vis the scientific circles, the IPA members have decided to create a WWW site (<http://www.info.fundp.ac.be/~pai>). This site is physically based in the FUNDP Namur, although each partner may access it without any restriction and contribute to its development. Here is, for information, the structure which divides the site into the following information areas :

- Presentation and aims of the research
- Associated partners and IPA members
- Detailed presentation of the research
- Publications
- Diary of the activities.

1) Presentation and aims of the research

This area contains basic administrative information and description of the aims of the research, as defined in the final version of the project. A link to the federal Office for Scientific, Technical and Cultural Affairs' (OSTC) is incorporated.

2) Associated partners and IPA members

This area lists the 4 IPA partners and offers links to their web sites. It also refers to a larger presentation of the IPA directors and associated directors and of IPA researchers and associated researchers from the four associated centres.

3) Detailed presentation of the research

In this zone, the detailed presentation of the project is available.

4) Publications

This area is divided into two sections. The first, in public access, contains the list of the publications from the associated centres (with the full text for several articles). The second section in restricted access, contains working papers, meeting agenda, bibliographies,...

5) Diary of the activities

This area contains the list of external and internal seminars, workshops, conferences, open meetings organised in the framework of IPA.

4.2.2. Booklets

In order notably to consolidate a common theoretical framework, the associated centres have elaborated three booklets, linked with the three open seminars (see 4.3.1) :

- Booklet 1 : Information Society & Employment (Programme of the seminar ; a special issue of the review *TIS* (vol. 9 n°3-4) dedicated to this seminar is foreseen)
- Booklet 2 : : Information Society, Administration and Citizens (Preceedings of the seminar)
- Booklet 3 : Paving the Way for a New Public TeleCommunication Policy (Preceedings of the seminar ; a book is foreseen).

These booklets are available in each IPA centre.

4.2.3. Journal

The IPA takes part to the creation of a new scientific journal : ‘ La Revue Ubiquité ’. This new instrument gives to the three parties involved the opportunity to present and communicate the result of their different researches. The ‘ Revue Ubiquité ’ is a multi-disciplinary scientific review.

4.3. *Conferences, workshops, ... organised by the network*

4.3.1. Conferences, workshops, ... which took place in 1998

In 1998, three open seminars under the global title : ‘State, Citizens and Markets in the Information Society’ were organised with the support of SSTC-DVDB in the framework of the PAI-IAP program by CITA (FUNDP), CRID (FUNDP), LENTIC (ULg) and SMIT (VUB) (see <http://www.info.fundp.ac.be/~pai/paisem.html> and see the next three pages):

- | | |
|-----------------|---|
| 14 May 1998 | Château de Colonster (Ulg), Liège, seminar 1 entitled ‘Information Society & Employment’ and organised in collaboration with MERIT (Universiteit Maastricht) (see 3.1.2 A). |
| 25 June 1998 | Namur, FUNDP, Seminar 2 : Information Society, Administration and Citizens (see 3.2.2 A). |
| 21 October 1998 | Brussel, VUB University Foundation, Seminar 3 : Paving the Way for a New Public TeleCommunication Policy (see 3.3.2 A). |

Seminar 1 : May 14 1998

Information Society & Employment

*With the support of the
Minister of Land Use, Equipment and Transport
and the Minister of Employment and Training
of the Walloon Region*

In collaboration with the MERIT (University of Maastricht)

With the participation of

Annaflavia Bianchi (Centro San Salvador - Venise),
Marc Bogdanowicz (LENTIC-ULg),
Jean-Claude Burgelman (SMIT-VUB),
Jean-Marie Cheffert (CRID-FUNDP),
Sylvie Craipeau (INT - Paris),
Anne-Marie Dieu (LENTIC-ULg)
Ken Ducatel (IPTS - Séville/Manchester University),
Dieter Elixmann (WIK - Bonn),
Dominique Gillerot (LENTIC-ULg),
Michel Hansenne (ILO, Genève),
Claire Lobet-Maris (CITA-FUNDP)
Pierre Louart (LIRHE - Toulouse),
Marc Minon (LENTIC-ULg),
Claire Nauwelaers (MERIT, Maastricht)
Hervé Passeron (BIPE Conseil - Paris),
Pascal Petit (CEPREMAP - Paris),
François Pichault (LENTIC-ULg),
Alain Rallet (IRIS-TS, Université Paris-Dauphine),
Anita Rozenholc (Datar - France),
Luc Soete (MERIT- Maastricht),
Gérard Valenduc (Fondation Travail Université-Namur),
Dimitri Weiss (Institut d'Administration des Entreprises - Paris)

Morning Session

9h-9h15 - *Registration*

9h15-9h30

Introduction and general presentation

9h30-10h

François Pichault (LENTIC-ULg)

Information Society and Employment : a multi-dimensional issue

10h-10h30

Luc Soete (MERIT-Maastricht)

Information Society, Work and Non-Work

10h30-11h - *Break*

11h-11h30

Ken Ducatel (I.P.T.S.-Séville/Manchester University)
Work shift ! Job Creation and Job Location in the Information Society

11h30-12h

Dimitri Weiss (I.A.E. - Paris I)

Information Society, New Qualifications and the Evolution of the Relation between Actors Intervening in the Production Process

12h-12h30 - Open Discussion

12h30-14h - *Lunch*

Afternoon Session

14h-16h - Parallel Workshops

Workshop 1

Information Society, Productivity and the Evolution of Employment

Introduction: Marc Bogdanowicz (LENTIC-ULg)
Discussants: Jean-Claude Burgelman (SMIT-VUB),
Jean-Marie Cheffert (CRID-FUNDP)
Participants: Dieter Elixmann (WIK), Hervé Passeron (BIPE Conseil), Pascal Petit (CEPREMAP)

Workshop 2

Information Society and Job Location

Introduction: Marc Minon (LENTIC-ULg)
Discussant: Claire Nauwelaers (MERIT-Maastricht)
Participants : Annaflavia Bianchi (Centro San Salvador),
Alain Rallet (IRIS-TS), Anita Rozenholc (Datar)

Workshop 3

Information Society, New Qualifications and Evolution of the Relationship between the Actors of the Production Process

Introduction: Anne-Marie Dieu (LENTIC-ULg)
Discussant: Claire Lobet-Maris (CITA-FUNDP)
Participants: Sylvie Craipeau (INT), Pierre Louart (LIRHE),
Gérard Valenduc (Fondation Travail Université)

