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e-IRG's reaction
to the findings and recommendations of the report of the GÉANT Expert Group

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Foreword

Through the successful development of GEANT, Europe has a good starting position, but now needs to adapt to a rapidly changing global environment through embracing the vision of the GÉANT 2020 end-to-end, inclusive commons as proposed by the GEANT Expert Group (GEG). To realize this vision, Europe needs to adapt the governance structures as advocated by the GEG. Furthermore, it will be essential to accelerate innovation activities through increased funding, diverse consortia, and dedicated project management, as recommended by the GEG.

The final FP7 call, to be issued this summer, is an excellent opportunity to prepare for the HORIZON 2020 period and stimulate the further development and innovation of the research network services needed for the coming generation of researchers. e-IRG offers to contribute as a broad stakeholder's platform for facilitating the implementation of the GEG report.

Gudmund Høst
e-IRG Chair
March 2012

1. Introduction

The GÉANT Expert Group (GEG) was established by the European Commission in December 2010, with the mandate to articulate a 2020 vision for European Research and Education networking and identify an action plan for realising this vision.

On October 4, 2011 the GEG presented its vision and recommendations in its Report 'Knowledge without Borders: GÉANT 2020 as the European Communications Commons'[1] to Commissioner and Vice-President for the Digital Agenda Neelie Kroes in Brussels.

In their meeting of 14 October 2011 the e-IRG delegates decided to prepare a reaction to this report as a contribution to the discussion on the future of Research and Education networks and e-Infrastructures. This is at the heart of the mandate of the e-IRG, and was asked by Commissioner Kroes to stakeholders.

As a follow-up to the GEG report and before coming up with a position themselves, the Commission is organizing a number of consultation meetings with stakeholders. The first such meeting took place on 18 January 2012, during which the e-IRG Chair presented on behalf of e-IRG a first reaction to the GEG report[2]. This paper builds further on that presentation and elaborates the points made then in more detail.

2. Purpose, set up and scope of this paper

With this paper, e-IRG provides its response to the findings and recommendations of the GÉANT Expert Group (GEG).

The paper starts by presenting a brief summary in section 3 of the main strategic aims of the GEG-report. It then discusses the issues that are seen as the most important from the point of view of e-IRG in relation to its mission, scope, policies and recommendations in its various Roadmaps and White Papers.

It formulates questions and issues that the GEG report raises as well as an opinion from e-IRG on each of these questions and issues. It does not pretend to be complete as regards the issues raised by the GEG report, but concentrates on matters in which e-IRG can provide relevant input.

It focuses therefore on the migration from the present situation to the European Communication Commons, on the issues around extending the user base, on adapting the organisation and governance structures and on the financing of networks as part of the broader e-Infrastructures ecosystem. In that respect Section 4 of the

1) http://cordis.europa.eu/fp7/ict/e-infrastructure/docs/geg-report.pdf
2) http://www.e-irg.eu/images/stories/presentations/120118-e-irgs_response_to_geg_report-brussels.pdf

GEG report seems to be the most relevant. A key theme throughout the e-IRG reaction to the GEG report is the need for more innovation in the networks.

3. GEG's vision and recommendations in general

The first Section of the GEG report **'Past Successes and Future Potential'** gives an assessment of the position, role and achievements of European networking and of the GÉANT high speed backbone, which has an important share in supplying international connectivity.

It concludes that **Europe has demonstrated considerable successes, but that we cannot be complacent**, and that the European networks face unprecedented challenges as a result of changes within both their own ranks and the communities they serve. It also analyses the organisational, financial, commercial an regulatory challenges facing the current 'GÉANT ecosystem', such as the complex and opaque governance structure, the underrepresentation of innovation as an NREN-feature and the lack of investment in state-of-the-art facilities and human resources at NREN and campus level. In this respect it recalls that the GÉANT backbone only accounts for a small fraction of European networks overall costs. As a 'rule of thumb',

the international, national, and campus costs are in the ratio of 1:10:100. Other emerging issues are increasing competition for international connectivity, heterogeneous regulatory environments across Member States, and lack of visibility of the networks. This last point puts them in a disadvantageous position in the competition for research investments, compared to other elements of e-Infrastructures.

