



INSPIRE

Infrastructure for Spatial Information in Europe

Results Task Force XIA

Title	Results Task Force XIA
Creator	Hans Dufourmont, ESTAT
Date	01-03-2004
Subject	Extended Impact Assessment of INSPIRE based on revised scope
Status	Final
Publisher	ESTAT
Type	Text
Description	Short summary of changes that should be applied to the first version of the contribution to the XIA report, taking into account the revised scope of the INSPIRE initiative
Contributor	Annoni Alessandro; Banos Eva; Carlyle Stefan; Castelein Watse; Craglia Max; Cubitt Roger; De Groof Hugo; Dufourmont Hans; Elewaut Emile; Engelage Christian; Hartley Nick; Hojdar Josef; Land Nick; Pasca Monica; Rase Daniel; Schennach Gerda; Steenmans Chris; Sutherland Neil; Vanderhaegen Marc; White Stephen
Format	MS Word 97
Source	Task Force Discussion Workshops & subsequent consultation
Rights	Access limited to INSPIRE working group members.
Identifier	Revised XIA v.2.0
Language	En
Relation	Not applicable
Coverage	Project duration
Version History	v. 1.1 changes to tables in annex and summary tables in text (minor errors removed from spreadsheet) v. 2.0 takes into account all remarks from 3 rd XIA TF meeting on 23-2-2004 v. 2.1 linguistic corrections v. 2.2 & 2.3: editorial corrections v. 2.4 final editorial corrections

TABLE OF CONTENTS

Foreword	3
1 Identifying the problem	3
2 Effect of revising basic assumptions	5
2.1 Labour costs	5
2.2 Costs already incurred	6
2.5 Effects of the revised basic assumptions on the total investments, applied to the initial scope of INSPIRE	6
3 Clarification issues	8
3.1 Co-ordination and implementation ratios	8
3.2 Impact of INSPIRE at local level	8
4 Effects of changes in the scope of INSPIRE	9
4.1 Clarification of the scope of INSPIRE	9
4.2 Changes in the scope of the datasets	9
4.3 Changes in the INSPIRE measures for Annex II data	9
4.3.1 Geo-referencing	10
4.3.2 Cost of harmonisation	10
4.3.3 Deployment of harmonisation	10
4.4 Effects of the changed scope on the total investments	10
5 Benefits of INSPIRE	12
5.1 Ratio of benefits between Annex I, II and III	12
5.2 Reduction of benefits with reduced measures on Annex II data	12
5.3 Effects of the changed scope on the benefits of INSPIRE	12
6 Conclusion	14
Annex: Case study: Investments and benefits of Italian regional and national SDI's	15

Foreword

This document represents the contribution of the Task force on Expanded Impact Assessment of INSPIRE. This Task Force has been created by the INSPIRE Expert group at its meeting of 15 December 2003. The document represents the second contribution delivered by a joint Member State-Commission working group on the extended impact assessment in relation to INSPIRE. These two contributions are complementary and together represent the input for the Commission to elaborate the extended impact assessment of the INSPIRE proposal for Directive.

Formatted: Normal, Justified

The Chairman of the Task force on Expanded Impact Assessment of INSPIRE wishes to thank all task force members for having made it possible to deliver this document by the target date set by the INSPIRE Expert group.

1 Identifying the problem

After a period of reflection on the initial scope of INSPIRE it was decided by DG-ENV to review the scope of the original INSPIRE proposal, in order to:

1. improve the clarity of the proposal and reduce the possibility of misinterpretation
2. reduce the up-front costs for the Member States, by developing a more progressive (step-by-step) approach
3. assess whether the cost-benefit ratio or the cost-effectiveness of the proposal could be improved

The revision of the scope is set out in the scoping document prepared by the INSPIRE scoping task force. This paper needs therefore be read in conjunction with the report on scoping.