16h - *Break*

16h30-17h30

Debate with Michel Hansenne
(International Labour Office-Geneva)

17h30

Conclusions

Seminar 2 : June 25 1998

Information Society, Administration and Citizens

Within the framework of the CITA-CEFRIO agreement supported by the Walloon Region (DGRE-DRI) and the Communauté française de Belgique (CGRI) and within the SLIM project of the DGXII TSER programme

With the participation of

Michel Audet (Université de Laval-Quebec)
Jacques Berleur (CITA - FUNDP)
Monique Charbonneau (CEFRIO-Quebec)
Thierry Courtine (Commissariat à la réforme de l'Etat - France)
Marie d'Udekem-Gevers (CITA-FUNDP)
Dominique Dieng (CITA - FUNDP)
Réal Jacob (Université du Québec/Trois-Rivières - Quebec)
Birgit Jaeger (Roskilde University - Denmark)
Christian Lamouline (Conseiller auprès du Vice-Premier Ministre Maystadt - Belgium)
Axel Lefèbvre (CRID-FUNDP)
Claire Lobet-Maris (CITA-FUNDP)
Paul Martens (Cour d'Arbitrage - Belgium)
Marc Mimon (LENTIC-Ulg)
Jo Pierson (SMIT-VUB)
Yves Pouillet (CRID-FUNDP)
Philippe Pochet (Observatoire Social Européen-Belgium)
Stefano Rodota (Garante per la protezione dei dati personali - Italy)
Vincent Triest (Bureau Conseil en organisation et gestion / Bureau ABC - Ministère de la Fonction Publique -Belgium)
Béatrice van Bastelaer (CITA-FUNDP)
Marc van Lieshout (Université Maastricht - The Netherlands)
Patricia Vendramin (Fondation Travail Université - Namur)
Pascal Verhoest (ASCOR-Université van Amsterdam - The Netherlands)
Jacques Wautrequin (Secrétaire général honoraire des SSTC / Services du Premier Ministre - Belgium)

Morning Session

9h-9h30 - *Registration*

9h30-9h45h

Jacques Berleur (CITA-FUNDP)

Welcome

9h45-10h

Claire Lobet-Maris (CITA-FUNDP)

Introduction to the seminar

ICT and modernisation of public administrations

10h-10h30

Monique Charbonneau (CEFRIO-Quebec)

Michel Audet (Université de Laval-Quebec)

Public Services - Evolution of Roles and Missions

A North-American Perspective

10h30-11h

Philippe Pochet (Observatoire Social Européen)

Public Services - Evolution of Roles and Missions

A European Perspective

11h-11h30 - *Break*

ICT and democracy

11h30-12h

Stefano Rodota (Garante per la

protezione dei dati personali - Italy)

Reflections on Virtual Democracy

ICT in the city

12h-12h30

Béatrice van Bastelaer (CITA-FUNDP)

Social Learning In Multimedia

Main Insights

from Seven Case Studies

of Digital Cities

12h30-14h - *Lunch*

Afternoon Session

14h-16h - Parallel Workshops

Workshop 1

Modernisation of Administrations

Changes and Promises

Introduction: Dominique Dieng (CITA-FUNDP)

Speakers: Thierry Courtine (Commissariat à la

réforme de l'Etat - France), Réal Jacob (Université du

Québec à Trois-Rivières), Vincent Triest (Bureau

ABC), Patricia Vendramin (Fondation Travail

Université)

Discussant: Yves Pouillet (CRID - FUNDP)

Workshop 2

Potential Impact of Information Society on

Citizenship and Democracy

Introduction: Axel Lefèbvre (CRID-FUNDP)

Speakers: Christian Lamouline (Conseiller du Vice-

Premier Ministre Maystadt), Paul Martens (Cour

d'Arbitrage),

Discussant: Marc Mimon (LENTIC - Ulg), Pascal

Verhoest (ASCOR - Université van Amsterdam)

Workshop 3

Analysis of the Digital Cities Phenomenon

Introduction: Marie d'Udekem-Gevers (CITA-

FUNDP)

Speakers: Jo Pierson (SMIT-VUB), Birgit Jaeger

(Roskilde University - Denmark), Marc van Lieshout

(Université Maastricht - The Netherlands)

Discussant: Béatrice Van Bastelaer (CITA-FUNDP)

16h-16h30 - *Break*

Conclusions

16h30-17h

Jacques Wautrequin

(Secrétaire général honoraire des SSTC)

Seminar 3 : October 21 1998

Paving the Way for a New Public Telecommunication Policy

English is going to be used as the main language during the seminar.

With the participation of

Paul Belleflamme (CITA- FUNDP),
Marc Bogdanowicz (LENTIC - Ulg),
Jean-Claude Burgelman (SMIT-VUB),
Bart Cammaerts (SMIT-VUB),
Marie d'Udekem-Gevers (CITA-FUNDP),
Nicholas Garnham (CCIS-University of Westminster - United Kingdom),
Anders Henten (CTI-Technical University of Denmark - Denmark),
Jos Leyten (STB-TNO Apeldoorn),
Claire Lobet-Maris (CITA-FUNDP),
William Melody (TB-Technische Universiteit Delft - The Netherlands),
Robin Mansell (INK-SPRU, University of Sussex - United Kingdom),
Marc Minon (LENTIC-Ulg),
Yves Pouillet (CRID -FUNDP),
Robert Queck (ITM-University of Münster - Germany),
Jan Servaes (KUB)
Leo Van Audenhove (SMIT-VUB),
Jan van Cuilenburg (ASCoR-Universiteit van Amsterdam - The Netherlands),
Eric Van Heesvelde (IBPT-BIPT - Belgium),
Pascal Verhoest (ASCoR-Universiteit van Amsterdam - The Netherlands),

Morning Session

9h30 -10h - Registration

10h -10h10

J.-C. Burgelman (SMIT - VUB)
Welcome

10h10-10h30

Nicholas Garnham (CCIS-University of Westminster),
Sen's Capabilities Approach to Welfare and its Applications for Communications Policy.