The second Section **'Welcome to the Borderless World'** guides the reader through the various changes and disruptions in the network's external world. It underlines the key role of digital networks in industry, business, and public services. It points out that Europe's global peers are investing heavily in research networks and broadband infrastructures in general. It points at the competition in the global knowledge based economy, at the role of the European Research Area (ERA) as a key enabler of such an economy in Europe, and at the necessary role of e-Infrastructures and research networks in support of the ERA and the Digital Agenda for Europe[3]. It summarizes the key trends that constitute the need for change: new models in research, innovation and learning, and technological developments, creating new paradigms for data and information and determining major trends towards green IT, cloud computing, mobile access and new approaches for security and trust. **It underlines that Europe has to position for change**.

The third Section **'A Vision for 2020'** presents the GÉANT 2020 vision, where GÉANT 2020 refers not just to the international backbone, but to a European communications commons, where talent anywhere is able to collaborate with their peers around the world and has instantaneous and unlimited access to any resource for knowledge creation, innovation and learning. In the 2020 vision of the GEG GÉANT has thrown off the limitations of the pre-digital age and established itself as part of a truly open and global digital ecosystem. Organisational set-ups, business models, governance structures, funding regimes and regulation, all have been adapted and updated and where necessary new ones put in place. Through collaborative structures, the networks aggregate demand more efficiently than could be achieved by national players going to the market individually. And from a technology perspective, **they feature multi-vendor, multi-domain open environments that are not normally available from the commercial providers**.

Finally Section 4 **'Reorganize for 2020'** introduces organisational implications of the 2020 vision and the consequences for other horizontal, cross-cutting issues; **the GEG gives a strong message to prepare for change**. The current federated model should evolve with flexibility and sustainability in mind, resulting in a limited number of organizations and governance bodies with well-defined and non-overlapping responsibilities and representations. The new model should allow a flexible, open and competitive approach to European and global connectivity. For the necessary

3) http://ec.europa.eu/information_society/digital-agenda/index_en.htm

innovation activities the model should enable advanced collaboration between interested NRENs, industry, users and academia with a **dedicated management structure** comprising the partners **per project**. This inherently multi-domain open environment should be created based on the guiding principles: (1) what works best for users and meets their requirements, (2) what contributes to the European communications commons, and (3) what gives Europe the best position in global research and education networking.

These recommendations lead to an organisational set up that must be able to address the three core functions:

1) community building, high-level strategy and coordination,

2) connectivity and services provision and

3) innovation.

A stronger role for users in governance of the networks should be ensured at all levels.

As regards **funding**, the GEG makes seven recommendations on how to **step up funding** to the necessary level, including recommendations that the EU should fund the EU level research and education infrastructure in full, with checks and balances as regards quality and need, that high end users must be able to budget for a greater share of the burden, that budgets for innovation activities should be increased, and that European Structural funds should be used to address digital divide issues. Finally, the **regulatory regime** in relation to research and education networks needs to be **updated** in a number of areas and aligned with the NRENs' potential.

4. Issues to be addressed

Overall, the assessment, the vision and the recommendations of the GEG are widely in accordance with the views and recommendations of the e-IRG, e.g. in the e-IRG Roadmap 2010 and the recent e-IRG White Paper 2011[4].

However the proof of the pudding is in the eating and the devil is in the detail.

At present, the way that many of the recommendations will be implemented is still open for discussion and the GEG-Report intentionally raises important questions still to be answered. e-IRG wishes to contribute to the discussion and the decision making process by identifying these questions and issues, by making proposals

4) On 14 April 2011 Gudmund Høst presented the e-IRG perspective to the GEG:
http://www.e-irg.eu/images/stories/presentations/110414-gudmund_hst_e-irg_geant_expert_group.pdf

and suggestions for implementation, and subsequently by giving support to the implementation.

We have identified **four main topics** that are particularly relevant for e-Infrastructures as a whole and for their user communities. These we will address in this paper.

