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Inspire policy making by territorial evidence

Inner peripheries: National territories facing challenges of access to basic services of general interest

Applied Research

Inception Report

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Overview

The project "Processes, Features and Cycles of Inner Peripheries in Europe" (PROFECY) was the winner proposal of the ESPON Call for Tenders of Applied Research "Inner Peripheries: national territories facing challenges of access to basic services of general interest", launched under the Single Operation within the ESPON 2020 Cooperation Programme implemented by the ESPON EGTC. The Single Operation was approved by the ESPON 2020 Monitoring Committee on the 20th of November, 2015 and has launched another six calls for tenders. All seven calls pursue two main goals: on the one hand, contributing to further developing and improving the ESPON knowledge base; on the other hand, contribute to enhancing the European territorial evidence production through applied research and analysis (ToR, p.2).

Inner Peripheries (IP thereinafter) are a phenomenon observed and analysed to some extent, by the academic literature and previous projects within the ESPON programme itself. Nevertheless, little is known about the processes that cause and maintain IPs. It is important to state that these peripheries are not necessarily geographically remote areas. We rather deal with territories that, despite having a relatively central location present a combination of processes, features and evolutionary cycles that keep them "disconnected" from networks and power centres of all kinds. This "disconnection", in turn, causes a set of processes of marginalization that may lead to a situation of permanent deprivation affecting to their economic performance and/or to the social wellbeing of their inhabitants (i.e. low quality of access to, and provision of Services of General Interest, etc.). There is not a single path leading to inner peripherality as there is no a single type of inner periphery in Europe.

The conceptual framework of the project has developed several "types" of IP that evolve from different starting points, economic and social processes, or situations of disconnection. There are, therefore, public policy solutions that can only be successfully applied to one type of inner peripherality. However, one of the main priorities of the research is to identify the most appropriate strategies to stop deprivation and/or to reverse the processes of depletion in IP. These strategies shall be developed into policy recommendations through a combination of quantitative and qualitative methodologies.

On the quantitative side, methodologies include delineation of the different types of IP, development of maps that reflect the main variables and indicators for identifying IP as allowed by data availability, development of a NUTS3 level regional typology classifying each region as being an IP, not being an IP or "in the process of being" an IP (so-called areas-at-risk).

Regarding qualitative methodologies, they include conducting seven case studies of LAU2 or similar territories classified as IP. The case studies will work as far as possible below NUTS3 level on smaller spatial units like LAU-2 and groups of LAU-2 units. The Inception Delivery (ID thereinafter) already provides the initial methodological formulation for these case studies. This methodology will be taking shape, completing and detailing the tools to use, according to the new information and data made available in the previous stages of the project.

This is, therefore, from beginning to end, a project focused on identifying, characterizing and delineating the phenomenon of inner peripherality, with the aim of providing policy solutions to counteract the processes of "disconnection" and/or marginalization happening in most of these regions, and to promote their development through "re-connection" and/or dynamism.

Challenges and strategies in the development of Inception Delivery

Relatively little is the effective time since the signature of the contract until the deadline for the Inception Delivery and yet, the sequence of events for the project and its consortium is remarkable. The University of Valencia, as lead partner, received from ESPON EGTC a preliminary notification of the contract award for the call on "Inner Peripheries" through email with a letter dated April 20th. This letter opened a process of delivering additional documentation from all partners and, at the same time, opening a period of allegations by unsuccessful candidates. Once completed the period of allegations, the University of Valencia received by email a letter dated on May 17th informing about the final award of the contract. Confirmation of the award led to the holding of the so called "Kick-Off Meeting", the initial encounter between the person responsible for the project by ESPON EGTC, the members of the Project Support Team (PST) and a delegation from the winner Consortium. The meeting was hold at the headquarters of ESPON in Luxembourg, during the morning of June 7th, 2016. It was a face-to-face meeting with some participants joining through remote communication mechanisms. The purpose of the meeting was twofold: on the one hand, discussing some contents of the project proposal document with members of the PST (some issues that required further explanation or a change in approach); on the other hand, resolving administrative issues such as the process of signature of the contract, reporting formats, main deadlines, etc. Finally, the delegates of the consortium could ask some operational questions. The day of the Kick-off meeting (June 7th) marked the first day of the project's life. This date automatically fixed the remaining dates of delivery for major deliverables of the project, and the approximate dates for holding successive meetings between the PST, ESPON EGTC and the Consortium. For instance, the deadline for the Inception Delivery was set for August 7th, 2016, the Interim Delivery for March 7th, 2017, etc.

During its still short "life", PROFECY has been represented at the seminar "Territory matters: Keeping Europe and its regions competitive", organized by ESPON EGTC in collaboration with the Dutch presidency of the EU during the first half of 2016. The event took place in Amsterdam on the 17th and 18th of June, and was attended by about 200 experts from different areas of territorial analysis from European, national and regional institutions, as well as from organizations and associations whose function is linked to the contents of the seminar. During the seminar, there was a brief presentation of the PROFECY project[1].

A week later, on 22nd and 23rd of June, took place in Valencia the First Meeting of the Consortium of PROFECY, with the presence of, at least, one representative from each partner institution. Despite the challenges associated to the organization of this first Consortium Meeting, due to the narrow margins of time for preparation, early scheduling allowed to establish the basic arrangements for the operation of the project. The meeting allowed to discuss, on the one hand, the major issues associated with Inner Peripheries as a research problem; on the other hand, to present the various activities and Working Packages of the project in an standard manner (i.e. focusing on a number of headings considered essential at that time to create debate).

During two days of intense work schedule, partners engaged in discussion and debate that allowed for the clarification of the main aspects of operation, deepening the understanding on how the investigation should proceed. It also served to distribute tasks, resolve financial and administrative protocols, and propose a work schedule primarily intended for the production of the Inception Delivery, but also for the time afterwards. There is no doubt that the meeting served to give a huge boost in a key initial moment of the project, and discussions have been instrumental in guiding the earliest activities and for developing the methodological and conceptual aspects of successive tasks.

[1] Available at https://www.youtube.com/user/ESPONProgramme

Introduction

This document constitutes the **Inception Delivery** of the PROFECY project. The Inception Delivery is the first "official" deliverable and, therefore, a document of utmost importance since it shows, by the first time, the progress made by the Consortium in the achievement of the contractual objectives.

According to the Terms of Reference (ToR) specifications (pag. 10), the Inception Delivery must include, at least, the following information:

- Brief description of conceptual and methodological framework to be applied
- Elaborated plan for identifying inner peripheries
- Overview on data and data sources to be used and plan for overcoming potential challenges in relation to data collection
- Elaborated plan for analysing the 'status' of the inner peripheries identified
- Elaborated plan for identifying processes and drivers
- Elaborated plan for carrying out case studies
- Elaborated plan for developing strategies for inner peripheries
- Elaborated proposal on the inputs expected for Cohesion Report

Each of the elements required for the Inception Delivery has been incorporated as a section or sub-section of this document. All those elements are easily identifiable as the titles of Sections and Sub-sections use similar terminology to that in the ToR.

When building the Inception Delivery of PROFECY, the following considerations have been taken into account:

- Incorporate each and every one of the elements highlighted for the Inception Delivery in the ToR.

- Describe each activity or set of activities in the project structure in Sub-sections of Section 5 "Methodology and Specification of Activities" following a template provided to partners in order to organise and standardise the content of every Sub-section. This is a way of facilitating the harmonized development of each sub-sections of Section 5, still leaving freedom in terms of approach, methodology and focus. In particular, each sub-section was structured in the following headings: the subsection in the framework of the project: (i) aim and main objectives; (ii) description and methodological approach; (iii) results to date and description of the main outputs for other sections of the project; and (iv) conclusions and next steps towards the Interim Delivery: challenges and strategies.

- Incorporate additional sections with two goals. In some cases, they respond to one of the specifications of the ToR for the Inception Delivery. In other cases, they respond to specific indications of PST members during the Kick-off meeting. This is the case for sections as “Project Management Structure and Procedures” (Section 6), “Quality Control Measures and Risk Assessment Measures” (Section 7) or “Timetable and Workplan” (Section 8).

- Take into account, as far as possible, the indications and recommendations provided and discussed with ESPON EGTC and the PST during the Kick-off meeting.

The structure of the Inception Delivery

The following paragraphs briefly explain the structure of the Inception Delivery. The document begins with an "Overview" of the main processes and facts in the still short life of the project.