10h30-10h50

Robin Mansell (INK-SPRU, University of Sussex)
**Social & Economic Regulation :
Mixing Oil & Water**

10h50-11h10

William Melody (TB-Technische Universiteit Delft)
**Markets in the Communication Sectors :
A Substitute for Policy or a Tool of Policy ?**

11h10 - Break

11h30-12h15 - Open Discussion

12h30-14h - Lunch

Afternoon Session

14h-16h30 - Parallel Workshops

Workshop 1

Political Perspectives

Chair: Claire Lobet-Maris (CITA, FUNDP)

Speakers: Yves Pouillet J(CRID-FUNDP), Jean-Marie Cheffert (CRID - FUNDP), Bart Cammaerts (SMIT-VUB)
Discussant: Anders Henten (CTI-DIU)
Reporter: Leo Van Audenhove (SMIT-VUB)

Workshop 2

Social Regulation

Chair: Jan Servaes (KUB)

Speakers: Jan van Cuilenburg (ASCoR-UvA), Jean-Claude Burgelman (SMIT-VUB)
Discussant: Marc Bogdanowicz (LENTIC-Ulg)
Reporter: Marie d'Udekem-Gevers (CITA-FUNDP)

Workshop 3

Market Regulation

Chair: Eric Van Heesvelde (BIPT)

Speakers: Jos Leyten (STB-TNO), Pascal Verhoest (ASCoR-UvA)
Discussant: Robert Queck (ITM-University of Münster)
Reporter: Paul Belleflamme (CITA-FUNDP)

16h - Break

Closing session:

Building Bridges

Chair: Marc Minon (LENTIC, Ulg)
Reporters of the three workshops

4.3.2. Workshops, ... organised in 1998 which are going to take place in 1999

Eight closed workshops are foreseen and are going to take place in 1999 (see § 3.4).

4.4. Training or courses

The third cycle programme entitled DGTIC (Droit et Gestion des Technologies de l'Information et de la Communication) is multi-disciplinary and set up by the Law Faculty, the 'Institut d'Informatique' and the Faculty of Economic, Social and Management Sciences of the FUNDP. Several members of the IPA network are involved in this programme and have chosen the object of their teaching according to their research inside this network :

- BELLEFLAMME Paul (CITA) and J.M. CHEFFERT (CRID) are in charge of the 'Telecommunications and industrial economics' course with a section devoted to : *The economics of compatibility and standardisation.*
- LOBET-MARIS Claire (CITA) and Béatrice van BASTELAER (CITA) are in charge of the 'Industrial Sociology' course : *Analysis of the public policies in the matter of the information society.*
- POULLET Yves and LEFEBVRE Axel (CRID) are in charge of the course : *Liberties in the Information Society.*

To support these courses, BELLEFLAMME Paul, LOBET-MARIS Claire (CITA), Y. POULLET (CRID) and A. LEFEBVRE (CRID) have collaborated with the IPA associated centres (CRID, LENTIC and SMIT).

4.5. Formal and informal contacts

The four research centres have decided to create formal working structures in order to achieve a better cooperation between them. Furthermore they have developed a lot of informal cooperation inside and outside the IPA programme.

4.5.1. Formal structures

As regards the formal structures, two organs has been created since the start-up of the contract : the 'General Meeting' and the 'Board of the Directors'.

The '**General Meeting**' groups all the researchers working on the IPA researches. Two General Meetings have been organised, the first one in March, the second one, in September. The main objectives of a General Meeting is to discuss :

- the progress of the different tasks,
- the main lines of the researches to be achieved, and
- points of general interests.

A specific alias for the e-mail of all the IPA researchers has been created in order to easily send pieces of information about what happens in the networks and information of general interest (special events, conferences, ...).

The '**Board of the Directors**' joins together the different promoters [J.-C. Burgelman (SMIT), F. Pichault (LENTIC), Y. Pouillet (CRID)] plus J. Berleur (CITA) and C. Lobet-Maris (CITA). Due to the absence of Jean-Claude Burgelman (IPTS-Sevilla), Pascal Verhoest (SMIT) has been admitted to the board of directors.

The tasks of this Board are the following :

- decisions on the strategy to be followed as regards the presence of the IPA on the national and international fora via publications, papers, etc.
- discussions and decisions about the progress of the research projects,
- decisions about the organisation of events like conferences, seminars, ...
- control of the financial aspects, and
- improvement of exchanges between the different research centres.

The Board meets on a quarterly basis.

Moreover a specific alias has been created in order to support the exchange of information between the members of the Board of the Directors.

4.5.2. Informal contacts

As the informal structures are concerned, main actions have been developed **between research centres** taking benefit of the IPA cooperation. Indeed, IPA members (CITA/CRID, LENTIC & SMIT) have developed a lot of contacts in the context of other research programmes (see § 4.1.1.), taking care that their involvement in these new projects will cope with their work within the IPA.

As regards the cooperation on an **individual basis**, it is difficult to synthesise it. Let us notice only :

- the active participation of many members of the various IPA centres in the initiative of the Ministry of Economy (E. DI RUPO) entitled 'AGORA 98, les Assises de la Société de l'Information' (see § 4.1.1),
- the attending of several researchers from different IPA centres to the same conferences, seminars etc. (see § 4.1.2.),
- the participation of several members of the various IPA centres as experts for the CAWET (Koninklijke Academie van Wetenschap en Technologie) on the Information Society and for the 'Collège d'Avis du Conseil Supérieur de l'Audiovisuel' (see 4.1.2.),
- the participation of several members of the various IPA centres in the same training or education programme like LEDAREL (see § 6.2.2.).
- the exchanges of documentation (see § 4.2.).

5. IPA publications

Only the publications with explicit reference to IPA are listed below. The other scientific productions of the associated centres are to be found in the annexes.

5.1. Publications realised in common by different teams

BERLEUR Jacques (CITA), d'UDEKEM-GEVERS Marie (CITA) and ROLIN Laetitia (CRID), *Ethics and modes of governance of the Internet*, Proceedings of InfoEthics '98, UNESCO, Monte-Carlo, (see http://www.unesco.org/webworld/infoethics_2/eng/papers/paper_24.htm), October 1998.

GILLEROT Dominique (LENTIC), LEFEBVRE Axel (CRID), under the direction of MINON Marc (LENTIC) and POULLET Yves (CRID), *Internet : la plasticité du droit mise à l'épreuve*, Fondation Roi Baudouin, September 1998, coll. Citoyens et droit.