A) Migrating from network backbone to a European Communication Commons

What was recommended by the GEG?

In the GEG's vision, GÉANT 2020 is a common enabling infrastructure for European research and (higher) Education. All users and countries should be able to access it on equal terms, irrespective of their status or location. According to the GEG the GÉANT commons should also consider expanding beyond the network, embracing other elements of the communication commons, such as clouds and data centres as the basis for scientific data repositories. The GEG recommends that simpler, more coherent, structures are needed. And that the NRENs and their current European-level organisations themselves should come forward with proposals to meet these characteristics. NRENs should remain the key building blocks of this new structure, legitimising the structure as aggregators of their specific communities and interests, but may in some cases wish to form clusters to meet some of their demands. The situation in Europe will be increasingly diverse, especially in terms of international connectivity and GÉANT 2020 may not have the field to itself.

Some questions raised:

As was said before, this vision of the GEG is very much in accordance with the views expressed earlier by the e-IRG. But in order to make this vision a reality, various questions can be raised and should be answered:

- How will an ambitious but realistic functional and geographical demarcation of the GÉANT commons be defined?
- Is it realistic to assume that the NRENs alone will be sufficiently positioned and equipped to come forward with proposals to create the necessary new institutional and financial arrangements for the functionally extended end-to-end commons? Or do other actors need to play their role as well?
- How can the well-known "tragedy of the commons"[5] be avoided, which could arise by the contrast between short term operational interests of individual users and the common long term interest of the research community as a whole in innovation and change?

5) http://en.wikipedia.org/wiki/Tragedy_of_the_commons

e-IRG response

With its earlier recommendations in mind, e-IRG strongly supports the concept of one communications commons, offering end-to-end connectivity and offering a broad functionality in services. At the same time, e-IRG wishes to emphasise that this commonality should not threaten the timely and continuing innovation and the ambitions for a service which is leading in the world.

The proposed paradigm shift will only happen if there is a broadly supported sense of urgency for the required changes to take place. This will require the Commission and the Member States to create such a sense of urgency with the relevant stakeholders and to create promotional incentives on all levels.

Further, e-IRG believes that an ambitious commons will only be sustainable if combined with strict and transparent arrangements for governance and finance based on a genuine commitment to an end-to-end infrastructure.

Efficient and effective collaboration between all actors will be a must, because each individual actor has only a limited impact in end-to-end communication. The e-IRG agrees with GEG's statements about the diversity in NRENs and the limited impact every individual player has, and together with the limitations in staff and financial resources of many NREN's, the e-IRG argues that other actors, for instance organised leading users and other e-Infrastructures, should play an important role in the change process and in the creation of the new institutional and financial arrangements.

e-IRG notes that the absence of a Single European Market (SM)[6] for telecommunication networks and network services continues to be a serious barrier in realizing the geographical dimension of the communication commons with equal access conditions everywhere in Europe. The Commission should investigate the impact of the absence of such a SM on the digital divide between European scientists and universities and challenge the member states to overcome this hurdle. The functioning of the national and local markets for dark fiber and the access to a fiber infrastructure is often quoted by NREN's and campuses to be crucial in this context.

e-IRG agrees with the GEG's statements on the increasing significance of mobile services for the research networks, which will affect the demarcation of the GÉANT 2020 commons. However because this will imply serious technical, organisational, commercial and regulatory complications, such an extension should be primarily considered as innovation at this time, and be organised and funded accordingly. This ties in with the GEG's suggestion for more experimentation.

6) See also the Digital Agenda section 2.1.4
http://ec.europa.eu/information_society/digital-agenda/documents/digital-agenda-communication-en.pdf

What can e-IRG contribute?

e-IRG is willing to take a leading role in the discussions on how to create and implement the necessary institutional and financial arrangements for the European Communication Commons. e-IRG is well positioned to involve users and other e-Infrastructures in such a discussion and decision process.

In accordance with GEG's statement about the networks' lack of visibility, e-IRG is willing to stimulate users and other stakeholder to create the necessary public awareness and sense of urgency for the concept of a state of the art GÉANT communications commons.