The Inception Delivery also includes a preliminary chapter named "Introduction" that contextualise the relevance of the Delivery in the development of the project, explains the main aspects taken into account when composing the document, and briefly reviews its structure and contents.

Section 1 “Overall Objectives and key research issues” collects the general objectives and questions for which this research must provide an answer, and contextualise them in the framework of the arguments of the call. Therefore, constitutes a reminder of the true benchmarks that researchers must have in mind at all times.

Section 2, “Organisation of the Project, Consortium Structure and Allocation of Work”. The purpose of this section is to provide the reader with the main keys to the organization of the PROFECY project so that this information may serve to better understand the sequence of content. Section 2 includes three sub-chapters. First, it provides a brief overview on how the project is structured. Second, it explains the status adopted by the partnership of organizations in charge of the implementation of the project. Finally, it explains the distribution of responsibilities among partners with regard to the activities and WP of the project.

Section 3, "Conceptual and Methodological Framework", deals with the development of the theoretical framework of the project. The importance of this chapter is that it is the starting point for much of the subsequent research. Among its various objectives stand out the characterization of the concept of Inner Peripheries, and the construction of several definitions of IP corresponding to different territorial situations. Similarly, it contains a first attempt to operationalise the conceptual types of IP so that they can be associated with data and indicators for their identification in real contexts and on the map. It is in this direction that efforts and work in this chapter will continue.

Section 4 “Key Issues for Policy Making, and the European Policy Context”, aims at building on the conceptual framework established in Section 2, by proposing some principles for intervention. In doing so we loosely follow the principles of the “theory of change” approach and develop a series of “intervention logics” which we will link to the 3 broad types of inner periphery concepts presented in section 3. We will then seek to place these within the context of EU Cohesion policy, other EU policies, and the range of potentially relevant national policies. The value of this process lies in early clarification of the direct connections between the planned empirical work and policy implications or recommendations.

Section 5 "Methodology and Specification of Activities", is the largest Section in the Inception Delivery. The reason is that it includes in sub-sections, Activities, Groups of Activities and/or Working Packages (depending on the element under consideration), grouped according to the constituent elements of the Inception Delivery as described in the ToR. Therefore, the section includes the following sub-sections:

5.1 General methodological issues

5.2Aspects of operationalization of the theoretical concepts

5.3 Plan and Method for Identifying and delineating Inner Peripheries

5.4 Overview on data to be used and plan for overcoming challenges in data collection

5.5 Plan for analysing the 'status' of IP Identified

5.6 Method and Plan for Identifying Processes and drivers playing a key role in the marginalization of IP

5.7 Plan and methodology for carrying out case studies of IP with detail of the role of scenarios

5.8 Plan and method for developing strategies for IP, including cooperation between territories, and proposal on inputs for Cohesion Report

5.9 Plan for Developing the Handbook

5.10 Plan for Developing the Learning Package

Each of these sections is structured in 4 chapters:

- The subsection in the framework of the project: aim and main objectives
- Description and methodological approach
- Results to date and description of the main outputs for other sections of the project
- Conclusions and next steps towards the Interim Delivery. Challenges and strategies

The structure of each set of project activities around these four descriptors allows for several benefits:

(i) obtain, for each subsection, a fundamental information on planned activities for working in an integrated way on the different parts of the research;
(ii) enhance synergies and avoid duplication and overlap among activities;
(iii) acknowledge the progress in each subsection since the beginning of the project;
(iv) get a description of the expected main results that will feed other subsections;
(v) advance strategies and lines of work towards the Interim Report;
(vi) recognize the challenges and difficulties emerging as the investigation progresses,
(vii) and work on strategies to overcome them.

Section 6 “Project Management Structure and Procedures”. This section specifies the relationship among partners in the Consortium. In particular, concerning the rules of procedure for the work to be carried out, the rights and obligations of each partner concerning, inter alia, liability, access rights and dispute resolution, and the relations that shall govern them within the Consortium set up in order to complete the PROFECY Project as approved by ESPON EGTC.

Section 7 “Quality Control Measures and Risk Assessment Measures”. Quality control and risk management constitute two key elements oriented to guarantee the proper functioning of the project. The function of a quality control system consists of setting up review routines, double checking, filters and revisions to facilitate the early detection of problems of orientation, validity and robustness in the way the different phases of the project come together. The components of the “quality control system” activate automatically upon detection of any problem. This Section explains in detail both types of control and management of quality and risk.

Section 8. “Timetable and Workplan”. In this section two organizational aspects of the project are presented: on the one hand, the scheme of milestones and main deadlines of the project (timetable); on the other hand, the agreed Work Plan designed to achieve the project objectives and deliverables in a solvent and prominent way.

Section 9. “Orientation of Research towards the Interim Report”. In the process of preparation of the Inception Delivery each activity has defined and develop key aspects like its objectives and purpose, the methodologies to be used, the input-output relations with other activities, the challenges to be overcome during the development of each activity, and the strategies to address them. This information is now a fundamental source of analysis for the integrated organization of the project’s work and development in the coming months with an eye on the objectives of the Interim Delivery.

1. Overall Objectives and Key Research Issues

By Joan Noguera (University of Valencia)

Inner Peripheries are complex territorial realities, with causative elements of a geographical nature, but also driven by socioeconomic processes. Hence, IP constitute a hybrid concept, which is fundamentally spatial, but is also manifest through aspects of socioeconomic performance. The **purpose** of this proposal is to characterize, in the most accurate way possible, the processes, features and cycles leading to the development and persistence of Inner Peripheries. This characterization will allow sufficient explanatory elements to understand what transforms a central territory into an IP, and consequently, which solutions can be implemented in order to prevent further decline and to enhance territorial cohesion.

The **ultimate objective of the proposal** is to develop European level strategies for Inner Peripheries which can ameliorate their marginalisation. This general objective may be disaggregated into a set of research questions, (specified in the ToR), which have already been included as reference in the specific research activities:

- What are the key elements in the concept of Inner Peripheries? How can these be mapped? What is the current pattern of Inner Peripheries in the European territory? Which areas are at risk of becoming Inner Peripheries?
- How can the European Inner Peripheries be characterized in relation to issues such as different age groups, gender balance, price development of the property market, and different types of regions?
- What processes drive marginalization and how can these be reversed and/or overcome? (processes such as demographic decline, ageing, economic decline, decrease in employment, changed availability of networks of services of general interest, public financing, ...).
- How can Inner Peripheries explore and utilise their territorial potentials, support their competitiveness, create jobs and improve the quality of life for their citizens given their conditionalities?
- What national, regional and local strategies for Inner Peripheries, including more functional cooperation approaches and governance aspects, could be considered in order to improve their situation?

- How have Inner Peripheries been integrated in the EU policy agenda and cohesion policy? And how can this be strengthened in the future? How do Inner Peripheries compare to lagging regions?

Addressing these questions will result in the necessary knowledge to understand the problems associated with IPs, to design useful strategies to leverage their strengths and all, in all, to produce the following outputs (ToR, p. 6):

- A common definition of Inner Peripheries at European level.
- European territorial evidence on the presence and characteristics of Inner Peripheries, including up to 4 geographical delineations of Inner Peripheries at European level.
- An analysis of the current dynamics related to Inner Peripheries in Europe, their different territorial contexts, the likely development prospects ahead and areas at risk of becoming Inner Peripheries.
- Options for integrated approaches addressing the specific needs of Inner Peripheries making use of their development potentials and proposing strategies for Inner Peripheries at European, national, regional and local level, all to help overcome the marginalising effects of Inner Peripheries.
- Short analysis of already implemented cohesion policy instruments and incentives for Inner Peripheries, and proposals on how future cohesion policy could address Inner Peripheries vis-à-vis lagging regions.
- Seven case studies on a selection of the Inner Peripheries identified to find general development trends, opportunities and experiences with addressing the specific needs of Inner Peripheries. Issues to be considered include bottom-up processes for merging and/or cooperating across borders (national, regional and local) to overcome disadvantages of being an Inner Periphery.
- European maps of access points and access to a selected number of services and of access to regional centres, for all 32 countries (28 EU countries and CH, LI, NO, IS), as well as the datasets behind.

This is fundamentally a policy-oriented call aiming at generating a better understanding of Inner Peripheries as a basis to improve the design of specific territorial policy measures that contribute to a more balanced regional development in Europe.