The initial Extended Impact Assessment (XIA) study was performed on the full scope of INSPIRE. Therefore, it proved necessary to review the contribution to the XIA report for the revised scope of INSPIRE. At the INSPIRE expert group meeting of December 15th 2003, it was decided to perform these exercises by the end of February 2004.

Basically the work of the Task Force consisted of 3 major items:

- Revision of some basic assumptions in light of more recent survey information (labour costs and exclusion of costs already incurred)
- Clarification of issues in the original contribution to the XIA report that could lead to misinterpretation (impact of INSPIRE on local level and ratios between implementation and co-ordination)
- Assessing the impact of the reduced scope of INSPIRE

Given the short timeframe, and to ensure a consistent approach, the Task Force decided to use the existing contribution to the XIA report as the basis for further elaboration, rather than start a new exercise. More precisely, within the existing contribution to the XIA report, it was decided to use option nr. 3 as a reference point, as this was methodologically closest to the new, reduced scope INSPIRE proposal. As stated in the original contribution to the XIA report, option 3 covers "*a coherent set of measures which are consistent with measures taken elsewhere in the world where infrastructures for spatial information have been set up and which address some of the key obstacles to the use of spatial data in Europe*". This statement remains valid for option nr. 4.

Of course, the reduction in the number of spatial datasets, and more generally of INSPIRE measures means that the costs as the benefits both change. Therefore a list of key questions was asked:

- Are the basic assumptions still valid?
- How does the scope in terms of the geographic layers that are brought outside the scope of INSPIRE affect the investment costs and benefits?
- How does the differentiation of requirements between the different geographic layers (Annex I and II) affect the investment costs and the benefits?

Infrastructure for Spatial Information in Europe		Reference: Revised XIA v.2.4	
TF XIA	Final report	01-03-2004	Page 4 of 15

- Should the benefits of a revised INSPIRE reduced proportionally with the reduction of investment in INSPIRE?

Finally it is useful to refer in annex to the study made on the Italian situation, in which several regional Spatial Data Infrastructures are co-ordinated on the national level. This study confirms to a large extent the work that has been done so far to estimate the extended impact assessment of the INSPIRE initiative.

2 Effect of revising basic assumptions

Before entering into the consequences of a revised scope of the INSPIRE initiative, it proved necessary to review some basic assumptions as they had been applied in the initial contribution to the XIA report. This fine tuning was possible since new additional information became available during the second half of 2003 and early 2004, such as the Final reports of the State of the Play study, the results of the GINIE project and a new case study of experience in Italy with the establishment of a national and regional Spatial Data Infrastructure (SDI). The revision of the basic assumptions concerns the figures used for labour costs, and the recognition of the costs related to already ongoing activities.

Also, some issues were clarified so as to avoid misinterpretation: this is the case for the degree to which the local level spatial data is affected by INSPIRE and for the ways costs are split between co-ordination and implementation activities.

2.1 Labour costs

The major change in the basic assumptions concerns estimation of the labour costs for one Full Time Equivalent (FTE). In the original contribution to the XIA report, as a general rule, cautious options were taken for the costs. For labour costs, this approach yielded a figure of 100.000 € per FTE per year, including all overheads, equipment, and social costs. This figure was based on the Swiss experience and the US experience for well-qualified people.

However, more recent figures, including figures from Italy on real expenditure show that labour costs for GIS operations, can vary between 24 k€ and 36 k€ on a yearly basis. Additional feedback from the State of the Play study also suggests that 100.000 € per year is an upper limit and using this figure as an average value results in an overestimation of the costs.

Finally the GINIE survey on Geographic Information (GI) associations yielded a table with incomes and expenditures for these organisations. GI-associations typically perform the kind of co-ordination activities, awareness raising, etc... which could be considered comparable to the kind of co-ordination required in the INSPIRE framework. It's worthwhile to notice however, that a lot of voluntary work is done by these associations, which is clearly not reflected in this table. But however fragile the comparison may be, these figures tend to support a reduction from 100k€ to a range between 50 – 100 k€. On average, people employed to do this work cost less than the initial 100k€.