LEFEBVRE Axel (CRID), DE LA VALLEE Florence (CRID, Eds., *Revue Ubiquité - Revue interdisciplinaire sur les technologies de l'information et de la communication*, n°1, novembre 1998.

POULLET Yves (CRID) & DIENG Dominique (CITA), *Cyberadministration et démocratie*, in ' Forum - La Libre Belgique ', February 20, 1998.

van BASTELAER Béatrice (CITA) & LOBET-MARIS Claire (CITA) with the collaboration notably of DIENG Dominique (CITA) d'UDEKEM-GEVERS Marie (CITA), LEFEBVRE Axel (CRID), 1998, *Démocratie électronique et citoyenneté virtuelle*, Position Paper, 4^{ème} version, Agora 98 - Séance démocratie, citoyenneté, accès à la jeunesse ; Atelier 2 : Démocratie et citoyenneté- 9 octobre 1998. (see http://www.agora98.org/fr/jeune/ppaper/ppaper2_1.html).

5.2. Publications realised by each team

International publications are underlined.

CITA

BERLEUR Jacques, Codes of Ethics/Conduct and their Legitimacy, E-CLIP (Electronic Commerce Legal Issues Platform) Workshop on Privacy Issues, Namur, 27-28 May 1998, (<http://www.droit.fundp.ac.be/crid/eclip/workshop/berleur.htm>).

BERLEUR Jacques, Ethics and the Governance of the Internet: Governance and Self-Regulation, Rolling Workshop and Round-Table at the 5th Human Choice and Computers IFIP-TC9 International Conference, *Computers and Networks in the Age of Globalization*, Pre-ceedings, S. Munari, G. Krarup and Leif Bloch Rasmussen, Eds, Geneva 25-28 August 1998, printed by the University of Lausanne, pp. 335-360.

DIENG Dominique (CITA), La carte de sécurité sociale, instrument de contrôle : les dessous de la carte SIS , in *Trends - Tendances*, 25 juin 1998.

DIENG Dominique (CITA), Les dessous de la nouvelle carte de sécurité sociale , in *Echos A.M.A.*, n° 7, 3ème trimestre 1998.

d'UDEKEM-GEVERS Marie, Belgian 'Digital Cities' : a sample of French-speaking web sites (Large abstract), *Proceedings of the Third European Digital Cities Conference : The Road to Deployment, Berlin, 1-2 December 1997*, pp. 101-104, first semester 1998.

d'UDEKEM-GEVERS Marie, Les 'villes numérisées' : entre discours de l'Union européenne et initiatives locales spontanées en Belgique francophone, *Actes du 11ème Colloque Européen en Informatique et Société : Informatisation et anticipation - Entre promesses et réalisations, Strasbourg 10 - 12 juin 1998*, organized by the CREIS, pp. 11-26, 1998 (see <http://www.info.fundp.ac.be/~cita/ville/marie.html>).

d'UDEKEM-GEVERS Marie, Villes numérisées belges : Analyse d'un échantillon de sites francophones destinés aux particuliers, *Cahiers de la CITA AI5*, 90 pages, June 1998.

d'UDEKEM-GEVERS Marie, 'Introduction : Analysis of the phenomenon of the 'digital cities' ' in *Proceedings of the Seminar 2 : State, Citizens and Markets in the Information Society, in the framework of the PAI-IUIAP IV program*, pp. 59-61, 1998.

d'UDEKEM-GEVERS Marie, Belgian 'Digital Cities' : a sample of French-speaking web sites, abstract of the results, *Proceedings of WebNet 98 - World Conference of the WWW, Internet and Intranet*, Orlando, Florida ; November 7-12 1998, edited by Hermann MAURER and Richard G. OLSON, published by ACE (Association for the Advancement of Computing in Education), pp. 1049-1050, 1998.

d'UDEKEM-GEVERS Marie, What can be regulated on the Internet by control/filtering software ?, Rolling Workshops and Round-Table, IFIP TC9-HCC5 : 'Ethics and the governance of the Internet ', *Proceedings of HCC-5 Fifth World Conference on Computers and Networks in the Age of Globalization, 26-28 August 1998, Geneva*, edited by S. Munari, G. Krarup and L. Rasmussen, printed by the University of Lausanne, pp. 315-333, 1998.

ROSSETTI di VALDALBERO Domenico, BERLEUR Jacques et NGUYEN NAM Tien, La démocratie représentative face à la société de l'information en Europe, in: *Il Politico*, Rivista Italiana di Scienze Politiche (Univ. Pavia, Italy), anno LXIII, Gennaio-Marzo 1998, n. 1, pp. 143-156.

ROSSETTI di VALDALBERO Domenico, NGUYEN NAM Tien & BERLEUR Jacques, Les communautés virtuelles locales : mythe ou réalité pour la démocratie ?, in: *L'Entreprise et l'Homme*, Bruxelles, n_5, Octobre-Novembre 1998, pp. 167-172.

CRID

LEFEBVRE Axel, 'Questions introductives au workshop : Potential impact on citizenship and democracy' in *Proceedings of the Seminar 2 : State, Citizens and Markets in the Information Society, in the framework of the PAI-IUIAP IV program*, pp. 54-56.

POULLET Yves, HAVELANGE B, with the collab. of BOULANGER M.H., BURKERT H. & LEFEBVRE Axel, *Preparation of a methodology for evaluating the adequacy of the level of protection of individuals with regard to the processing of personal data*, Luxembourg, Office for Official Publications of the European Communities, 1998, VI, 62 p.

POULLET Yves, Internet et vie privée : Nouveaux enjeux. Nouvelles solutions, (Osservatorio Giordano dell'amore sui rapporti tra diritto ed economia. – Congresso, Stresa, 16/17 maggio 1997), in *Societa dell'informazione tutela della riservatezza*, Milano, Giuffré Editore, 1998, pp. 49-72.

POULLET Yves & DUSOLLIER S., Vers une politique européenne en faveur du commerce électronique, *Cahier du Juriste*, 1998, n° 3-4, pp. 33-38.

POULLET Yves, Libertés et société de l'information : le droit de participer à la société de l'information et le droit de s'en exclure, *Revue Ubiquité*, nov. 1998, n° 1, pp. 21-27.

POULLET Yves, Autour de l'arrêté royal du 7 juillet 1997 relatif à la publication des arrêts du Conseil d'Etat : Les technologies de l'information et de la communication, une solution à la pathologie législative ?, *La Pathologie Législative, comment en sortir ?*, Droit en mouvement, Bruxelles, La Charte, 1998, pp. 57-78.