In carrying out this work, the consortium will take account of some fundamental **contextual considerations** that require particular attention. First, the fact that, in most

European countries, IPs are not addressed in national policies. Second, there is no generally accepted interpretation of the concept; neither in the scientific literature, nor in the policy documents. Third, IPs constitute a hybrid territorial reality that is not solely determined by accessibility, but also by historical development and relations (i.e. connections). Fourth, the delineation of IPs is a challenging task on account of both, the lack of a clear definition of the phenomenon, and a lack of data at appropriate geographic levels.

Recommendations for further research

During the development of the project activities, particular attention is already being paid to the aspects of research that cannot be fully developed during the project implementation, whatever the reasons are (lack of time, economic scope of the project, failure to obtain appropriate information or data, etc.). These aspects will be presented in the final report as "recommendations for further research" with sufficient detail on the reasons why they constitute future lines of investigation, the research questions that emerge or that remain to be answered, and recommendations on how future research could be organised based on the experience acquired during the development of the project PROFECY.

References

VVAA (2016) *Processes, Features and Cycles of Inner Peripheries in Europe (PROFECY)*, proposal for the ESPON EGTC Call for tender for applied research "Inner Peripheries: national territories facing challenges of access to basic services of general interest", 86 pags.

ESPON EGTC (2016) *Call for tender for applied research. Terms of Reference* "Inner Peripheries: national territories facing challenges of access to basic services of general interest", 20 pags.

2. Organisation of the Project, Consortium Structure and Allocation of Work

Joan Noguera (University of Valencia)

The content of this section is threefold. First, it provides a brief overview of how the project is structured. Second, it presents the status adopted by the partnership of organizations in charge of the implementation of the project. Finally, it explains the distribution of responsibilities among partners with regard to the activities and WP of the project. The purpose of the section is to provide the reader with the main keys to the organization of the PROFECY project so that this information may serve to better understand the sequence of content.

2.1 A Joint Tender to add capacities for a proper implementation of a challenging work

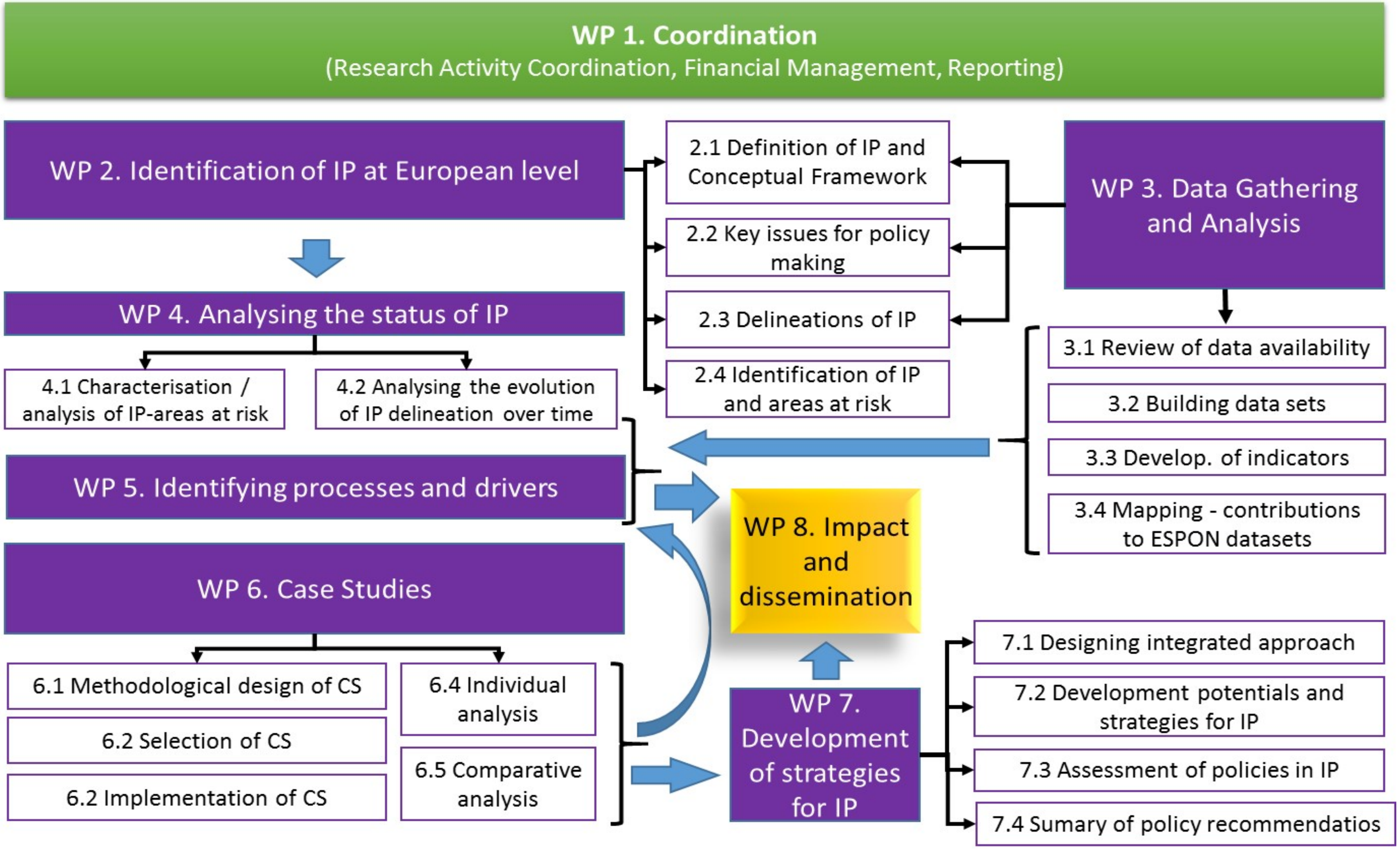
The proposal is submitted under the form of a **"joint tender"** bringing together the expertise of several organizations, institutions and companies specialised in the analysis of territorial processes. Some partners have strong expertise in Geographic Information Systems (GIS), while others have extensive experience of participation in previous ESPON calls, research Framework Programs of the European Union, and calls for evaluation of policies with a clear territorial dimension (LEADER program, CAP, etc.). Most partners have considerable experience in obtaining assignments for the development of studies, analysis, strategies, and evaluation of public initiatives in different geographical areas of Europe, Latin America, Africa and Asia. The "joint tender" has also been chosen in order to facilitate and ensure a high level of efficiency and quality in accessing information and data sources, both in the case of delineation and characterisation of IP at European level, and in the analysis of case studies, which will take place mostly in the countries of consortium partners. We have also sought to strike a geographical balance in the composition of the partnership, between partners of the North and South, and between partners of the East and West of Europe. Finally, the balanced composition of the consortium also refers to the types of organizations involved, with research organisations, universities and specialised companies, to ensure equilibrium in the distribution of duties and responsibilities.

Most consortium partners have worked together in previous assignments and projects, some of them during a career spanning over more than 20 years. For this reason, we believe in good operation and partnership commitments, as well as the effectiveness of coordination and cooperation between partners.

2.2 The structure of the project

The proposed flow of activities and work packages in PROFECY characterises by its high degree of integration. The workplan is structured in seven main Working Packages (see Figure 1). Each of them consists of one or more specific activities. This organisation of tasks arises from the idea that Inner Peripherality is a concept consisting of three dimensions: structural components, spatial scales and evolutionary stages. The entire development project is guided by this multidimensional concept of IP through the analysis, searching for information, generation of indicators and organization and development of case studies.

The following figure illustrates the flow of WP and activities in our proposal. The first WP refers to coordination tasks mainly by the lead partner, with occasional help from other partners. WP 2 is devoted to the conceptual characterisation of Inner Peripheries and the conceptual identification of IP types. Then the work proceeds to develop various delineations of IP (up to 4), mapping from information and data collected for this purpose (see WP 3). Finally, the work progresses towards the operationalisation of types of IP. WP 3 focuses on the tasks of collecting and analysing data, developing indicators and mapping. Activities in WP 3 (cartographic delineation, typology, choice of case studies) feed several other WP. WP 4 delves not only in the identification and definition of IPs but in their characterization; that is, in the analysis of indicators and types of IP. WP 5 distills the main processes and drivers present in the different types of IPs. WP 6 presents the design and implementation of case studies of IPs, including intensive fieldwork in seven selected areas at an appropriate geographic scale. From this information, WP7 develops strategies to adequately address challenges and needs of IPs. Finally, WP 8 deals with impact and dissemination actions of the proposal.