Table 1: Costs per full-time equivalent employee in GI associations

Country	Association	Expenditure	Income	Staff FTE
Austria	AGEO	€ 24.000	€ 24.000	
Czech Republic	CAGI	€ 57.000	€ 55.000	1.3
Denmark	Geoforum Denmark	€ 160.000	€162.000	1.2
Finland	ProGIS	€ 92.000	€ 84.000	
France	AFIGÉO	€ 89.000	€ 92.000	1
France	CNIG	€ 581.000	€ 581.000	7
Greece*	HELLASGI	€ 10.000	€ 10.000	
Iceland	LISA	€ 64.000	€ 63.500	1
Ireland	IRLOGI	€ 34.500	€ 34.000	0.5
Italy	AM/FM Italia	€ 40.000	€ 40.000	
Netherlands	RAVI	€ 870.000	€ 867.000	6
Norway	Geoforum	€ 585.000	€ 620.000	3
Slovakia**	SAGI	€ 2.000	€ 2.500	
Spain*	AESIG	€ 50.000	€ 50.000	
Sweden	ULI	€ 150.000	€ 150.000	2
Switzerland	SOGI	€ 42.000	€ 42.000	
United Kingdom	AGI	€ 1.010.000	€ 1.056.000	10
		€ 3.280.500	€ 3.352.000	

Source: GINIE: Geographic Information in the Wider Europe: October 2003 (IST-2000-29493)

Remark: Only countries for which the figures were available for the GINIE study, are taken into account in this table.

For all those reasons, the Task Force considers the use of 75 k€ as a better estimate for the annual cost of a Full Time Equivalent (FTE), whilst still being a reasonably a cautious estimate.

2.2 Costs already incurred

The original contribution to the XIA report did consider that INSPIRE would be based upon activities already undertaken at local, regional and national level, but did not take sufficiently into account that in some Member States (MS) and accession countries, the capacity exists already or would be put in place to implement the requirements resulting from INSPIRE. In the absence of INSPIRE, this capacity would be used in a less effective way, not delivering the benefits expected from the implementation of INSPIRE across the EU. Indeed, the State of the Play study shows that in all Member States including the Accession countries, at least some form of co-ordination and implementation capacity is in place. There are also a number of cases showing Member States investing in the setup of national and/or regional SDI's.

In the Netherlands the "Space for Geo-information" initiative has been selected for funding by the Dutch government, with a total budget of 40 m€ (half of which is government funding) over a 6 year period. In Germany, ATKIS is already in place. In Belgium the Flanders region started a co-ordinated SDI initiative back in 1995, growing to +/- 90 FTE's in 2003, covering all aspects of an SDI development, including the establishment of a large scale topographic database. In Austria, a number of databases on all administrative levels exist and a legal framework has recently been adopted to co-ordinate these initiatives. The Italian situation shows a clear example of an ongoing nationally co-ordinated SDI, with strong commitments of regional contributions in the implementation of the SDI's. etc...

Reflecting the work underway in the baseline requires to reduce the initial estimates of the 'additional' costs of INSPIRE in order to obtain a true estimate of the costs of INSPIRE. It was therefore considered useful to try and estimate the amount of work that was already undertaken by major stakeholders such as National Data Providers, National Mapping Agencies, GIS-associations and others. To do this, the Task Force distinguishes between investments made at national level and at regional level. It was estimated that at national level, on average, 20% of the co-ordination and implementation capacity is already in place as a very cautious estimate, whereas on a regional level 10% of the capacity could easily be already in place.

All investments and costs are averaged out for simplicity, but of course the situation in individual Member States may diverge considerably from the average EU25 position.