POULLET Yves, Diffusion des données juridiques et Nouveaux médias : Un enjeu fondamental pour la justice, (Congrès de l'ADIJ, Paris, 22/23 octobre 1998.), *Doc. CRID*, octobre 1998, 22 pages.

POULLET Yves, Some considerations on cyberspace law, *Cahier de la Faculté de Droit*, n° 4, mars 1998, 33 pages.

LENTIC

AGRO L. & PICHAULT F., Organisation du travail dans un nouvel environnement, position paper, Agor@98, atelier 3, Mons, 28 Octobre.

DIEU A.M. & ZUNE M., Rêves socio-techniques, implication et (dé)mobilisation des utilisateurs : le cas d'une expérimentation d'outils groupware dans une entreprise automobile européenne, *Actes du colloque du CREIS*, June 98, pp . 99-11.

GROSJEAN S. & PICHAULT F., Du télétravail au travail à distance. Les modèles contingent et politique en question, FNRS, 1998.

SCHOENAERS F. & ZUNE M., Rétention des compétences humaines volatiles: la GRH (Gestion des Ressources Humaines) à l'heure des techniciens de l'information, *Actes du*

colloque de l'AGRH (Association Gestion Ressources Humaines), Paris, november 98, pp.1028-1048.

SMIT

BURGELMAN J-C., Communication policy and its challenges for the welfare state. In *Communication & Strategies*, n° 30, pp. 289-297, 1998.

BURGELMAN J-C., The shaping of a new medium in Western Europe and the USA between the wars: the influence of politics on broadcasting regulation. *Communicatio*, 24/1, pp 2-11, 1998.

BURGELMAN J-C., Communication, Citizenship and social Policy: rethinking the limits of the welfare state. Boulder, Rowman & Littlefield (ed. with A. Calabrese), 1998 (edited with Calabrese, A.).

BURGELMAN J-C., Innovatie in communicatietechnologieën: enkele algemene lessen uit het verleden voor de toekomst. *Nieuw Tijdschrift VUB*. Brussel, december 1998, pp. 63-76.

CAMMAERTS B., De kabel en convergentie in 1998 : het dromen voorbij, *AV-industrie*, jg.10, p.31, januari/februari 1998.

CAMMAERTS B., De Sociale Chipkaart: technologische vooruitgang of aantasting van de privacy ?, *Samenleving & Politiek*, december 1998.

Van AUDENHOVE L., BURGELMAN J-C, NULENS G., & CAMMAERTS B., Convergence and Information Society Policy in International Perspective. in Department of Communication, Masters in International Communications Tutorial, University of South Africa, Pretoria, 1998.

VERHOEST P., 'Telecommunicatiebeleid in België: een retrospectieve analyse', *Res Publica*, 40 (1), 23-39, 1998.

6. IPA national or international contacts

6.1. Conferences, workshops and seminars organisation

- March 1998 Brussel, 'Zin en onzin van de Vlaamse Informatiesamenleving' within the framework of 25 years Communicationscience, organised by SMIT.
- June 1998 Namur, Institut d'Informatique, open workshop entitled 'Rencontre réelle de villes virtuelles', organised by CITA (see <http://www.info.fundp.ac.be/~cita/renc.html>).
- November 1998 Brussel, Closed academic-government-corporate seminar 'Convergence: Bottlenecks and Institutional Competition', Organisation and Chair by SMIT in collaboration with European Media Regulation Seminar Group (ESRC - University of Warwick).

6.2. Participation in conferences, workshops and seminars (with communications and/or papers)

International papers or communications are underlined.

6.2.1. Participation in conferences (with communications and/or papers, or as the chairman/a discussant)

Only the conferences in which a member of the PAI has presented a communication or a paper are listed below. (More information pieces are to be found in the annexes.)

- January 1998 Brussels, 13th Conference organized by FEDECOP (Brussels), Yves POULLET (CRID) : *Universal Service in an Information Society*.
- 15th: Conference organized by A.D.A. (Belgian Association for Insurance lawyers) Yves POULLET (CRID) : *Internet and Insurance contracts – legal aspects*.
- March 1998 Venice, Centro Studi San Salvatore, Social Concerns in the Information Age, 12th European Communication Policy Research Conference (CPR), BURGELMAN J.C. (SMIT) was a discussant (social aspects) and presented a paper : *Communication Policy and its challenges for the*

welfare state; PAUWELS C. (SMIT): Integrating economies, integrating policies: the importance of antitrust and competition policies within the global audiovisual order.

May 1998

Madrid, Conference 'Consumer credit - new rules', Yves POULLET (CRID) : Le crédit à la consommation et la vie privée

Madrid, 'Jornadas : El uso de Internet para la promoción y protección de los derechos de la Infancia' organised by the 'Comité Español de UNICEF', Marie d'UDEKEM-GEVERS (CITA) : La pornographie infantile sur Internet - MAPI.

June 1998

Stockholm, Professional User Requirements., 12th biennial ITS Conference (Beyond Convergence). Jean-Claude BURGELMAN (SMIT) was a session chair.

Stockholm, Development, liberalisation and technological opportunities., 12th biennial ITS Conference (Beyond Convergence). Jean-Claude BURGELMAN (SMIT) was a discussant.

Pointe-à-Pitre (France), 15^{èmes} Journées de microéconomie appliquée, Paul BELLEFLAMME (CITA) : Assessing the diffusion of EDI Standards across Business Communities.

Nice-Sophia Antipolis (France), NBER-CREST Seminar on 'Information and Communications Technologies, Employment and Earnings', Paul BELLEFLAMME (CITA) : Oligopolistic Competition, IT Use for Product Differentiation and the Productivity Paradox.

Strasbourg, 11ème Colloque Européen en Informatique et Société : Informatisation et anticipation - Entre promesses et réalisations, organised by the CREIS (Centre de coordination pour la Recherche et l'Enseignement en Informatique et Société), M. d'UDEKEM-GEVERS (CITA) : Les 'villes numérisées' : entre discours de l'Union européenne et initiatives locales spontanées en Belgique francophone., DIEU A.M. (LENTIC) & ZUNE M. (LENTIC) : Rêves socio-techniques, implication et (dé)mobilisation des utilisateurs : le cas d'une expérimentation d'outils groupware dans une entreprise automobile européenne.