WP 1. Coordination
(Research Activity Coordination, Financial Management, Reporting)
WP 2. Identification of IP at European level
2.1 Definition of IP and Conceptual Framework
2.2 Key issues for policy making
2.3 Delineations of IP
2.4 Identification of IP and areas at risk
WP 3. Data Gathering and Analysis
3.1 Review of data availability
3.2 Building data sets
3.3 Develop. of indicators
3.4 Mapping - contributions to ESPON datasets
WP 4. Analysing the status of IP
4.1 Characterisation / analysis of IP-areas at risk
4.2 Analysing the evolution of IP delineation over time
WP 5. Identifying processes and drivers
WP 8. Impact and dissemination
WP 6. Case Studies
6.1 Methodological design of CS
6.2 Selection of CS
6.2 Implementation of CS
6.4 Individual analysis
6.5 Comparative analysis
WP 7. Development of strategies for IP
7.1 Designing integrated approach
7.2 Development potentials and strategies for IP
7.3 Assessment of policies in IP
7.4 Sumary of policy recommendatios

2.3 Allocation of work

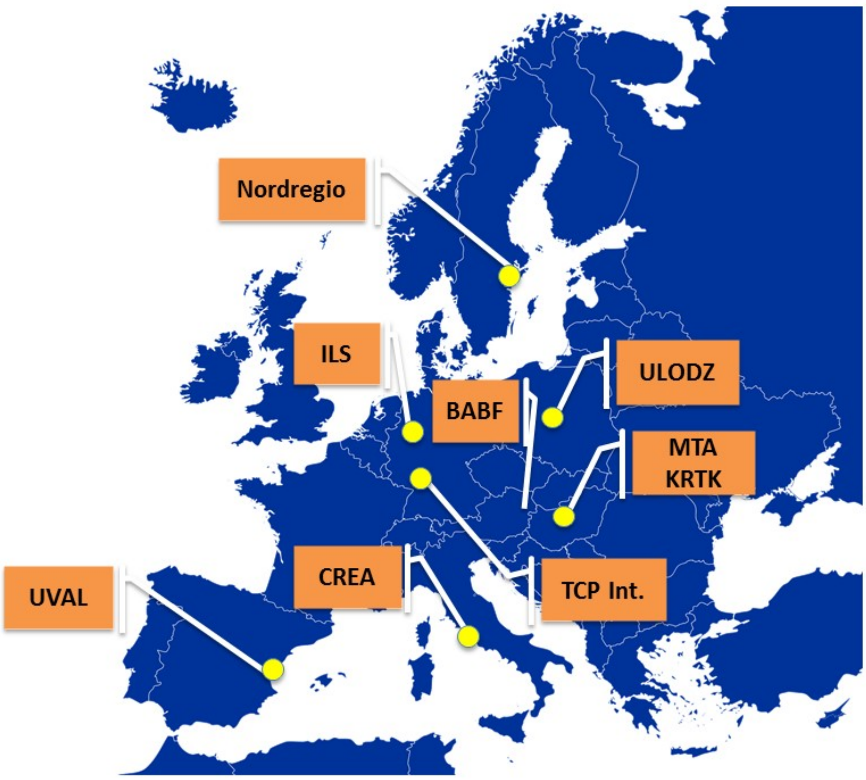
This sub-section explains the distribution of activities and WP among members of the Consortium; a process that was carried out taking into account the capabilities of each partner, and the willingness of partners to take the lead or co-lead of an activity or group of activities. For all activities, a Lead partner has been designated as the responsible to develop the plan and methodology for an activity, in close cooperation with a co-responsible partner with provide support and contributes to the development of the activity. In exceptional cases two co-leaders have been appointed due to the strategic nature or relevance of the Activity (i.e. the conceptual framework). A significant part of activities in the project, require small contributions from the rest of partners by providing ideas, discussing results or providing information. However, other tasks and, in particular, Case Studies, require an important implication of all partners (whether leading or not) because most of them must implement a full case study of an Inner Periphery according to the method and protocols provided by the lead partners.

The Lead Partner of the Consortium is the **Institute for Local development of the University of Valencia**. The University of Valencia plays a major role in several parts of the project. It is responsible for the overall coordination of the project and the "Service Provider" for ESPON. Leads all Activities (1.1, 1.2 and 1.3) of WP 1 "Coordination". Leads Activities 2.1 "Definition of Inner Peripheries and Conceptual Framework" and 2.2 "Key issues for policy making" as part of WP 2 "Identification of Inner Peripheries at European Level". Participates as co-leader in all four Activities (3.1, 3.2, 3.3 and 3.4) of WP 3 "Data Gathering and Analysis to Identify Inner Peripheries at European Level. Also has the role of co-leader in the two Activities (4.1 and 4.2) of WP 4 "Analysing the Status of Inner Peripheries". It participates in two activities of WP 6 "Case Studies of Inner Peripheries" where carries out Activity 6.3 Implementation of a case study, and 6.4 Individual analysis and reporting of the case study, for one case study. Finally, the University of Valencia has the leading role in all activities (8.1, 8.2, 8.3) of WP 8 "Impact and dissemination".

Partner 2 of the Consortium is the **Nordic Centre for Spatial Development (Nordregio)**. In the framework of PROFECY, Nordregio is responsible for WP 5"Identify processes and drivers playing a key role in the marginalization of Inner Peripheries", and it is also the leader partner in Activity 7.2 "Identification of development potentials and definition of strategies for IP" in the framework of WP 7 "Development of Strategies for Inner Peripheries using Integrated Approach". Nordregio plays a fundamental role as co-leader partner in several other activities and WP. For instance, it has a major role in the development of Activities 2.1 and 2.2. Participates in two activities of WP 6 “Case Studies of Inner Peripheries” where carries out Activity 6.3 Implementation of a case study, and 6.4 Individual analysis and reporting of the case study, for one case study. Has the role of co-leader in Activities 7.1 and 7.4, and also participates in all activities of WP 8.

Partner 3 is the **Council for Agricultural Research and Economics (CREA)** from Italy. CREA has a role of Lead partner in Activity 7.3 “Assessment of policies in IP. Proposals for future cohesion policy”, under WP7. CREA has also the role of co-leader in Activity 7.2 “Identification of development potentials and definition of strategies for IP”. CREA has a co-leading role in WP 6 “Case Studies”, helping ULOD (Partner 8) in all stages of the Working Package, including methodological design, selection of case studies and comparative, cross-national analysis of results. Also participates in all activities of WP 8.

Figure 2.1 Geographic distribution of the Consortium



Lead Partner: University of Valencia – Institute for Local Development

Partner 2. Nordregio. Nordic Centre for Spatial Development

Partner 3. CREA - Council for Agricultural Research and Economics

Partner 4. ILS – Research Institute for Regional and Urban Development

Partner 5. MTA KRTK – Centre for Economic and Regional Studies, Hungarian Academy of Sciences

Partner 6. BABF - Federal Institute for Less-Favoured and Mountainous Areas (Vienna).

Partner 7. TCP International

Partner 8. University of Lodz

Partner 4 is **ILS – Research Institute for Regional and Urban Development**. ILS has the role of lead partner in Activity 6.5 "Comparative analysis and reporting of case studies". Also has the role of lead partner in Activity 7.4 "Summary of policy recommendations on IP". ILS co-leads WP 5 on "Identifying processes and drivers playing a key role in marginalization of IP". Participates in two activities of WP 6 "Case Studies of Inner Peripheries" where carries out Activity 6.3 Implementation of a case study, and 6.4 Individual analysis and reporting of the case study, for one case study. Also participates in activities of WP 8 on dissemination.

Partner 5 is the **Centre for Economic and Regional Studies, Hungarian Academy of Sciences**. (MTA KRTK) is the Leader partner for WP 4 "Analysing the status of Inner Peripheries". Also co-lead activities 2.3 and 2.4. Participates in two activities of WP 6 "Case Studies of Inner Peripheries" where carries out Activity 6.3 Implementation of a case study, and 6.4 Individual analysis and reporting of the case study, for one case study. Finally, participates in activities of WP 8 on dissemination.