2.5 Effects of the revised basic assumptions on the total investments, applied to the initial scope of INSPIRE

In order to help comparing with the original contribution to the extended impact assessment of the "full scope" of INSPIRE, the summary table of investment costs for option nr. 3 on the different administrative levels, based on the non-revised assumptions is presented below:

Table 2: Summary of investment costs for the full scope of INSPIRE

Blocks of INSPIRE policy measures	EU-level	National Organisations	Regional/local
Harmonisation	2,7	1,9	1
Metadata	0,7	3,5-4	68-70
Data Policy Framework		0,5	
Coordination and implementation including outreach	3	20	100-170
Total investment per annum over 10 years (€m) (rounded)	6,4	26-27	170-240

Having assumed new figures for the labour costs, and taking into account the costs already incurred on the national and regional levels, the table below shows the investment needed to set up and run INSPIRE in its initial scope over a period of 10 years from the date of adoption of the proposal by the Commission. It is assumed that INSPIRE activities are additional to what would be in place at EU,

national and regional level. The added value of INSPIRE is to create the synergy necessary to connect all the separate parts of the infrastructures being created across Europe and to fill the gaps where they exist, thus delivering a fully integrated service.

Table 3: Summary of investment costs for the full scope of INSPIRE, but with revised basic assumptions

Blocks of INSPIRE policy measures	EU-level	National Organisations	Regional/local
Harmonisation	2,7	1,9	0,8
Metadata	0,2	2,7-3,0	46
Data Policy Framework		0,4	
Coordination and implementation including outreach	2,2	12	57-115
Total investment per annum over 10 years (€m) (rounded)	5,1	17-17,3	104-161

In this recalculated option 3, the investment requirements may be rounded up to 125-183 m€ per annum for the EU 25 over a period of 10 years from the start of the implementation. The investment needed is estimated at an average of 4,8-7 m€ per annum per EU Member State (EU 25). At regional/local level, the average investment needed represents 60-94 k€ per region of 250 000– 350 000 inhabitants, based upon 1700 entities throughout the EU.

3 Clarification issues

3.1 Co-ordination and implementation ratios

An attempt to split up the cost-side of the initiative was made on the difference between co-ordination and implementation. The rationale behind this question is that basically INSPIRE puts a very strong accent on co-ordination in order to get harmonisation, to adopt standards, and to create the pre-requisites for interoperability.

Prior to making any estimates, it is necessary to emphasize that co-ordination is interpreted quite broadly, in the sense that for instance technical discussions to elaborate specifications, to establish standards, to define harmonisation measures, etc... are all considered included in the overall co-ordination.

As a general rule, it is acceptable to state that co-ordination decreases gradually but slowly over time, whereas implementation rather follows a graph with high figures in the early years, steeply coming down once the SDI and its services are realised. Moreover, maintenance gradually but slowly requires growing resources.

As an outcome of the discussion, it was understood that there is a clear difference in the ratio of co-ordination versus implementation depending on the administrative level on which the SDI measures are deployed. It was argued, that the higher the administrative level, the more the co-ordination part would become on the foreground.

However it was recognized that for the actual ratio in the Member States, it very much depended on the way a Member State is organised. It is clear that in a more centrally organised MS, the implementation effort would still be relatively high, whereas in a decentralised approach, as is the case for federally organised countries, the regions could be in a position to implement to a large extent the INSPIRE measures, leaving the federal administrative level mainly with co-ordination tasks.

3.2 Impact of INSPIRE at local level

The initial contribution to the XIA considered that spatial data at the local level and only used at that level would not be covered by the INSPIRE framework, and hence did need to be considered by the extended impact assessment of INSPIRE. However, this assumption was not written stated explicitly. It is therefore useful, for clarity reasons, to mention explicitly that the many "local level data sets" that are collected and used at the local level for local level purposes only are considered to fall outside the scope of INSPIRE. Only those local level spatial data that is collected in the context of a broader framework is relevant for INSPIRE and falls within its scope.

