

**DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
COMMITTEE FOR INFORMATION, COMPUTER AND COMMUNICATIONS POLICY**

Proposal for an integrated ICCP flagship and new forms of data publication

Paris, 10-12 April

The present document aims at putting forward a proposal for the modernisation of the ICCP Outlooks as well as the publication of data that is collected for the purpose of these Outlooks.

At the 65th session of the ICCP Committee, delegates are invited to discuss the document and indicate whether they agree in principle to a merger of the two ICCP Outlooks. Further questions for delegates that are intended to help guide the discussion can be found on page 1 of the report.

In addition, written comments can be provided to the Secretariat by 3 May.

Verena Weber, verena.weber@oecd.org, Tel. 0033 1 45 24 96 93
Anne Carblanc, anne.carblanc@oecd.org, Tel. 0033 1 45 24 93 34

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NOTE BY THE SECRETARIAT

This paper aims at putting forward a preliminary proposal for the modernisation of the ICCP Outlooks as well as the publication of data that is collected for the purpose of these Outlooks. A revised more detailed proposal will be prepared for the Committee's December meeting, as appropriate, following the outcome of the discussion at the ICCP 65th session.

Action requested:

At the 65th session of the ICCP Committee, delegates are invited to:

- Discuss this document; the list of questions below is intended to help guide the discussion;
- Provide additional written comments to the Secretariat by 3 May; and
- Indicate whether they agree to merging the current two ICCP Outlooks.

Box 1: List of questions for delegates

1. Do you agree to merging the two Outlooks?
2. If yes, what title would be the most appropriate? Should it be named after the Committee?
3. What main building blocks should a merged Outlook contain?
4. Do you agree to a yearly publication of selected indicators? As some of these indicators are, so far, collected only every two years, would you agree to provide updates on an annual basis?

PROPOSAL FOR AN INTEGRATED ICCP FLAGSHIP AND NEW FORMS OF DATA PUBLICATION

Introduction

1. This paper aims at putting forward a preliminary proposal for the modernisation of the ICCP Outlooks as well as the publication of data that is collected for the purpose of these Outlooks. It starts with providing historical background information on the current two ICCP flagship publications: The Communications Outlook and the Internet Economy Outlook (former Information Technology Outlook). Subsequently, it puts forward some thoughts for modernising the Outlooks, gives an overview of past discussions and proposes (i) a new, merged Outlook and (ii) new, innovative ways of data publishing tailored to specific needs. It presents benefits but also drawbacks that these changes would entail and proposes ways to overcome the drawbacks.

Historical developments of the two Outlooks

2. The first editions of the ICCP Flagships were published in 1991 (*Communications Outlook*) and 1992 (*Information Technology Outlook*) and they have been typically published biennially on alternating years.

3. Over time, the *Internet Economy/Information Technology Outlook* and *Communications Technologies Outlooks* have undergone incremental evolution to better reflect the potential of new and emerging technologies, changing commercial exploitation and socio-economic use and acceptance of ICTs, and evolving demands from delegates. This evolution is briefly described below.

Communications Outlook

4. The Communications Outlook originally focused on public switched telecommunications. Over the years, it has expanded to cover broadcasting, developments in VoIP, WiFi, the potential of the “triple play” and evolved towards greater diversity and convergence of platforms.

5. Today, it focuses on the infrastructure and communication services that provide platforms for the Internet Economy – mainly broadband and Internet infrastructure. It also reviews recent and prospective developments in the communication service industries.

6. In terms of **data**, the Communications Outlook provides currently a set of harmonised communications indicators and benchmarks that can be used to track developments in the communications industry across the OECD and to benchmark relative performance across countries. The performance indicators and benchmarks which have been developed are those which are thought to be the most useful and they have been added to and changed following new developments in the industry. The time series of the main indicators used in the OECD Communications Outlook are available in the OECD Telecom Database published online on OECD. In addition, data on broadband is published on the OECD broadband portal (<http://www.oecd.org/sti/broadbandandtelecom/oecdbroadbandportal.htm>).