Partner 6 is the **Bundesanstalt fuer Bergbauernfragen (BABF) / Federal Institute for Less-Favoured and Mountainous Areas**. BABF leads Activity 7.1 "Designing and integrated approach to address and overcome needs of IP". Also participates by co-leading Activities 2.1 and 2.2. Participates in three activities of WP 6 "Case Studies of Inner Peripheries" where carries out Activity 6.3 Implementation of a case study, Activity 6.4 Individual analysis and reporting of the case study, for one case study, and has a supporting role in Activity 6.5. Participates in Activity 7.3 co-leading under the leadership of CREA. BABF plays also a relevant role in activities of WP 8 on dissemination.

Partner 7 is **TCP International GmbH**. "**T**ransport **C**onsulting **P**artners **International**" TCP International has outstanding responsibilities in most activities dealing with data gathering, processing and analysis, as well as in database construction and map building. TCP leads Activities 2.3 and 2.4. TCP also leads WP 3 "Data gathering and analysis to identify inner peripheries at European level". TCP also leads Activity 6.6 "Standard maps and databases for case studies". TCP also plays a relevant role in WP 8 about dissemination activities.

Partner 8 is the **University of Lodz**. ULODZ is the lead partner in most Activities of WP 6 "Case Studies of Inner Peripheries" where has the responsibility to build the methodology, and plays a major role in the selection of the particular territories. ULODZ also plays a relevant role in activities of WP 8.

Figure 2.2. Leader and co-leader partners by WP and Activities

	••	Lead Partner						
	•	Co-leading partner						
DISTRIBUTION OF TASKS AMONG PARTNERS								
	UVAL	**NORD**	**CREA**	**ILS**	**HAS**	**BABF**	**TCP**	**ULOD**
WP 1. COORDINATION								
Activity 1.1 Research Activity Coordination.	••							
Activity 1.2 Administrative and Financial Management.	••							
Activity 1.3 Reporting.	••							
WP 2. IDENTIFICATION OF INNER PERIPHERIES AT EUROPEAN LEVEL								
Activity 2.1 Definition of IP and Conceptual Framework	••	•				•		
Activity 2.2 Key issues for policy making	••	•				•		
Activity 2.3 Identification of 50-100 IP in Europe and areas at risk of becoming IP					•		••	
Activity 2.4 Delineations of IP in Europe and identification of NUTS 3 that are IP					•		••	
WP 3. DATA GATHERING AND ANALYSIS TO IDENTIFY INNER PERIPHERIES AT EUROPEAN LEVEL								
Activity 3.1 Review of data availability	•						••	
Activity 3.2 Data gathering at building for the ESPON Space	•						••	
Activity 3.3 Development of databases and indicators for IPs	•						••	
Activity 3.4 Mapping and contributions to ESPON Database	•						••	
WP 4. ANALYSING THE STATUS OF INNER PERIPHERIES								
Activity 4.1 Characterisation and analysis of the status of IP and areas at risk of becoming IP	•				••			
Activity 4.2 Analysing the evolution of IP delineation over time	•				••			
WP 5. IDENTIFY PROCESSES AND DRIVERS PLAYING A KEY ROLE IN MARGINALISATION OF INNER PERIPHERIES		••		•				
WP 6. CASE STUDIES OF INNER PERIPHERIES								
Activity 6.1 Methodological Design of Case Studies			•					••
Activity 6.2 Selection of Case Studies			•					••
Activity 6.3 Implementation of Case Studies	•	•	•	•	•	•		••
Activity 6.4 Individual analysis and reporting of Case Studies	•	•	•	•	•	•		••
Activity 6.5 Comparative analysis and reporting of Case Studies			•	••		•		
Activity 6.6 Standard maps and databases for Case Studies			•				••	
WP 7. DEVELOPMENT OF STRATEGIES FOR INNER PERIPHERIES USING INTEGRATED APPROACH								
Activity 7.1 Designing an integrated approach to address and overcome needs of IP		•				••		
Activity 7.2 Identification of development potentials and definition of strategies for IP		••	•					
Activity 7.3 Assessment of policies in IP. Proposals for future Cohesion Policy			••			•		
Activity 7.4 Summary of policy recommendations on IP		•		••				
WP 8. IMPACT AND DISSEMINATION								
Activity 8.1 Handbook for local actors and decision makers	••	•	•	•	•	•	•	•
Activity 8.2 International Conference on IP	••	•	•	•	•	•	•	•
Activity 8.2 Learning Package	••	•	•	•	•	•	•	•

3. Conceptual and Methodological Framework

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3.1 An urgent need for clarification

At face value, the two words "Inner" and "Periphery" seem to contradict each other; how can a locality be both "on the edge" and "inner"? In order to understand what is meant by this term it will be necessary to explain how it is the "child" of certain changes both in the policy and academic discourses, and, more fundamentally, of very important real-world socio-economic trends.

In recent years the original (spatial) meaning of the term "peripherality", which was all about the economic and social costs and penalties faced by locations at a distance from the main "hubs" of economic activity in Europe, where the benefits of agglomeration economies were maximised, has become associated with a range of "analogous" meanings, which are to do with socio-economic "marginality" in an aspatial sense (Kuhn 2015 p368). Within this project however the term "peripheralization[2]" is preferred to "marginalisation", since the former draws attention to the role of connectedness (spatial or not, see below), whereas the latter may simply denote low levels of socio-economic development or performance, for whatever reason.

Our world has changed: New information and communication technologies are gradually, selectively and subtly transforming the environment within which interactions (between individuals, businesses, and institutions) take place. Gradually, both within academic circles and within popular culture, we are changing our concepts of "space" and "proximity". Geographical, or "Euclidean" space is still the context for flows of goods, and service interactions which necessitate physical face-to-face contact - basic physics suggests that this will always be so. In this sphere, proximity is still measured in kilometres, travel-time, or travel-cost. However, it is also true that our economy and society are increasingly dependent upon flows of information as well. In this arena physical distance, travel time and travel cost are no longer the key

[2] Here we use the American spelling, with a "z", since the concept originated with a US sociologist, and much of the European literature also follows the US spelling.

constraints to interaction. Information can travel across networks where other forms of “organised proximity” (social, legal, institutional) matter much more (Torre and Rallet, 2005).

According to Bock (2016 p5) “Whereas in the past, the main cause [of uneven development] was ascribed to geography, this has changed in the sense that the lack of resources is now explained as resulting from a lack of socioeconomic and political connections (‘connectivity’) and, hence, of relational ‘remoteness’ that is not necessarily bounded to geographical location…Geographical remoteness, as such, therefore does not cause marginalisation, nor does central location promise prosperity”

As a consequence of the rising importance of this second kind of networking it is now possible to conceive of the peripherality of a locality on two distinct levels – in a geographical sense, and in terms of “organised proximity”.

Such a view of the world, where every locality, business, institution and individual operates within *both* geographical space and within aspatial networks is the key to understanding and distinguishing the several “faces” of the concept of “inner peripheries”. In this project we will not attempt to establish a single definition. Instead we will consider the various manifestations, explain how they relate to each other within a common conceptual framework, and explore their implications in terms of delimiting their incidence across Europe, and in terms of the intervention logic(s) for policy.

3.2 A hybrid concept combining two strands of research

The Inner Periphery concept which has emerged in the European regional policy discourse seems to have two “roots”. Both of these originated independently during the 1970s and 1980s. At that time there was little interaction between them. However, more recently features of both have been incorporated into the same policy discourse, increasing its chameleon-like flexibility rather than its coherence. The first of these owed much to positivist spatial analysis, whilst the second emerged from the structuralist school. A key name in the first was David Keeble, whilst Immanuel Wallerstein was founding father of the second.

3.2.1 Mapping Economic Potential

During the 1980s and '90s considerable efforts were made to measure spatial peripherality, using various spatial models, especially one which used Newtonian gravity as an analogy for "economic potential" (Keeble *et al*., 1988; Schürmann *et al.*, 1997; Wegener *et al.*, 2000; Copus, 2001; Espon, 2004; Spiekermann and Schürmann, 2014). Economic potential was in many ways an indicator designed as a proxy to measure the effects of agglomeration, as described by classic regional development models of Myrdal (1957), Hirschmann (1958) and Friedmann (Wight 1983), and more recently quantified by the New Economic Geography school (Fujita et al 1999). Many very attractive maps were produced, the parameters of the models were carefully tested and adjusted using different forms of transport to explore the assumed effects of geographic peripherality on different aspects of economic and social activity.