B) Extending the user base

What was recommended by the GEG?

The traditional GÉANT user base consists of high-end users and the R&E Community as a whole. The GEG recommended to continue widening this base where economies of scale can be achieved towards, for instance:

- the research and innovation actors resulting from the open science and innovation paradigms and spreading into SMEs, technology parks, including amateur scientists and innovators etc.

- users from other public areas such as health, culture and public administration.

The GEG acknowledges the different motives and consequences to expand to those user groups and gives a warning that this should not endanger the networks' main mission.

The GEG recommends carrying out a close analysis on how to expand the scope with other relevant user groups in keeping with the networks main mission.

Some questions raised:

When GÉANT wants to expand its user base:

- How far can such an expansion go without conflicting with the main mission of GÉANT 2020, to be an open ecosystem for the research and higher education community, and without hurting its main mission of servicing high-end users and the priority of continuing innovation?

- What will be the potential consequences of such an expansion for the application of EU regulation for electronic communications, for tendering and for fair competition and state aid?

e-IRG response

In its Roadmap 2010 e-IRG has stipulated the importance of participation of private research in the use of research networks. In the research networking arena, user communities are increasingly heterogeneous, often comprising academia, public and private research institutes, corporations, and non-profit organisations cooperating in public-private partnerships. This trend is reinforced by the move to open innovation.

Looking at the recommendation of the GEG regarding the extension of the user base, e-IRG supports the idea of a close analysis as recommended by the GEG, given the possibility that the mission of GÉANT 2020 as an open continuously innovating ecosystem for the special needs of the R&E community could be at risk by such an expansion. Risks may for instance result from the application of the EU rules on competition and state aid.

What can e-IRG contribute?

e-IRG is willing to play a major role in this analysis process. With its extensive knowledge and experience pool, its access to broad expertise in e-Infrastructures and to an extensive user base of those infrastructures, e-IRG is well positioned to facilitate discussions/actions between the users and their representatives, including the ESFRI Implementation Group and pan-European research infrastructures like ELIXIR, CLARIN, LifeWatch, ESS, CESSDA and others.

C) Reorganizing for change

What was recommended by the GEG?

The GEG makes it quite clear that the organisation of the networks – in view of the GÉANT 2020 vision – should be adapted to the new realities and that a new structure is needed with the three core functions mentioned by the GEG.

According to the GEG some important characteristics of those functions are:

1) **Community building, high-level strategy and coordination:** a stronger role for users; appropriate solutions have yet to appear, especially involving large and well-organised user communities at a European level.

2) **Connectivity and services provision:** flexible, open and competitive approach to European and Global connectivity; advanced collaboration among the interested NREN's.

3) **Innovation:** Implementation of major innovation projects through consortia including NRENs, industry, users and academia with a dedicated management structure comprising the partners per project.

But the GEG also mentioned a substantial number of organisational, commercial and regulatory shortcomings and challenges facing the current 'GÉANT ecosystem', such as the complex and opaque governance structure, the underrepresentation of innovation as an NREN-feature and the lack of investment in state of the art facilities and human resources at NREN and campus level.

According to the GEG, a complex ecosystem like GÉANT 2020 calls for governance structures that are transparent, streamlined and responsive. This implies creating European level bodies with clear, carefully defined and non-overlapping mandates along the three core functions described by the GEG.

Governance should reflect GÉANT's European dimension, with representation at national level being the main basis for the governance arrangements, but this does not mean that all Member States and all NRENs need to participate in all fora and projects at every level. Re-thinking and focusing the activities currently undertaken by the NREN PC, DANTE and TERENA, would be particularly beneficial in terms of streamlining the governance arrangements

Some questions raised:

- How to organize the stronger role of the users on the three levels of the proposed governance structure?

- Which organisational measures will help to reinforce the European role in the open innovation process of the worldwide ecosystem?

- How to organize industry and user participation in open innovation projects?

- Are the existing European-level bodies ready to move to a situation of well-defined and non-overlapping responsibilities and representations, which the GEG holds for necessary?