7. The current **audience** of the Communications Outlook includes policy makers, mainly in the area of ICTs, telecommunication regulators, and industry (telecom operators), consultants and financial institutions, and academics.

From the Information Technology Outlook to the Internet Economy Outlook

8. The *Information Technology Outlook* (ITO) originally focused on the IT-producing sector. At a later stage, it expanded to provide a broad overview of trends in IT-related policies, the evolution of the *demand side*, and applications and impacts in areas ranging from household use, and digital content, to ICT-related skills and employment.

9. In 2010, the Committee agreed to transform the IT Outlook into an Internet Economy Outlook (IEO) which would, following the Seoul Ministerial on the Future of the Internet Economy, take account of changes in economic structures and respond better to policy makers' data requirements.

10. Key differences between the IEO and former ITO included: (i) a new and/or much greater focus on content, applications and use; (ii) a much lesser focus on IT industry, production and trade, with coverage limited to the discussion of industry developments that have a direct impact on applications and use; and (iii) a somewhat extended focus on Internet governance, regulatory and policy issues, but with a shift of focus from IT industry development, to issues relating to applications and use.

11. The 2012 *Internet Economy Outlook* (IEO) has provided a forward-looking perspective on recent trends in ICT technologies, applications and services. It has also provided policy analysis on a combination of topics, the choice of which reflected information on government priorities submitted, via a questionnaire, by OECD countries (*e.g.* ICT skills, digital content, information and communication technologies for health and ageing, research and development (R&D) investments in the area of security and privacy).

12. Furthermore, as a new development, the 2012 IEO explored the economic and social importance of the Internet and presented new research, approaches and methodologies for measuring the Internet economy.

13. In terms of **data**, the IEO is based on a range of statistics from the public and private sectors, including data on the top 250 firms in the broader ICT sector and extensive data on Internet use by businesses and households. These data help to identify and clarify both shorter- and longer-term trends and to benchmark countries against each other.

14. The **audience** of the *Internet Economy Outlook* includes policy makers, industry and industry analysts, consultants and academics.

15. Table 1 provides an overview of the structure and main topics of the two Outlooks as presented in 2010. As the Communications and Internet Economy Outlooks continue to be produced every other year, complementarity between both publications is ensured as follows: the former focuses on the infrastructure that provides the basis for an Internet Economy – most notably broadband and Internet infrastructure, and the latter focuses on applications and use.

Table 1. Outlook structure and topics

Communications Outlook	Topic	Internet Economy Outlook
<ul style="list-style-type: none"> • Consumer expenditure on communication services • Diffusion and penetration of technologies • Evolving communication technologies and services • Universal service 	Applications & Use BB Access & Use (HH & Individual) BB Access & Use (Business) Applications Emerging Technologies	<ul style="list-style-type: none"> • Household Access & Use (focus on uses) • Business Access & Use (focus on e-business applications & uses) • Specific Applications (e-government, e-health, green ICTs, environment) • Economy wide use and application of emerging ICTs • ICT skills and education
<ul style="list-style-type: none"> • Broadcasting (and competitive alternatives) 	Services & Content ICT-Enabled Services Broadcasting Broadband Content	<ul style="list-style-type: none"> • Broadband Content (<i>e.g.</i> user-generated content) • Security, Trust & Privacy • ICT-Enabled Services
<ul style="list-style-type: none"> • BB & Internet Infrastructure • Communications Network Dimensions and Availability • Spectrum • International connectivity 	Infrastructure, Equipment and Devices BB & Internet Infrastructure Communications Network Dimensions Connected devices, technologies	<ul style="list-style-type: none"> • Equipment/devices connecting to the Internet • Integration of equipment into business value chains
<ul style="list-style-type: none"> • Markets (Communications) • Pricing • Regulatory Issues • Policy Developments 	Policy Issues & Developments Competition & Innovation Regulation & Governance Economic Impacts of BB Security, Trust & Privacy Consumer Protection	<ul style="list-style-type: none"> • Markets (IT & Services) • Research & Innovation • Regulatory & Governance Issues • Policy Developments

Source: Based on [DSTI/ICCP\(2010\)17](#)

Modernising the Outlooks

16. Two main characteristics of the Internet economy call for a modernisation of the way the Outlooks and the underlying data are published. One is the increasing convergence, not only within different layers of the Internet economy, but also more recently between these layers. The other is the increasing pace of innovation in the Internet economy which challenges the current cycle of publication of the data.