Those involved in this research were very aware that such adjustments could have the effect of either accentuating *continental scale* differences between the outer-most regions of Europe and the core regions (sometimes known as "the blue banana"), or of highlighting smaller scale differences *within* countries (Schürmann and Talaat 2000; ESPON 2009). Such "enclaves" of peripherality were particularly striking if they were identified in what is commonly known as "Central Europe". However it is fair to say that, since this research roughly coincided with the accession of Spain and Portugal (1986), and Sweden, and Finland (1995), the focus of the policy debate was very much upon the kind of peripherality experienced by the sparsely populated regions of the North and the West. In fact, although the peripheral regions of the Iberian Peninsula qualified for designation under Objective 1 of the Structural Fund, the better performing Nordic regions were given a new designation (Objective 6) on grounds of their peripherality. Central European "enclaves" (many of them still outside the EU at this stage), received little explicit policy recognition or research attention at this time.

Although it was widely assumed that the effects of peripherality could be predicted as a function of distance from centres of economic activity, academics were pointing out that despite the sophistication of the models and the maps, and the high level theorising about agglomeration, we understood much less about the socio-economic *processes* which translated these into local variations in socio-economic performance. Even as early as 1969 Peter Gould (1969: 37) stated that peripherality was "…a slippery notion…one of those common terms everyone uses until faced with the problem of defining and measuring it" p17.

3.2.2 The Modern World System, the Semi-Periphery, and Peripheralization

The American social historian Immanuel Wallerstein (1974, 1991) is generally associated with the structuralist perspective which comprehends both modern history and the geography of development on a grand scale. The key aspect of this theory is the division of the world's countries into three groups, the core, the periphery, and the semi-periphery. This typology is associated with the distribution of power, and processes of capitalist exploitation, whereby the core's economic development was dependent upon cheap sources of raw material and labour in the periphery. Semi-periphery countries shared in the exploitation of the periphery, and aspired to become part of the core, but lacked their freedom of action and dominance.

The inner/internal periphery concept seems to have been strongly influenced by the Modern World System theory. Early applications of the term were to Appalachia (Walls, 1978; Hanna, 1995) and Lesotho (Weisfelder, 1992). In a European context Nolte (1991, 2006) argued that enduring inner peripheries of Southern Europe owe their existence to being for many centuries in the border-region between the Christian and Muslim worlds. Vaishair and Zapletelova (2008) in their study of small towns in Moravia describe sparsely populated areas along national borders and where the topography is hilly as an internal periphery. They also refer to the Alps as being an inner periphery "from a West European view" (p72). Similarly, in a Russian context Kaganskii (2013) defines the inner periphery in terms of rural areas which are relatively close to centres of economic activity, but nevertheless lagging themselves.

Naumann and Fischer-Tahir (2013, p9) have recently argued that peripheries are social constructs, rather than fixed geographical features; "we interpret ''peripheries'' as the outcome of complex processes of change in the economy, demography, political decision-making and socio-cultural norms and values."

Reviewing recent literature relating to rural decline in Germany, the same authors (Ibid p17) point to "the multilayered disconnection of rural regions and their marginalization, … the new peripheries as disconnected in economic terms and as areas facing rapid demographic change and population ageing. Poor infrastructure, e.g., public transport, health facilities and educational services, lead to loss of quality of life for the inhabitants concerned. In concert, the media abounds with negative images, e.g., newspaper articles on "dying villages" and "empty" regions plagued by unemployment and alcoholism, and "contaminated" by right-wing extremism …"

What is striking about the recent sociological literature is that it focuses very much on the *process* of “peripheralization” rather than with mapping or measuring it. Thus:

“Peripheralization refers to a spatially organized inequality of power relations and access to material and symbolic goods that constructs and perpetuates the precedence of the centres over areas that are marginalized. Since peripheries are frequently localized as or within regions conceived in dominant discourses on a national or transnational scale as the apparently "natural" edges - such as border or other regions spatially removed from the centres of capital accumulation and the production of things with a recognized exchange value, the territorialization of peripheries fosters their reification. … The label "peripheral" is predominantly attached to the rural areas and small and medium-sized towns or to space within large urban agglomerations that are marginalized in terms of income opportunities, housing, traffic structures, and access to educational, medical or other infrastructural facilities.” (Ibid p18-19)

In an interesting twist Leibert (2013) links peripheralization in post socialist Central and Eastern Europe to Scholz’s theory of “Fragmented Development”, which argues that globalisation has increased global inequalities, with the result that some rural areas are increasingly becoming “new peripheries… home to people who are redundant as workers, consumers and producers.”

Because it is liberated from fixed or slowly changing geographical features, operating within socially constructed space and networks, peripheralization as a process is extremely flexible in terms of context and scale – it can be applied to countries, regions, cities or neigbourhoods (Kuhn 2015 p369). However, Kuhn goes on to explain, herein lies a pitfall – it becomes indistinguishable from the concept of marginalisation. Similarly Naumann and Fischer-Tahir (2013, p10) note that “… the theoretical saturation of the term constitutes a deficit, leaving unsettled the question of whether the peripheralization approach can produce a more substantial theoretical concept. … is peripheralization just another word for spatially structured political and social-marginalization and dependency?”

3.3 Inner Periphery in the European Regional Policy Discourse

As far as we are aware the term “inner periphery” (or in this case “internal periphery”) was first used in a European policy document in the background report prepared for the Territorial Agenda 2020 meeting in Gödöllő, Hungary in 2011 (Ministry of National Development and VÁTI Nonprofit Ltd., 2011). The description is quoted below at length, since it seems to be the starting point for the subsequent discussion of inner peripheries:

"*Internal peripheries are unique types of rural peripheries in European terms. The vast majority of these areas are located in Central and Eastern and in Southeast Europe and most of them have serious problems. Their peripherality comes primarily from their poor accessibility and paucity of real urban centres where central functions can be concentrated. These problems derive from the historical under-development of these territories and they are often compounded by specific features of the settlement network or social characteristics. The main problems of these areas are their weak and vulnerable regional economies and their lack of appropriate job opportunities. In these circumstances negative demographic processes, notably out-migration and ageing of the population, are getting stronger and stronger. These trends create the conditions for social exclusion, and even territorial exclusion, from mainstream socio-economic processes and opportunities. While rural ghettoes are mainly a result of social factors, ethnic segregation can make difficult situations worse. This is the case, for example, in rural peripheries of Slovakia, Hungary and Romania where there are areas with high proportions of Roma population."* (Ibid 2011 p57)

Later in the document the authors call for analysis of internal peripheries by the ESPON programme (Ibid, 2011 p87).

There is no reference to "internal peripheries" in the final TA2020 text[3], which is presumably why the ESPON Geospecs project concluded "The concept of Inner Peripheries (IP) as such is new in the European policy arena, as illustrated by the fact that there are no policy documents dealing explicitly with it…" (ESPON Geospecs, 2014: 1). The Geospecs team also (surprisingly) find no academic literature, and proceed to base their report on interviews with policy stakeholders in Belgium, Netherlands and Germany. They conclude that inner peripheries are defined by socio-economic rather than geographic characteristics, or distance from centres of economic activity. Often they are affected by economic restructuring; the loss of a key industry and high unemployment. As such, unlike true geographic specificities they are mutable or transient, rather than permanent.

[3] http://ec.europa.eu/regional_policy/en/information/publications/communications/2011/territorial-agenda-of-the-european-union-2020 [accessed 6th April 2016]

Generally speaking the Geospecs report illustrates the risk associated with abandoning spatial (in)accessibility as a defining feature for inner peripheries: It becomes difficult to distinguish inner peripheries from any other kind of lagging rural or semi-rural area.

In commissioning this project the ESPON 2020 programme recognises and avoids this pitfall by drawing on a growing body of work relating to access to services of general interest (SGI). This is more than a question of choice of indicators – it shifts the concept of inner peripheries away from the concept of "economic potential" and towards the quality of life, or well-being of rural inhabitants. This in turn links them to demographic issues, such as rural-urban migration, and ageing. It also resonates with the impacts of austerity on service provision, and the longer-term effects of new public management, universal service obligations and "territorial equivalence". This seems to suggest that the concept of inner peripheries which is emerging is not simply a Central European analogue of the kind of "economic potential" peripherality observed in Northern and Western Europe, but rather one which has more in common with the discourses on social exclusion and well-being.