- In 3A we already questioned if it was realistic to assume that just the NRENs together will be sufficiently positioned and equipped to come forward with proposals to create the necessary new institutional and financial arrangements for the geographically and functionally extended commons. Is there not also a stronger role in this process to play for bodies with a broader scope like e-IRG? And by some lead users?

- Given the urgency of change expressed by the GEG, what is the desirable and realistic timetable for such change?

e-IRG response

The GEG's recommendations are well in line with earlier e-IRG recommendations, e.g. in the section on governance of the e-IRG White Paper 2011. In its Blue Paper for ESFRI e-IRG suggested that on the strategic level, international users in research have to play a major role in setting strategic goals for international e-Infrastructures. This will help to formulate and generate organisational requirements for the way national and international RIs should be organised. ESFRI itself might play a key role here.

e-IRG agrees that major changes in governance are urgently needed, and believes that the recommendations in the GEG report are the right way forward. Strong involvement by users is required in the process of reorganisation, starting with today's high end users, and in close cooperation with the leading edge research infrastructures in ESFRI.

If we try to match the three non-overlapping core functions of the structure envisaged by the GEG with existing European-level bodies, a clear picture emerges:

a) community building, high-level strategy and coordination, fits best with the mission of TERENA, representing the wide NREN-community and already having user groups as international members, and providers as associate members. TERENA should be asked to make further proposals on how to organize this strategic function, including the involvement of well-organised user communities.

b) connectivity and services provision: fits the mission of NRENs, their operating company DANTE and clusters of NRENs (such as NORDUnet), and other service providers participating in the worldwide ecosystem.

c) innovation: various consortia for the implementation of major innovation projects, with participation from interested NRENs, high-end users, academia and industry, including participation from outside Europe.

What can e-IRG contribute?

With its extensive knowledge and experience pool, its access to broad expertise in e-Infrastructures and to an extensive user base of those infrastructures, e-IRG is well positioned to assist in the necessary organisational changes. e-IRG could facilitate discussions/actions between the users and their representatives, including the ESFRI Implementation Group, in order to kick-start the transition towards a more user-driven governance structure.

D)   Stepping up the funding

What was recommended by the GEG?

According to the GEG the research networks - being a common and strategic European infrastructure - should be publicly funded. Europe's public funding of the research and education networks should be stepped up. In line with the vital importance of connectivity for the European Research Area, the EU should fund the 'EU level' research and education networking infrastructure in full, with checks and balances as regards quality and need.

In addition the GEG highlights seven key recommendations including the need for continuation of funding by member states, the necessity that high-end users should bear a greater share of the burden, a significant increase in innovation funding, the use of European Structural Funds etc.

Some questions raised:

- Do the funding proposals sufficiently reflect the '1:10:100-rule' for Europe's total expenditure in international, national and campus networks?
- Will the 100% EU funding of cross-border connections address the major funding problem of the end-to-end GÉANT 2020 communications commons?
- What about the bottlenecks in campuses and national backhaul connections, which are probably much more the cause of the digital divide between researches and between universities? Under what conditions will the use of the Structural Funds be a realistic solution?
- What about the current deficiencies of some national and many local markets for electronic communication, when looking at the lack of competition for the high-end products and services that are necessary to build high performance networks.
- What role should the recently proposed Connecting Europe Facility (CEF)[7] play in this respect?

7) A proposal for the creation of a new integrated instrument for investing in EU infrastructure priorities in Transport, Energy and Telecommunications. http://ec.europa.eu/commission_2010-2014/president/news/speeches-statements/pdf/20111019_2_en.pdf

- What does 'EU level' as a financial criterion mean in practice when taking into account the flexible, open and competitive approach to European and global connectivity, which GEG thinks to be necessary, and their statement that there should be no monopoly for international connectivity?

e-IRG response

e-IRG supports the recommendations of the GEG. However, funding arrangements should never be in conflict with the basic idea of the GÉANT communications commons as an ecosystem, with a flexible, open and competitive approach to innovation and to European and global connectivity, offering flexibility in architectural choices, operational modes and recognizing the increasing diversity of solutions available.