Convergence in the Internet economy

17. The Internet economy is in an era of convergence which is taking place not only at the infrastructure layer (both communications networks and IT hardware) and at the application layer, but also *between* these two layers. On the infrastructure side, different platforms such as telephone and television have been converging over the Internet and bundled offers have emerged. Smart devices are more and more integrated in different networks and also over the Internet. On the application side, different forms of digital content have converged and data from the public and private sectors have merged into new applications.

18. Convergence between the layers is well illustrated by cloud computing which provides not only access to computing infrastructure but offers also a wide range of platform and software services. In addition, companies in the Internet sphere that typically concentrate on one layer are increasingly exploring the links between the infrastructure and the application layers and some of them are moving towards building up important business units on both layers: Telefónica, for instance, an incumbent telecommunications provider has started to operate a network of accelerators that provide start-ups developing applications and services, with venture capital financing. On the other hand, Google which has mainly been active on the application and demand side of the Internet economy, has reportedly become the fifth-largest server maker in the world and has its own network infrastructure¹.

19. In the current Outlooks, for the most part, convergence is analysed within the infrastructure and services layer (Communications Outlook) and within the application and services layer (Internet Economy Outlook), but not across these layers in all sectors. There may be, many benefits to gain from an integrated assessment of the Internet and ICT-based economy and a more holistic publication.

20. For instance, data on the supply side of the Internet economy need to be mapped against data on the demand side to obtain a better picture and to identify gaps and areas where further efforts are warranted. Trends in convergence need to be observed holistically in order to develop efficient policies for the Internet economy. These elements indicate that it may be timely to consider a merger of the two ICCP flagship publications.

Data on the Internet Economy

21. The Internet, the underlying infrastructure and especially online services and applications are developing extremely fast and much faster than many other sectors in the economy. As a consequence, more timely publication of data on the sector would greatly benefit policy making in this area.

22. The current publication format includes the release of data and policy analysis in each of the two Outlooks (on a biennial basis for each of them) as well as the release of data on OECD websites (the Broadband portal, the Key ICT indicators website and OECD.stat) on either a bi-annual, annual or biennial basis.

¹ <http://www.wired.com/wiredenterprise/2012/09/29853/>

23. The production cycle of the Outlooks typically takes between 12 and 18 months from the first drafts of the questionnaires, to the finalization of the chapters, to the printing of the publications. This time span poses some challenges for Internet and ICT statistics and represents a significant burden in terms of delegates and secretariat's resources since data updates have to be performed at various times during the production phase.

24. An alternative approach towards *data publishing* would consist of releasing a more significant amount of yearly updated data online for both the telecommunications sector and the ICT sector and online applications. This would translate into lowering the emphasis on Outlook data tables and moving towards a variety of online publishing channels.

25. For example, newer forms of data publication could include (i) a data publication such as pub.stat, the (ii) on the STI innovation policy platform that is currently under development, (iii) the continued publication of data on dedicated OECD websites and via mobile apps for tablets and smartphones. All would allow for a more targeted and customized ways of data delivery, e.g. through search filters and different search options. The app, for instance, would allow to quickly retrieving data on specific sectors for a specific country. Policy makers could thus quickly and retrieve the relevant data they need for briefing and reporting purposes as well as for evidence-based policy making.

Proposal for a modernised and merged Outlook

26. Based on the considerations above, it is proposed that the Committee consider a *merger of the Communications Outlook and the Internet Economy Outlook*. Discussions on such merger have been ongoing for over 10 years as presented in the next section.