The Italian policy initiative to support "Inner Areas" (Lucatelli et al., 2013, Mantino and De Fano 2015) has much in common with the concept implied by the recent ESPON project call. Here too, the primary definitional indicators relate to access to services of general interest. However an additional source of terminological confusion arises between the Anglophone research tradition, which is used to the idea that the "periphery" is indeed around the (Northern and Western) *edges* of the country, and that of the Mediterranean and Iberian countries, where major cities are located on the coast, and peripherality is associated with "the interior", or "inner areas".

When Austria acceded in 1995 demographic and economic development vulnerabilities in mountain areas (which are inner peripheries "in all but name") could not be addressed by Objective 6, but resulted instead in designation under Objective 5b. Later on support was continued through a very active participation in LEADER, together with national regional policy interventions tailored to the challenges of these areas (Dax et al 2016).

3.4 Towards Working Definitions of Inner Peripheries

It is not the intention here to offer a single and exclusive definition of inner peripheries. Rather the goal is to establish a "rule of thumb" by which a family of different kinds of inner peripheries may be recognised. Arguable the distinguishing characteristic of an inner periphery is that its potential for development, or its quality of life, is being adversely affected by poor *connectivity* of some kind. This may be due to its location within "Euclidean space" (as in the Economic Potential models), or to poor access to services, or it may be due to aspects of "organised proximity", through which it is excluded from mainstream economic activity, and unable to derive benefits from globalisation. Thus peripherality may be both spatial or aspatial (Copus 2001), and is often a mixture of both, but the defining feature, the driver, is the weakness of interaction, the lack of connectedness, rather than the resulting lagging socio-economic development. Thus all inner peripheries tend to be lagging behind in socio-economic development, but not all lagging areas are inner peripheries.

3.4.1 Three Types of Inner Periphery

The "family" of inner periphery types which we propose to explore in this project comprises:

1. Areas with low levels of economic potential (as in the Keeble model) which are "interstitial" between core areas with higher economic potential.
2. Areas which are characterised by poor access to services of general interest, whether this is a consequence of geographic remoteness, or to changing service delivery technologies, or to austerity, or other changes in provision such as privatisation.
3. Areas which exhibit low levels of socio-economic performance which can be attributed to an absence of "organised proximity" (of whatever kind), which are in some way excluded from "the mainstream" of economic activity, or which can be said to be experiencing a process of "peripheralization". These characteristics will often be associated with an absence of influence, distant from the centres of political power, lacking influence in terms of governance.

Each of these may be applied at a range of scales, local, regional, national, macro-regional. Although the first tend to be rural/small town by definition, the other two could equally apply to urban neighbourhoods. At the same time, it is important to note that most territories may share characteristics of different types of IP. That is, regions where features of one of the definitions of IP dominate, but also show some characteristic features and processes of one or more of other types of IPs.

3.4.2 Tentative Proposals for Operationalising these Definitions

The following are proposals for approaches to operationalising the three definitions of inner peripheries. They are intended as starting points for an exploration of what is feasible with current data. They focus upon generic indicators, detailed specifications, and the choice of spatial building blocks will be considered in subsequent tasks.

1. The first type of IP is the easiest to operationalise in terms of a quantitative indicator. Indeed this has already been extensively researched in the context of ESPON 2013 (Schürmann and Spiekermann, 2014; Spiekermann *et al.*, 2015). In this case IPs are simply defined as "interstitial" areas of increased peripherality, i.e. areas of increased peripherality which are not on the physical edge of Europe, and are surrounded by areas of greater centrality. A possible starting point for this could be one of the indicators shown in Territorial Observations No 2 Trends in Accessibility (ESPON 2009). A key issue to consider here will be the scale of analysis, since the accessibility indicators in this publication are at NUTS 3 only.

2. The second presents a greater challenge in terms of mapping, though practicable proposals have been developed (see section 5). The simplest approach involves assuming that services are delivered through service centres, medium sized towns. If this is assumed a practicable indicator would be the distance from the service user's location and the nearest small town. However delivery arrangements for different SGI vary substantially, both between services and between national contexts. Consideration will be given to the practicability of creating different indicators for different kinds of delivery mode.

3. The third type of inner periphery is very difficult to measure and map, in part because it is heterogeneous – each inner periphery exhibits a unique set of characteristics. Clearly a case study approach will be important here – though, on the basis of case study findings it may be feasible to identify a range of proxy indicators which could suggest where these kinds of inner peripheries are most likely to be present. A first step could be simply to map regional (or possibly sub-regional) patterns of socio-economic performance. ESPON EDORA provides an example of a synthetic index of performance which could be adapted for this purpose. The resulting map would allow identification of *potential* inner peripheries of the third type. Subsequent investigation would aim to pick out which of these "depleting" areas could reasonably be described as suffering from "peripheralization".

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4. Key Issues for Policy Making, and the European Policy Context

Andrew Copus (Nordregio)

4.1 Introduction

In this section we aim to build on the conceptual framework established in Section 3, by proposing some outline principles for intervention. In doing so we will loosely follow the principles of the "theory of change" approach and develop a series of "intervention logics" which we will link to the 3 broad types of inner periphery concepts presented in section 3.4. We will then seek to place these within the context of EU Cohesion policy, other EU policies, and the range of potentially relevant national policies. The value of this process lies in early clarification of the direct connections between the planned empirical work and policy implications or recommendations.

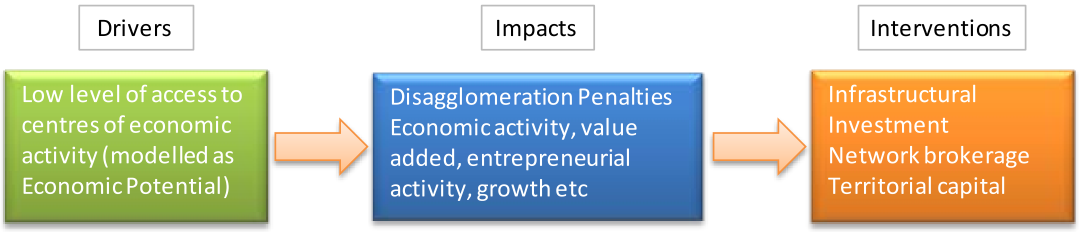
4.2 Theories of Change and Intervention Logic

By combining "theories of change" (Blamey and MacKenzie 2007, Mason and Barnes 2007) and "intervention logics" (Gaffey 2013) we intend to explicate a clear narrative of cause and effect, encompassing both the process which creates an inner periphery, and the response in terms of policy, which acknowledges and explicitly addresses the causal process, in order to ameliorate or reverse it. In due course, the same "theories of change" will form the basis for the "interpretive models" elaborated in Section 5 below.

4.2.1 Economic Potential Interstitial Areas

The first type of inner periphery set out in Section 3.4 derives from the economic potential mapping approach. These are areas of low "economic potential" which are situated in "the interior", between core areas, rather than on the geographical edge of Europe. The "theory of change" associated with this type of inner periphery would be couched in terms of the "dis-agglomeration" penalties associated with (geographical) distance from centres of economic activity (i.e. longer travel times and thus higher travel costs to markets). These are assumed to affect the potential for entrepreneurship, innovation and growth of economic activity through the cost and quality of labour (job matching), attenuation of business linkages and networks, access to sources of information and innovation, and a weaker development of business services and institutions.

Figure 4.1 Outline Theory of Change for Economic Potential Interstitial Areas



Potential policy responses might be of two kinds:

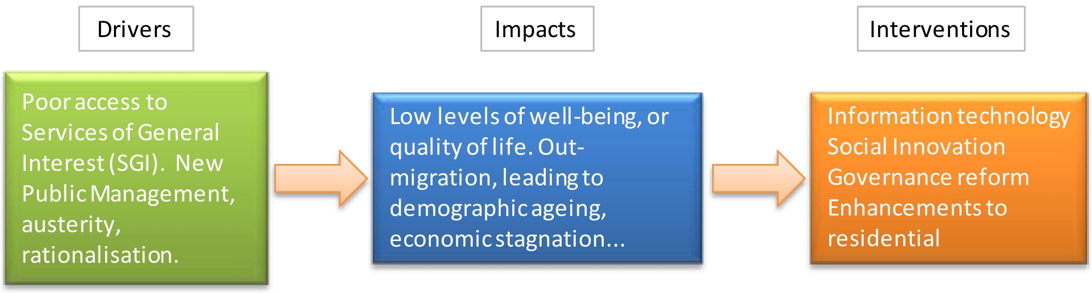
(a) Directly addressing accessibility through investments in physical infrastructure, especially roads, rail, airports and broadband communications, but also investments in new types of mobility.