4 Effects of changes in the scope of INSPIRE

4.1 Clarification of the scope of INSPIRE

The scoping of INSPIRE should clarify which data fall within and which datasets fall out of the scope of INSPIRE. The original contribution to the extended impact assessment assumed that for data at the local level, only the spatial data relevant in a broader context would fall within the scope of the INSPIRE framework. However, this assumption has not been made explicit.

It is therefore useful to clarify in this report that the “local level data sets” that are only relevant and used in the confines of the local level where they have been collected are assumed to be outside the scope of INSPIRE.

4.2 Changes in the scope of the datasets

Obtaining the full benefits from INSPIRE would require the inclusion of all geographic data-layers that are to be used in the context of EU policy preparation, implementation and evaluation. However, according to the “think big, start small” principle a clear delineation of data layers affected, plus a phased approach to implementation would be a better way to gradually establish a European SDI.

Moreover, from the very beginning of the INSPIRE initiative, there has been a tendency to split up the spatial data sets involved into (no matter what the exact group name should be):

- Basic data, identified by the Scoping Task Force as priority common basic data which are needed to be harmonized and shared across a wide range of environmental policy areas. To a large extent, the basic data are those identified as reference data in the RDM position paper, which are needed for a generic geographic/topographic framework.
- Common thematic data, identified by the Scoping Task Force as frequently used spatial data within different environmental policy areas.

Subsequently the Scoping Task Force proposed leaving a number of thematic data outside the scope of INSPIRE. These are either data that can be derived from a combination of data kept within the scope of INSPIRE, or less frequently used thematic datasets from the perspective of the user in the environmental domain. The report of the scoping Task Force lists the three categories of data respectively as Annex I, II and III spatial data, and this document will refer to the different subsets of spatial data in the same way.

On the question how to split up original costs between the three Annexes, the XIA Task Force assumed that there is a fixed cost part, irrespective of the number of spatial data covered by INSPIRE. This fixed cost is roughly estimated at 25%. Therefore 75% of the costs is to be related directly to the number and type of spatial data sets covered by INSPIRE. Assuming that the average number of spatial data sets that correspond to the spatial data components is similar for the three Annexes, the distribution of the data sets over the Annexes yielded a 29% Annex I data, 36% Annex II data and 35% Annex III data. Applied on the 75% variable costs, the Annex I data are responsible for 22%, Annex II data for 27% and annex III data for 26% of the data related costs.

4.3 Changes in the INSPIRE measures for Annex II data

The Task Force on the scope of INSPIRE proposes keeping the full measures for the Annex I data, but to limit the measures for Annex II data:

- to make data geometrically consistent.
- to the provision of a framework for interoperability with the definition of spatial data objects, based on a restricted number of iterations from a generic level to the full details, as is needed for the harmonisation exercise.

This proposed measure required the XIA Task Force to split up between Annex I and Annex II data as well as between the cost of harmonisation relating to the definition of spatial data objects and to

Infrastructure for Spatial Information in Europe		Reference: Revised XIA v.2.4	
TF XIA	Final report	01-03-2004	Page 10 of 15

ensuring their geometric consistency and the cost of harmonisation the also includes the harmonisation of the content and features of the spatial data.

The distinction between Annex I and Annex II spatial data is addressed above. As far as the differentiation between the different levels of harmonisation is concerned, a distinction should be made between the preparation of the harmonisation and its deployment across the EU.

4.3.1 Geo-referencing

Clearly geo-referencing is the simpler part of the exercise, probably not exceeding 10% of the total costs involved.

4.3.2 Cost of harmonisation

The preparation of harmonisation can be viewed as a series of data harmonisation projects, which start at a generic level, and from there onwards refine in further iterations to a certain level of detail. The data listed in the Annexes of the original contribution to the XIA report consists of 17 data components that could be organised in 6 main data themes, dealing with geo-referencing, topography, land, water, air and human activities. As for the Architecture and Standards position paper, it was proposed to focus on the spatial object level, focusing on the most frequently used objects.