History of discussions on alternatives to the two ICCP Flagships

27. Discussions on merging the two Outlooks started in 2002. Significant discussions also took place in 2005.

2002

28. In October 2002, the ICCP Bureau and Committee asked the Secretariat to prepare a note exploring alternatives for change in future editions of the *Information Technology (IT)* and *Communications Outlook*, including the possibility of merging the two publications and more frequent statistical updates.

29. Two underlying reasons for this request were mentioned. The first was to see if a combined publication would provide an *annual cycle for data production*. A further reason was the emerging *convergence* between the IT and the communications sectors. The implications of such alternatives for Member countries in terms of data submission, as well as for the Secretariat's resources were to be addressed.

30. The concerned ICCP working parties (TISP and WPIE), which were invited to discuss the costs and benefits of the proposed changes to the *Outlooks*, suggested that they remain separate publications on a biennial cycle, but that options regarding more frequent statistical updates be considered. In March 2003, the Committee agreed to keep two biennial distinct publications identified by their subtitle, under a common overall title. However, this common title was removed in later years. The Committee also asked the Secretariat to identify a limited number of key indicators that should be collected and published annually with the Outlooks, and to provide the Committee with indications on the resource implications of the above decision.

31. Following the Committee's decision and in consultation with the WPTISP, WPIE and WPIIS, 15 *Key ICT Indicators* were identified and collection from Member countries began in 2004. As of October 2004, these indicators have been published permanently on a newly created web page (www.oecd.org/sti/ICTindicators) on the ICCP site.

2005

32. At the request of the Committee Chair, the Secretariat prepared an update on developments of the Information and Communications Technology Outlooks and the Committee was invited to decide whether further changes to the Outlooks were warranted. A number of possible paths were presented, from no change to a merger reflecting the convergence underway in the marketplace, to an incremental "evolutionary" change.

33. In October 2005², Delegates agreed on an incremental "evolutionary" change and on the inclusion of topical chapters that would catch developments and trends, but not be repeated in every issue. The Secretariat was asked to explore ways to lessen the burden of the policy questionnaires that member governments must respond to, which in an era of regulatory reform and broader scope due to convergence have become more difficult to answer.

Main rationale for proposing a merger of the Outlooks in 2013

34. From the two sections on the rationale for modernising the Outlooks and the historical background of discussions, the benefits that would arise from (i) merging the two ICCP flagship publications and (ii) moving a larger part of the data publication to an online data publication can be summarised as follows:

35. On the *substantive level*, the fact that several layers of the Internet economy are increasingly converging already leads to some overlap between the two flagship publications without, however, enabling to provide an integrated view on developments and trends in the Internet economy. Since some of the data in the flagships would move towards a more frequent online publication, the flagships would focus more on policy analyses.

36. As a consequence, *in terms of audience*, the merged Outlook would be better tailored to the needs of high-level Internet policy makers and their advisers who need a holistic view of the Internet economy. In addition, the new cycle of publication of data online would continue to serve the needs of other important user groups such as regulators and industry analysts who could access the data in various formats.

37. In terms of *resource implications*, there would be benefits for both member countries and the secretariat. Member countries' policy makers would have to review a lesser number of Outlook chapters and this once instead of twice in a biennium. Regarding the collection of data, the cycle for updating some indicators (around 10 to 15) would increase from every other year to every year, subject to the agreement of delegations. For the secretariat, benefits would arise from the fact that fewer but more integrated chapters would have to be written, enabling to shift some resources towards the more frequent update and publication of data.

2 [[DSTI/ICCP/M\(2005\)2](#)]

Potential challenges to consider regarding the merger of the Outlooks

38. Besides the advantages set out above, it is important to also highlight challenges that might arise when merging the Outlooks.

39. In terms of publication cycle, an ICCP flagship would only be produced every two years whereas the Internet economy is moving fast. It is expected that this challenge would be overcome by the publication of data via different channels every other year to ensure that policy makers have the data material at hand during the year when the Outlook is not published.