July 1998

Glasgow, IAMCR Conference, Communication & Technology Policy. Section "Access, Policies and exclusion" ICT and the nation state. Pascal VERHOEST (SMIT) was the chair and Jean-Claude BURGELMAN (SMIT) was the discussant.

Glasgow, IAMCR Conference, Communication & Technology Policy Section "Access, Policies and exclusion", Jean-Claude BURGELMAN

(SMIT) : Theoretical assumptions in policy debates with regard to the notion 'access' in communications ; Bart CAMMAERTS (SMIT) : The Crisis of the Sovereign Welfare State: What about Communication Policy ?

August 1998

Geneva, HCC-5 Fifth World Conference on Computers and Networks in the Age of Globalization, organised by IFIP TC9 & Institute of Information Systems and Organizational Management, Marie d'UDEKEM-GEVERS (CITA) : Belgian 'Digital Cities' : a sample of French-speaking web sites ,
Rolling Workshops and Round-Table : ' Ethics and the governance of the Internet ', Jacques BERLEUR (CITA) : Governance and self-regulation, Marie d'UDEKEM-GEVERS (CITA) : What can be regulated on the Internet by control/filtering software ?

September 1998

Brussel, Nationaal Telecommunicatie Overleg, IBC Global Conferences, Pascal VERHOEST (SMIT) was the day chair.

October 1998

Monte-Carlo, UNESCO InfoEthics 2nd International Conference, Jacques BERLEUR (CITA) presented a paper entitled : 'Ethics and modes of governance of the Internet' whose authors are Jacques BERLEUR (CITA), Marie d'UDEKEM-GEVERS (CITA) and Laetitia ROLIN (CRID).

Genval, De uitdaging van vernieuwing, Congres over de betekenis van ICT voor de overheid. Telesens. Jean-Claude BURGELMAN (SMIT) was the day chair ; Yves POULLET (CRID) : Administration et NTIC - le point de vue du juriste.

Paris, ADIJ ('Association pour le Développement de l'Informatique Juridique') colloquium Yves POULLET (CRID) Chairman : Economical concerns of the diffusion of legal information.

Bruxelles, Palais d'Egmont, 'Colloque à l'occasion de la célébration du 50ème anniversaire de la Déclaration universelle des droits de l'homme', Jacques BERLEUR (CITA) was the delegate of the 'Commission de la Protection de la Vie privée'.

Université de Liège, Colloque 'Outils de télécommunication et gestion du personnel : le cas du télétravail', organised by Spi+/Léridoc, ZUNE M. (LENTIC) : Enjeux socio-organisationnels du télétravail.

4th European Digital Cities Conference, Salzburg, Béatrice van BASTELAER (CITA) in collaboration with Claire LOBET-MARIS (CITA) : Virtual Cities and Result Transferability .

November 1998

Amman, Jemstone/McBride Roundtable Conference 'Culture and Communication: A Global Information Society', Leo Van AUDENHOVE (SMIT), Pascal VERHOEST (SMIT), Bart CAMMAERTS (SMIT), Telecommunication Policy for Sub Sahara Africa: an Inquiry into Models on Development; Bart CAMMAERTS (SMIT), Leo Van AUDENHOVE (SMIT), Jean-Claude BURGELMAN (SMIT), Gert NULENS (SMIT), Convergence And Information Society Policy in International Perspective.

Lausanne, Université de Lausanne, Colloque ERIE, La Techno-science et ses impacts - Vers un nouveau contrat social, Département Interfacultaire d'Ethique, Jacques BERLEUR (CITA): Une éthique de l'informatique, quel horizon?

Orlando (Florida), WebNet 98 conference, organised by AACE (Association for the Advancement of Computing in Education), Marie d'UDEKEM-GEVERS (CITA): Belgian 'Digital Cities': a sample of French-speaking web sites.

Paris, Colloque de l'AGRH (Association gestion Ressources Humaines), SCHOENAERS F. & ZUNE M. (LENTIC): Rétention des compétences humaines volatiles: la GRH (Gestion des Ressources Humaines) à l'heure des techniciens de l'information.

6.2.2. Participation in workshops, seminars, meetings, summer school (with communications and/or papers ; or as the chairman/a discussant)

Only the workshops, seminars... in which a member of the PAI has presented a communication or a paper or was the chairman are listed below. (More information pieces are to be found in the annexes.). Participation in an expert meeting is also considered.

January 1998

Namur (FUNDP), IFIP SIG9.2.2, Teach-in of Marie d'UDEKEM-GEVERS (CITA): Belgian 'Digital Cities': a sample of French speaking web sites.

Sevilla, IPTS (Institute of Prospective Technological Studies) workshop, Jean-Claude BURGELMAN (SMIT): Information Society: changing rules of the game, impacts and new policies, 16-2-'98.

Namur, Faculté de Droit, Midis du CRID, Dominique DIENG (CITA): Quelles priorités pour l'Administration fédérale dans la Société de l'Information ?

Bruxelles , Collège des Fonctionnaires d'information, Dominique

DIENG (CITA) : *Quelles priorités pour l'Administration fédérale dans la Société de l'Information ?*

February 1998

Namur, presentation for the CAWET Group, Yves POULLET (CRID) : *Aspects juridiques du Cyberespace.*

March 1998

Brussels, 'College des Responsables d'Information des Administrations', Yves POULLET (CRID) : report *Administrations and NTIC (SSTC).*

Lisbonne, Computer Law Association, Yves POULLET (CRID) : *Electronic commerce and privacy - new risks, New solutions.*

Antwerpen, 'De overheid en de informatiemaatschappij'. Organised by Europees Promotie centrum voor Informatie en Communicatie (I&C), Jean-Claude BURGELMAN (SMIT) was a discussant.

April 1998

Brussels, International Working Group on Privacy and Telecommunication, Yves POULLET (CRID) : *The ' Belgian Report '.*

Brussel, Strategische Opties Telecom 1998, International Institute of Research (IIR), Jean-Claude BURGELMAN (SMIT) was the day chair.