For the XIA purposes the 6 data themes or so called "superthemes", comprising the common spatial objects that are in most frequent use, across domain, were originally used to calculate the costs related to harmonisation. A progressive approach was envisaged, based on 6 iterations of definition, prototyping, testing and reviewing, starting from a very generic definition of common spatial objects towards more detailed ones. By doing so, INSPIRE would yield a framework for interoperability, which later can be developed by different user communities in more detail.

After reducing the scope, it was argued that at least 2 "superthemes" would still be subjected to full harmonisation, i.e. 6 iterations, whereas another 4 "superthemes" would be subjected to 3 harmonisation rounds each. This would limit semantic consistency to the general definition of the spatial objects. The discussion on the further harmonisation of semantics is therefore left to individual thematic user communities who would of course need to adopt INSPIRE specifications, as far as the spatial dimension is concerned in order to ensure consistency across the European SDI. (this includes e.g. the necessity to adopt the future INSPIRE grid for collection and/or reporting of environmental thematic information)

The costs per harmonisation round were kept at the same level as in the initial contribution to the XIA report, i.e. 750 k€ per theme per round, but it is assumed that a lot of the preparatory work is done in the context of existing or forthcoming R&D projects, for instance in the context of the EU's 6th Research Framework Programme. Moreover GMES will provide additional opportunities to tackle the implementation of some harmonisation related issues.

4.3.3 Deployment of harmonisation

The task force assumes that deployment of the reduced harmonisation requirements for Annex II data measures would reduce the costs by 20%. This figure has to be combined with the proportion of Annex II data for which the requirements for harmonisation are reduced.

4.4 Effects of the changed scope on the total investments

The table below summarises the investments needed to set up and run a revised INSPIRE for 10 years from the date of adoption of the proposal by the Commission over and above what would be done in any case at the EU, national and regional level. Reference should be made to table 3 in order to identify the change in investment costs due to the reduction of the scope of INSPIRE.

Table 4: Summary of investments for the reduced scope of INSPIRE, including the revised basic assumptions

Blocks of INSPIRE policy measures	EU-level	National Organisations	Regional/local
Harmonisation	0,6	1,2	0,5
Metadata	0,2	1,9-2,2	33
Data Policy Framework		0,4	
Coordination and implementation including outreach	1,1	9,6	44-88
Total investment per annum over 10 years (€m) (rounded)	1,9	13	77-122

When adding, on top of the recalculated option 3 the additional measures proposed to reduce the scope of INSPIRE, the investment requirements may be rounded up to 93-138 m€ per annum for the EU 25 over a period of 10 years from the start of the implementation. The investments needed are estimated at an average of 3,6-5,4 m€ per annum per EU Member State (EU 25). At regional/local level, the average investment needed represents 45-70 k€ per region of 250 000– 350 000 inhabitants, based upon 1700 entities throughout the EU.

To sum up the changes, the revision of the basic assumptions reduced costs from a range of 200-300 m€ down to a range of 125-183 m€. On top of that, the revision of the scope yields an additional reduction in costs from the range of 125 – 183 m€ down to a range of 93 – 138 m€.

5 Benefits of INSPIRE

It is obvious that qualitative benefits, as they have been listed in the initial contribution to the XIA report fully remain valid for the reduced scope version of INSPIRE. For reasons of comparison, the summary of benefits shows the following results as a starting point:

Table 5: Summary of benefits as estimated in the original contribution to the XIA report

Type of benefit	Quantitative estimates
More efficient EIA's and SEA's	100-200
More efficient environmental monitoring and assessment	100
More cost-effective expenditure on environmental protection	300
More cost-effective implementation of the environmental acquis	50
More effective implementation of EC projects	5-15
More effective expenditure on TEN's	140
Reduced duplication of spatial data collection	25-250
Improved delivery of risk prevention policies	120-400
Improved delivery of health and environment policies	350
Total (in m€ per annum)	1 190-1 800

However, due to the reduction in the scope of INSPIRE, it should be clear that the quantified estimates of these benefits is reduced.