Like the GEG, e-IRG fully recognizes the need to address the digital divide that exists between countries in Europe. At the same time there is the necessity for service provision and enhanced innovation to stay ahead of commercial offerings, by building on what the most advanced areas in Europe have developed. e-IRG recognizes that these different goals are best served by separate funding arrangements whereby for instance the Structural Funds should play a more prominent role in helping to address the digital divide.

In its White Paper of 2011, e-IRG recommended that for national e-Infrastructures with international significance, national financing could be matched with appropriate EU funding.

A critical link in the chain of end-to-end connectivity is the campus infrastructure. This should be taken into account when deciding on new funding arrangements. In particular, the systematic use of European Structural Funds in this area can help reduce the digital divide, along the lines suggested by the GEG and also recently proposed by MEP Maria da Graça Carvalho[8]. The Connecting Europe Facility, once approved, can also play a role here.

The Commission should encourage member states to improve the functioning of national or local markets for electronic communication, leading to more national and local competition for the high-end products and services, e.g. for local access to fiber infrastructures, that will be necessary for realizing GÉANT's end-to-end functionality. This in itself will help reduce the digital divide.

As e-IRG stated in its WP2011, timely e-Infrastructure innovation to serve user communities, ahead of what the commercial markets can provide, will remain a public responsibility at both the national and European levels.

8) The European Parliament is considering plans that would push EU countries to spend a third of their regional funds on research infrastructure: http://www.enterprise-europe-scotland.com/sct/news/index.asp?newsid=2580

About the recommendation of the GEG that high-end users should bear a greater share of the burden, e-IRG refers to its own recommendation in the 2011 White Paper that the funding of the use of e-Infrastructures services should increasingly be paid out of the budgets of users and user projects. The users and projects should explicitly budget for this. Such a shift will not only enhance efficiency but also promote enhancement of national and international service provision and will encourage commercial offerings of e-Infrastructure-services whenever these are viable and more efficient. However, appropriate assurances need to be obtained to avoid unintentional funding cuts as a result of this change.

e-IRG supports the increase of innovation budgets; however this increase should go hand-in-hand with the necessary organisational changes recommended by the GEG. In addition NREN's should be encouraged to participate more actively in appropriate Community programs like the Future Internet Initiative.

What can e-IRG contribute?
e-IRGs suggestions to support the further detailing and implementation of the necessary organisational changes can be applied to the funding measures as well. They are two sides of the same coin and should not be handled separately.

5. Logical next steps

While the vision presented by the GEG will not be achieved overnight, it is important to start implementing it without delay. The reaction of e-IRG is in particular focused on implementation issues. e-IRG recommends all stakeholders, including the European Commission, to use the current momentum raised by the GEG to start implementation of the report as soon as possible. Some preparatory actions can start immediately and some changes will require time to be implemented. However this is only an additional argument to start earlier rather than later.

In this section e-IRG will make some recommendations for some logical and urgent next steps.

Increasing the visibility of the networks and enhancing the sense of urgency for network innovation
An important recommendation of the GEG is to make the networks more visible as a key component of e-Infrastructures. Therefore actions should be started now to achieve this through an effective publicity campaign to increase awareness of Europe's current strong position and create a broad sense of urgency with Member States' governments, parliaments, other stakeholders and the public at large to

keep and to expand this position. This action is also important for the positive effects it will have on the financing of the networks.

Continuous innovation remains a key condition for research networks to stay ahead of commercial offerings. To safeguard this, funding arrangements for innovation should be separated from those for the provision of services and those addressing the digital divide.

Investigate and tackle the causes of the digital divide
The GEG emphasizes in a number of places the key role that up to date campus networks must play in realizing the vision of the European Communication Commons. Substantial investments will be needed to realize this. Differences in quality of campus and backhaul networks across the EU are an important cause for the digital divide between European researchers. With support of e-IRG a survey should be started monitoring market failures in national and regional markets for dark fiber and access to fiber networks by campuses and public research institutions. This survey should be speedily carried out and be targeted to the most pressing domains of the digital divide between e-Infrastructure users.