University of Maastricht, SLIM (Social Learning In Multimedia) meeting, Béatrice van BASTELAER (CITA) in collaboration with C. LOBET-MARIS (CITA) : *Draft Study Public Sector. Digital Cities.*

Windhoek/Namibia, Workshop on a National Information and Communication Strategy for Namibia, Jean Claude BURGELMAN (SMIT) : *Trends in National Information and Communication Development. Lessons from Western Experiences.*

May 1998

Brussels, Yves POULLET (CRID), Séverine DUSSOLIER (CRID), Jean-Marc DINANT (CRID) held an educational seminar about the legal aspects of the use of NTIC in the Courts' functioning.

Namur, 1st E-CLIP (Electronic Commerce Legal Issues Platform) Workshop, Esprit Program, Yves POULLET (CRID) : *Opening Session & Conclusion* ; BERLEUR Jacques (CITA) : *Codes of Ethics/Conduct and their Legitimacy.*

Château de Colonster, Université de Liège, IUAP-seminar 1 : Information Society and Employment, François PICHHAULT (LENTIC) : *Information Society and Employment : a multi-dimensional issue* ; Marc BOGDANOWICZ (LENTIC) : *Introduction to workshop*

1, Jean-Claude BURGELMAN (SMIT), Jean-Marie CHEFFERT (CRID) were Discussants; Marc Minon (LENTIC) : *Introduction to workshop 2*; Anne-Marie DIEU (LENTIC) : *Introduction to workshop 3*, C. LOBET-MARIS (CITA) was the discussant.

June 1998

Oslo, Conference IFCLA Electronic commerce, Yves POULLET (CRID) is the Chairman of the Workshop 'Electronic commerce: A challenge for the D.P. directives'.

Farnham, U.K., IFIP-WG9.2 and SIG9.2.2 Seminars, Jacques BERLEUR (CITA) : chair and draft of *Governance and self-regulation*.

Namur, Institut d'Informatique, 'Rencontre réelle de villes virtuelles', Jacques BERLEUR (CITA) : 'Accueil & introduction'; C. LOBET-MARIS (CITA) : 'Présentation de la journée et introduction au phénomène des villes virtuelles'; Marie d'UDEKEM-GEVERS (CITA) : 'Les villes numérisées belges : Analyse d'un échantillon de sites francophones destinés aux particuliers'; Béatrice van BASTELAER (CITA) : 'Villes virtuelles. Regards sur sept projets européens.'; the workshops of the afternoon were animated by , C. LOBET-MARIS (CITA), Marie d'UDEKEM-GEVERS (CITA) & Béatrice van BASTELAER (CITA).

Namur, IUAP-seminar 2 'Information Society, Administration and Citizens', J. BERLEUR (CITA) : *Welcome*, C. LOBET-MARIS (CITA) : *Introduction to the seminar*, Béatrice van BASTELAER (CITA) (in collaboration with C. LOBET-MARIS (CITA) : *Social Learning in Multimedia. Main insights from seven case studies on digital cities*; Workshop 1 : Dominique DIENG (CITA) : *Modernisation of Administrations - Changes and promises : Introduction*, Y. POULLET (CRID) was the discussant ; Workshop 2 : Axel LEFEBVRE (CRID) : *Questions introductives au workshop*, Marc MINON (LENTIC) and Pascal VERHOEST (SMIT) were discussants ; Workshop 3 : Marie d'UDEKEM-GEVERS (CITA) : *Introduction : Analysis of the phenomenon of the 'digital cities'*, Jo PIERSON (SMIT) : *Development and design of a 'digital city': The case of 'Digital Metropolis Antwerp'*, Béatrice van BASTELAER (CITA) was the discussant .

July 1998

Luxemburg, Institut Universitaire Européen, Summer school 'Law and Cyberspace', Yves POULLET (CRID) animated two days : *Privacy in the cyberspace: new issues* and *How to regulate the cyberspace ?*

August 1998

Helsinki (Finland), 3rd Workshop on Standardization and Transportation, Paul BELLEFLAMME (CITA) : *Assessing the diffusion of EDI Standards across Business Communities.*

September 1998 Monaco, Experts' meeting 'Law and cyberspace' organised by the general Secretary of UNESCO, Yves POULLET (CRID) was a member of the redaction team of the report for the AG of UNESCO.

Brussels, European Commission DG XXII, Yves POULLET (CRID) and Axel LEFEBVRE (CRID) took part at the experts meeting entitled 'Non profit organization and Internet, special needs and issues'.

October 1998 Riga, in the framework of the PHARE program, Yves POULLET (CRID) and Axel LEFEBVRE (CRID) : two reports on data protection and on public data access.

Antwerp, NCMV-FVIB (Federatie Vrije en Intellectuele Beroepen)-Seminar 'Het vrije beroep en de informatiesnelweg: Kennismaking met praktijktoepassingen van de informatie- en communicatie-technologie (ICT)', Jo PIERSON (SMIT) : *Het vrije beroep en de informatiesnelweg.*

Brussel, IUAP-seminar 3 'Paving the Way for a New Telecommunications Policy', Jean-Claude BURGELMAN (SMIT) : *Welcome* ; Workshop 1 : Jean-Marie CHEFFERT (CRID): *Universal service: A conceptual Approach and its Links with the Policy Agenda*, Yves POULLET (CRID): *The Right to Participate and not to Participate to the information Society*, Bart CAMMAERTS (SMIT), *'The Road to the Information Society leads towards the Right to Access and Protection'*, C. LOBET-MARIS (CITA) was the chair and Leo van AUDENHOVE (SMIT) was the reporter ; Workshop 2 : Jean-Claude BURGELMAN (SMIT) : *Communication policy and its challenges for the welfare state*, Marc BOGDANOWICZ (LENTIC) was the discussant and Marie d'UDEKEM-GEVERS (CITA) was the reporter ; Workshop 3 : Pascal VERHOEST (SMIT) : *The Consequences of Electronic Commerce: Social and Economic Perspectives*, Robert QUECK (CRID) was the discussant and Paul BELLEFLAMME (CITA) was the reporter ; Closing session : Dominique GILLEROT (LENTIC) was the chair.

Foyer Culturel d'Ottignies, Marie d'UDEKEM-GEVERS (CITA) : *Les villes virtuelles belges et la démocratie.*

Namur, l'Institut d'Informatique, 'Staff-Séminaire', Marie d'UDEKEM-GEVERS (CITA) : *Quelle régulation d'Internet est possible grâce aux filtres ?*

Château de Colonster, Université de Liège, Forum TELECOM SPI+ (c/o LERIDOC), Marie d'UDEKEM-GEVERS (CITA) : *Les villes virtuelles belges .*

November 1998

Brussels, Legal Advisory Board, DG XIII, Yves POULLET (CRID) : *Report on electronic commerce : the Belgian case.*

Brussels, Colloquium privacy organised by the Belgian Minister De Rijcke, Yves POULLET (CRID): chairman of the Workshop 'Identifiants et vie privée'.