40. Another challenge is related to the audience of the Outlooks. The two publications currently serve target groups which are both partially overlapping and different. The Communications Outlook, in particular, meets the needs of the community dealing with policy and regulation of the communications infrastructure and services, which might find a combined product less relevant. It is expected that this challenge would be overcome by a clear identification of and communication on the content of a new merged Outlook and of the data to be published online on a more regular basis, as detailed in the next section. It may also be noted that a more holistic publication may be appealing to new audiences, including high-level policymakers.

41. Finally, the two Outlooks have a high rating in the PIR surveys and in terms of substance, the merger may entail losing some richness and breadth of analysis. However, some of the topics covered in the Outlooks are also treated in stand-alone reports and a thorough communication on the publication of ICCP reports could help overcome this challenge. Furthermore, one cannot prejudge on the success of a new merged Outlook.

42. Figure 1 summarises the main potential benefits and challenges that might arise when merging the Outlooks. On the benefit side, the most important points are the possibility to take a holistic approach to analysing the Internet economy, a more efficient use of resources and a product that is better tailored to the needs of high-level policy makers. On the challenges side, the most important points are the biennial publication of an ICCP flagship, the needs of particular communities and the high rating that the current two Outlooks have in the PIR.

Figure 1. Figure 1: Overview of potential benefits and challenges when merging the two Outlooks

Potential benefits	Potential challenges
<ul style="list-style-type: none"> ▪ Substance <ul style="list-style-type: none"> ▫ Internet economy converging: Need for an integrated view of telco. networks and applications and services on these networks ▫ Clear focus on policy ▫ No overlaps between the two flagships ▪ Target group <ul style="list-style-type: none"> ▫ Target: High-level policy makers and their advisers that need an integrated view of the Internet economy ▪ Use of resources <ul style="list-style-type: none"> ▫ Better use of resources in countries ▫ Better use of Secretariat resources for the publication 	<ul style="list-style-type: none"> ▪ Publication cycle: Only one flagship every other year (but publication of data in between) ▪ Target group: <ul style="list-style-type: none"> ▫ At the moment, different target groups - particularly the Communications Outlook meets the need of the specialised policy community dealing with the regulation of communications infrastructure ▪ The two Outlooks have a high rating in the PIR surveys and in terms of substance a merger might loose some breadth of analysis

A modernised and merged Outlook as of 2015

43. Where the Committee considers that the benefits mentioned above outweigh the challenges, it may decide to merge the two Outlooks into one ICCP flagship publication to be published every alternative year. After the publication of the Communications Outlook in 2013, the first merged Outlook would be prepared in the second half of 2014 and the first quarter of 2015 with a view to being published in September 2015.

44. In addition, in alternative years, starting in 2016, there would be an online publication of selected data made available via different communications channels such as, for instance, the broadband portal, the OECD iLibrary, the Innovation Policy Platform, several other OECD websites and via an app for mobile devices. An overview of possible main components of the new Outlook and the publication of data every other year are outlined below.

Main proposed components of the new flagship

45. The new flagship could include four main pillars. The *first pillar* would be a holistic, data- and evidence-based analysis of developments in the Internet economy. It could, for instance, include:

- The measurement of supply and demand for ICTs
- The analysis of economic and social implications of changing market structures, new technologies and applications
- The evaluation of the impact of ICTs on GDP growth

- An analysis of the importance of trust

46. This new approach would allow to simultaneously show the developments for communication infrastructure/services and for demand/applications and to identify critical areas of work. This pillar would provide key statistics on the Internet Economy that would be provided in the Outlook every two years to show how the ICT sector is developing over time.

47. Based on these analyses, the *second pillar* of the merged Outlook would focus on how innovation in the Internet economy could be leveraged to respond to key socio-economic challenges. Chapters could focus on the links between the Internet economy and jobs, reduction of inequalities, health and ageing, for instance.

48. A *third pillar* would be devoted to one or two specific issues related to important developments in the Internet Economy. These chapters would vary from Outlook to Outlook. For the next Outlook, a chapter could, for instance, focus on the topic of big data.