As a general remark it was agreed that the changes in benefit are not necessarily proportional to the changes in scope. Also, the Task Force recognises that the benefits are difficult to quantify, and that the uncertainty over their estimates is considerable in both directions. Therefore, the most reasonable approach that could be adopted was to apply the reduction in benefits in the same way as the costs have been reduced for the revised scope of INSPIRE.

5.1 Ratio of benefits between Annex I, II and III

The Task Force first tried to identify a ratio of benefits between the groups of datasets, prior to considering the proposed changes in measures for Annex II data. Should for instance a higher percentage of the overall benefits be attributed to Annex I data, given the fact that these data provide the generic multipurpose geographic framework that links other spatial data together, in addition to the benefits from their direct use?

In general, it was stated that Annex I data should be considered as a "necessary but not sufficient" condition to make INSPIRE operational. In other words, Annex I is only a start, and the real benefit comes from the measures on Annex II and III data. Moreover it was argued that Annex I data to some extent are already somewhat harmonised in most Member States.

A cautious approach was adopted assuming that Annex I data would yield no more than 20 % of the benefits but that their harmonisation was indispensable for any further benefit to be obtained. Adding the benefits of applying INSPIRE measures to Annex II data would roughly lead for Annex I and Annex II data to 75% of the initially estimated total benefits.

5.2 Reduction of benefits with reduced measures on Annex II data

The benefits from Annex II data obviously fall when harmonisation is limited. It proved difficult to estimate the changes in benefits when reducing the harmonisation requirements. It is therefore assumed that the benefits are reduced with the same amount as the reduction in cost of harmonisation, i.e. 20%.

5.3 Effects of the changed scope on the benefits of INSPIRE

The table below summarizes the (rounded) benefits that may be expected from a reduced scope of INSPIRE. The benefits are expected to accrue gradually as the implementation of INSPIRE progresses, reaching their full effect when INSPIRE is fully implemented.

Table 6: Summary of benefits when reducing the scope of INSPIRE

Type of benefit	Quantitative estimates
More efficient EIA's and SEA's	60-121
More efficient environmental monitoring and assessment	64
More cost-effective expenditure on environmental protection	192
More cost-effective implementation of the environmental acquis	32
More effective implementation of EC projects	3-8
More effective expenditure on Trans European Networks	90
Reduced duplication of spatial data collection	25-160
Improved delivery of risk prevention policies	77-256
Improved delivery of health and environment policies	224
Total (in m€ per annum)	770-1150

Doing the exercise on the reviewed scope of INSPIRE still yields a total of 770-1150 m€ annual net benefits, or roughly and on average between 30 à 46 m€ per member state per year.

Infrastructure for Spatial Information in Europe		Reference: Revised XIA v.2.4	
TF XIA	Final report	01-03-2004	Page 14 of 15

6 Conclusion

The exercise to review the level of investment required for INSPIRE yields in two steps (one being the revision of the basic assumptions, and the other being the reduction of the scope) a reduction from a range of 200-300 m€ down to 93-138 m€ per year for 10 years.

The annual net benefits for the revised scope fall from their original range of 1190-1800 m€ per year down to 770-1150 m€ per year.

The revised figures still lead to the conclusion that also for the revised scope of INSPIRE, the benefits outweigh the investment requirements by a considerable amount. Basically the reduced scope represents a more progressive approach to the implementation of INSPIRE, with lower up-front costs and so reduced implementation risks.

Infrastructure for Spatial Information in Europe		Reference: Revised XIA v.2.4	
TF XIA	Final report	01-03-2004	Page 15 of 15

Annex: Case study: Investments and benefits of Italian regional and national SDI's.

The full text of the Italian case study can be found on the CIRCA server at following URL:

http://inspire.jrc.it/reports/AANSDI_Italy_FinalApproved_v12en.pdf