Brussels, Association Belge de Marketing Direct (ABMD), Themadag 'Aspects juridiques du marketing direct', Yves POULLET (CRID) : *Cybermarketing et problème de vie privée.*

Antwerpen, Agor@98, Jeugd, Cultuur & Democratie. Workshop Ministerie van economische zaken, BIPT, Fabrimetal., Jean-Claude BURGELMAN (SMIT) was the day chair.

Vienna, Axel LEFEBVRE (CRID) took part of the expert meeting 'Information Society Bringing Administration Closer to the Citizens' (ISBACC), organised by the working group of the European Commission 'Public administration of the information society forum' and ISF.

Brussels, closed academic-government-corporate seminar 'Convergence: Bottlenecks and institutional Competition', organised by SMIT/ESRC, Carolien PAUWELS (SMIT) was co-chair.

Namur, Institut d'Informatique, 'Staff-Séminaire', Béatrice van BASTELAER (CITA) : *Conception orientée utilisateur des villes virtuelles.*

December 1998

Brussels, Agor@98 organised by The Belgian Minister Elio DI RUPO, Yves POULLET (CRID) : *Conclusions of the workshop 'Vers la confiance'.*

Paris, UNESCO, Yves POULLET (CRID) : observer at the meeting of the group 'Nouvelles technologies et société de l'Information'.

Charleroi, INEMAP, Séminaire IX 'Les nouvelles technologies de l'information au service des communes', Marie d'UDEKEM-GEVERS (CITA) : *Belgian 'Digital Cities' : a sample of French-speaking web sites*, Yves POULLET (CRID) : *Pour un cadre réglementaire de l'utilisation des technologies de l'information et de la communication dans la relation Commune - Citoyens*, Béatrice van BASTELAER (CITA) : *Les villes virtuelles et la transférabilité des expériences.*

Brussels, The Futures - ICT expert panel. IPTS. Jean Claude BURGELMAN (SMIT) is Panel member.

6.3. Training

- BURGELMAN Jean-Claude (SMIT) is supervisor of several Ph.D.-theses on topics related to the IPA programme :
 - * *The evolution the Internet as a Public Sphere ? Voorziene inlevering: 2002.* L. MORGANTI (assistent Europa College).
 - * *De informatiesamenleving: naar een nieuw evenwicht tussen staat en markt? Voorziene inlevering: 200,* B. CAMMAERTS (vorser SMIT).
 - * *Generische sociaal-wetenschappelijke analyse van aanbod-en gebruiksprocessen bij ICT-toepassingen binnen de kleinschalige professionele sfeer. Voorziene inlevering: 2001.* J. PIERSON (vorser SMIT).
 - * *Informatietechnologie-beleid van internationale organisaties in Afrika. Voorziene inlevering: 2001.* G. NULENS (assistent VUB).
 - * *Telecommunicatiebeleid en privatiseringen in Zuidelijk Afrika. Voorziene inlevering: 2000.* L. VAN AUDENHOVEN (aspirant NFWO).
 - * *Constructieve technology assessment & implementatie van nieuwe informatietechnologieën: een gebruikersanalyse. Voorziene inlevering: 1998.* PUNIE Y. (vorser SMIT en VUB).
 - * *Telecommunications policy and universal service in RSA. A critical analysis. Voorziene inlevering: 1998.* L. OOSTHUIZEN (lecturer UNISA- Zuid-Afrika)

- CAMMAERTS Bart (SMIT) is in charge of the seminar ‘problematiek van de informatiesamenleving – nationaal niveau’, VUB, Brussels

- LEFEBVRE Axel (CRID) is in charge of the course ‘*Droit et déontologie de l’informatique*’ at the Paul Lambin Institute, Brussels.

- LOBET-MARIS Claire (CITA) and van BASTELAER Béatrice (CITA) were, in 1998, in charge of the ‘*Information Society*’ Seminar for the ESST Programme in the ‘Ecole Polytechnique de Lausanne’.

- MINON Marc (LENTIC) and PICHAULT François (LENTIC) are in charge of the course '*Analyse des médias et des nouvelles technologies de l'information*'. Communication Sciences at the University of Liège.
- POULLET Yves (CRID) is the supervisor of several Ph.D. on topics related to the IPA programme, particularly the following :
 - * *Universal Service in the Information Society* (F. VAN DER MENSBRUGGHE),
 - * *The role of the State in an Information Society* (R. QUEECK),
 - * *Commercialisation of data held by the public sector* (C. de TERWAGNE),
 - * *The States of the right to privacy* (Th. LEONARD),
 - * *The concept of Identity in the Information Society* (E. DAVIO).

He was the corrector of the R. JULIA's Ph.D. thesis (presented in 1998 at Majorca (Spain) entitled : *Formation of electronic contracts*.

He was in 1998 in charge of the courses '*Vie privée et administrations communales*' at INEMAP, ULB, Charleroi and at LEDAREL, ULg, Liège.

- van BASTELAER Béatrice (CITA) & DELHAYE Renaud (CITA), in the framework of the CEDES (Centre de documentation économique et sociale) (Namur FUNDP - Faculté des Sciences Economiques, Sociales et de Gestion.) have been in charge of a 'Journée de formation continue' : '*Autoroutes de l'information: historique et principaux enjeux*' (14 and 21 January 1998).
- VERHOEST, Pascal (SMIT) is in charge of the course 'Internationaal Informatie en Communicatiebeleid', KUB, Brussels.
- ZUNE M. (LENTIC) presented a teach-in entitled : '*Impacts socio-organisationnels des TIC : organisation, utilisateurs, marché du travail*', in the 'Université Paris XIII', 'UFR Sciences de la Communication', 8-9 Decembre 1998

7. Material purchased

8. Miscellaneous

9. Annexes

9.1. CITA : Rapport d'activités 1998

9.2. CRID : Rapport d'activité du CRID 1997-1999

9.3. LENTIC - ULg : Activity Report 1998

9.4. SMIT: Annual Report SMIT 1998.