49. Finally, the Outlook would include a *fourth pillar* on how the Internet economy contributes to development in emerging and developing countries and would thus build a bridge between OECD members and non-members and provide best policy practices derived from both OECD member and non-member countries.

New forms of data publication

50. In order to ensure that data on the Internet economy would be available in a more timely manner, it is proposed to also modify the way data is published. The two main objectives could be that (i) updated data is available as fast as possible and as customisable as possible and that (ii) there is a consolidated data online publication in the years when no Outlook is published.

51. Several approaches could be taken to ensure these two objectives:

- Data could be published in a semi-automated data publication format which would require fewer resources than a normal publication and that would contain selected indicators in the years when no flagship is being published. Annex 1 provides an overview of the main indicators that are currently published in the two Outlooks as well as in the STI Scoreboard. It also indicates which of these indicators could be provided on an annual basis. The publication would be available on the OECD iLibrary which, from 2015 on, will provide open and free access to OECD publications.
- Another way to publish customised data is via different OECD websites such as OECD.stat, the broadband portal and key ICT indicators. In order to provide a single point of entry, the latter two could be merged.
- Finally, the data would also be published via the recently developed mobile iEconomy App for tablets and smartphones. This newer form of data publication allows for a more targeted and customized way of data delivery, e.g. through search filters and different search options. Policy makers, for instance, would be able to quickly retrieve data on specific sectors for a specific country.

ANNEX 1

This annex provides an overview of categories of indicators that are currently collected for the Outlooks. The last column shows the frequency of data collection and indicates (for update frequencies that are currently not on an annual base) whether it would be possible to have an annual update. “5 out of 18 (AUP)” means, for instance, that 5 of a total of 18 indicators could be updated on an annual base.

	Indicator	Sub-Indicator	Frequency/ Annual update possible (AUP)
CISP	BB subscriptions	Fixed, Wireless	6m/AUP
CISP	BB penetration	Fixed, Wireless	6m/AUP
CISP	Network Infrastructure		2Y/ 5 out of 18 (AUP)
CISP	Employment		2Y
CISP	Revenue		2Y / 1 out of 7 (AUP)
CISP	Investment		2Y
CISP	Traffic		2Y
CISP	Market Share		2Y
CISP	Miscellaneous		2Y
IE	Growth in ICT employment	Manufacturing, services,	6m/ AUP
IE	Growth in ICT output	Manufacturing, services	6m/ AUP
IE	Share ICT employment	Specialist, occupations	2Y/ AUP
IE	ICT BERD	ICT BERD intensity, Share of ICT BERD	1Y
IE	Investment	Non-residential, software, communications, IT Equipment	1Y
IE	Value added	By sector	2Y/ AUP
IE	Trends top 250 firms	Performance, employment, revenue, R&D intensity	2Y/ AUP
IE	ICT Trade	FDI	2Y/ AUP
IE	ICT Patents		1Y
IE	ICT Spending		2Y
IE	Venture capital		1Q/ AUP
IE	Semiconductors		1Y
IE	Education PISA		
IE	Information security & privacy	Patent & trademark applications	2Y/ AUP

IE	E-commerce	Total turnover, business selling & purchasing online	1Y
IIS	ICT and broadband access (Household section)	Access to computer, Internet, BB connections,	1Y
IIS	Internet use and ubiquitous connectivity	Internet use	1Y
IIS	Internet activities for personal use	Access social networks, communicating, research, learning etc.	1Y
IIS	E-Government	obtaining, downloading information	1Y
IIS	Electronic commerce & banking	Purchasing buying	1Y
IIS	Security and privacy	Use Security software, security related problems	1Y
IIS	ICT use & internet access- enterprises	Persons employed, access to Internet,	1Y
IIS	E-commerce	Business placing and receiving orders. Turnover,	1Y
IIS	Automatic information sharing systems	ERP, CRM	1Y
IIS	ICT security	Internal security facilities	1Y
IIS	ICT tools	Websites, RFID, Cloud computing, etc.	1Y