Using the network project GN3+ as a pilot for implementing the vision of the GEG
The network project GN3 will end soon, and the Commission is now gathering suggestions for a new call (or set of calls) within the FP7 framework, in order to bridge the gap from GN3 to Horizon 2020. This call, with GN3+ as working title, presents a unique opportunity to start working towards the 2020 vision as presented by the GEG. The main purpose of the GN3+ project(s) must be to make a significant first step towards the vision of a GÉANT 2020, as the European communications commons, in terms of scope, functionality, structure, governance, funding and ways of implementation. It should help bridge the gap between the current practice and the requirements of the GÉANT 2020 commons.

In terms of governance and coordination, GN3+ should follow the separation between the three core functions, as recommended by the GEG: strategy setting, service delivery and innovation.

As mentioned in the previous sections of this report, an important element of the recommendations of the GEG is the participation of users as key stakeholders in strategy, innovation and service delivery. Major users, such as CERN, JIVE/eVLBI and other (ESFRI) research projects, as well as major providers of other elements of the e-Infrastructure, such as EGI and PRACE, should be invited to play this role. A logical first step will be to open up the discussion on a GN3+ proposal involving all of these stakeholders. Creating the proposal for GN3+ must be an open, flexible and

inclusive process that goes well beyond the traditional national service providers alone. e-IRG is ready to play a key role in such an open process.

Creating the opportunity for user participation implementing the vision of the GEG

An important element in the change process necessary to embark on the road to realizing the GEG vision is a stronger role of the users in helping to drive the necessary organizational and financial changes. Using the opportunity offered by the GN3+ for practicing strategic user involvement must be a first step.

The broader process of giving the network users their due place in the governance structures can start immediately with the strategy setting process for network innovation by building on available communities of users and user projects. Although high-end users such as LHC, e-VLBI and ESFRI are obvious candidates for participation, efforts should be made to reach out to a much broader user community such as the research funding agencies and universities with their international organizations as well as the growing number of international virtual organizations.

e-IRG could take the initiative of convening a first meeting of interested users and user organizations to discuss how user participation can be best organized and what role they are ready to play.

6. In conclusion

e-IRG welcomes the GEG report, recognizes the analyses, and widely supports the recommendations.

It draws particular attention to four issues:

- The need to speedily migrate from the present situation to the European Communications Commons as described by the GEG, whilst paying sufficient attention to innovation and change. Because this commons should indeed include the whole end-to-end network infrastructure policies and structures should not only consider the international part but all links in the communication chain;

- The importance of participation of private research actors in the use of the networks, particularly in a setting of open innovation. When extending the user base to other public sectors care must be taken that the EU rules on competition and state aid will not be violated and that the primary mission of the networks is safeguarded in the interest of the users in research and higher education. The suggestion of a close analysis of the situation is supported by e-IRG;

- The need to appropriately adapt the organizational structures and governance arrangements as recommended by the GEG. This implies also focusing and streamlining the missions and activities of existing European bodies like TERENA, NRENPC and DANTE. Particularly important is the participation of users at each of the three levels;

- The necessity of appropriate funding arrangements. This means adequate EU funding at the European level; sufficient attention for the funding of the campus infrastructures as a critical link in end-to-end connections. The use of Structural Funds should be better exploited here but also competition can play a role, for instance on local markets for access to fiber networks. Sufficient public funding for innovation so that the research networks in their offerings stay ahead of what is commercially viable. And where applicable a greater share of the financial burden to be borne by the (high end) user.

e-IRG underlines the necessity to speedily implement the recommendations of the GEG.

It points in this respect in the short term to the opportunity presented in this respect by the new call being prepared by the Commission as a follow on to GN3. It is important that this call results in a number of innovative projects that embrace and push forward the GEG vision with adequate governance arrangements with involvement of all participants in the projects, including the users. The planned GN3+ project should be one of those projects. In the longer term the new Horizon 2020 program should pull the implementation of the GEG report further towards the vision of a European Communications Commons.