(b) Since infrastructure investments are known to result in negative "pump effects" (Copus 2001 p544) whereby the improvements in connectivity benefit core areas more than the inner periphery, it will be necessary to consider accompanying measures to build human, social and institutional capital. These are intended to give the inner periphery capacity to respond to the opportunities provided by the increased access to markets and business networks. Specific examples of forms of intervention could include network brokerage, urban-rural partnerships, and a range of small business/entrepreneurship advisory and support services.

4.2.2 Areas of Poor SGI Access

The second narrative describes the experience of rural areas which are particularly affected by poor access to services of general interest. Here the focus is primarily on levels of social well-being, rather than economic development, although the latter may be indirectly involved. This kind of inner periphery may have long suffered this deprivation, due to their remote location, or sparsity of population. Alternatively, they may be areas from which the population has drifted away in recent years, with concomitant effects upon age structure, levels of economic activity, tax raising potential, and old age dependency. In both of these, the recent quest for greater cost effectiveness, the introduction of New Public Management approaches in the local administration, or austerity, will likely have exacerbated the situation.

Figure 4.2 Outline Theory of Change for Areas with poor SGI Access



Forms of intervention to match this narrative of inner periphery formation would need to focus upon innovations in service delivery. These would be too various and issue specific to set out in detail here. However most would feature one or more of the following:

(a) Use of new technology to overcome geographical distance (tele-medicine, online administration, etc.)

(b) Reconfiguration of the delivery responsibility for certain services, from the public to the third sector, social enterprise or to the community, often involving some form of social innovation.

(c) Attempts to encourage population retention though enhancing residential environments, local facilities, and general improvements designed to increase well-being.

(d) Restructuring of local governance to facilitate greater coherence between a range of providers, and greater responsiveness to the needs of inner peripheries.

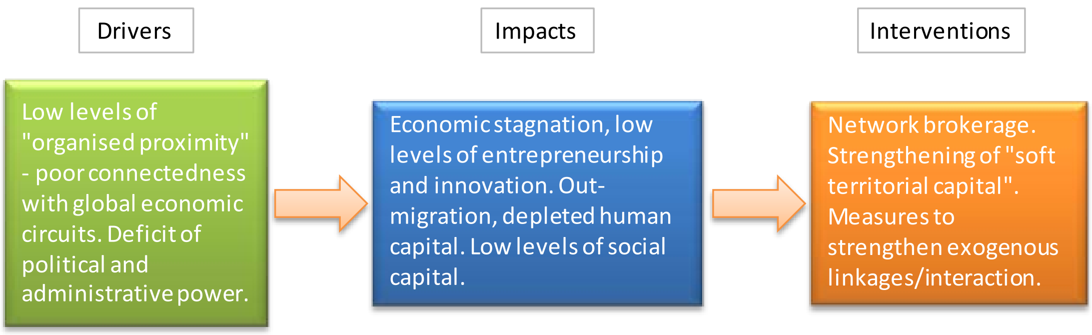
4.2.3 Areas suffering from Peripheralization

The third type of inner periphery is formed by a less tangible process of "peripheralization" a kind of "territorial exclusion" which does not necessarily reflect geographical remoteness. Further research (including the envisaged case studies within the PROFECY project) is required to establish the nature and defining features of the socio-economic processes through which such inner peripheries develop. The relative importance of economic development versus social well-being is likely to vary from case to case. However it seems probable that aspects of both recent, and more distant, cultural and institutional legacies of economic structures and structural change play a key role, inhibiting the development of "organised proximity" in various ways.

Long established configurations of governance and power probably also play a part. On the other hand relatively sudden discontinuities which are difficult to adjust to, such as the EU accession of the former socialist countries are widely acknowledged as part of the process of disempowerment of this kind of inner periphery.

Our sketchy understanding of this kind of inner periphery is reflected in the narrative of change which we are able to represent in Figure 4.3 This underlines the importance of the case study work to explore these kinds of inner peripheries.

Figure 4.3 Outline Theory of Change for areas suffering Peripheralization



Following the logic of the above narrative suggests that policy prescriptions for this kind of inner periphery are likely to address “softer” aspects of the socio-economic milieu. This implies interventions designed to strengthen all forms of exogenous interaction, strengthening networks which deliver greater capacity for economic development (overlapping with the first narrative above) and social/community wellbeing (as in the SGI narrative). To some extent the lack of specificity here reflects the scarcity of information about policies designed to address peripheralization, but it is also to some extent inevitable, given the multifaceted nature of the process.

4.2.4 Some Reflections

It is important to underscore the fact that the three theories of change outlined above are not mutually exclusive. It is anticipated that some case studies will exhibit features of at least two of these narratives. Nevertheless it is important, both analytically and in terms of intervention logic, to avoid confusion between them.

Similarly, it is quite likely that some inner peripheries are also mountain areas, or sparsely populated areas. In other words different kinds of territorial specificities may be co-located. This again presents an analytical challenge to avoid conflating different drivers and processes of socio-economic change.

In terms of a generic policy approach for Inner Periphery areas it would seem that the principles of Smart Specialisation have a lot to recommend them, and should be explored further. In recent years separate reports on smart specialisation approaches for rural (Rosa Pires 2015), and sparsely populated areas (Teräs et al 2015), have been published by the Smart Specialisation Platform S3.

4.3 Where could Inner Peripheries be addressed within EU and National Policies?

The Treaty of Lisbon (signed 2007) committed the European Union to "pursuing actions" leading to "economic, social and *territorial* cohesion". The reference to territorial cohesion was elaborated as follows: "particular attention shall be paid to rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and island, cross-border and mountain regions." The following year the European Commission issued the Green Paper on Territorial Cohesion (CEC 2008). This document set out a principle that EU Cohesion Policy should support all places within the EU to develop to their full potential, "turning diversity into strength", and allowing "people to live wherever they want[4]". After describing the overall principles of Concentration, Connection and Cooperation, the paper focuses on three types of "regions with specific geographic features", mountain areas, islands, and sparsely populated regions.

Since 2008 various other kinds of regional specificities have been introduced to the discourse. As we have seen "Inner Peripheries" were first discussed in the background document to the Territorial Agenda 2020 agreement (Ministry of National Development and VÁTI Nonprofit Ltd, 2011). However although included in the list of types of areas in the terms of reference for ESPON Geospecs, Inner Peripheries have had a low profile in the policy literature, and unlike islands, mountains, and sparsely populated areas, were not referred to in the legislation which set the rules for the current Cohesion Policy funding programmes (CEC 2015). In this sense Inner Peripheries do not currently benefit from any explicit targeting of the ESIF funds, or Cohesion Policy, and two questions arise:

(a) How might the needs of Inner Peripheries best be met under the legislation of the current period?
(b) How might their specificities better be reflected in the regulations for the next funding period?

[4] http://ec.europa.eu/regional_policy/en/policy/what/territorial-cohesion/

The answer to the second question must be left until later in the project, when we have more information on the nature and distribution of Inner Peripheries, the processes which create them, and the most effective forms of intervention. However, at this stage in the project it is already possible to point to two particular modes of implementation which are currently available as being potential ways to address the needs of Inner Peripheries. These are: (i) Community Led Local Development (CLLD) – often associated with LEADER, but intended to be multi-fund in implementation. (ii) Integrated Territorial Investments (ITI). These are described as follows: "Funding from several priority axes and programmes can be bundled into an integrated investment strategy for a certain territory or functional area…It allows the managing authorities to delegate the implementation of parts of different priority axes to one body (a local authority) to ensure that investments are undertaken in a complementary manner…" We understand that so far very limited use has been made of ITI in 2015-20 programmes.

In terms of the role of national policies in developing the potentials of inner peripheries, there are many "levers" across a range of sectoral and national interventions which could be pulled. At a national level these would include transport and communication infrastructure policies, policies to foster entrepreneurship and innovation, education and training, regional policy, and energy policies. The key to success with respect to inner peripheries will likely be coherence and integration of these sectoral interventions. Regional or municipality interventions would also be very important, especially where inner peripheries are defined in terms of access to SGI. In this context the degree of devolved power/competence, and the coordination of different levels of governance would probably be crucial. Finally, the third sector, levels of social capital, and capacity for social innovation should not be neglected -after all peripheralization is often initiated or exacerbated by the failure of a community to develop sufficient exogenous linkages, and an outward looking business and entrepreneurial culture.

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5. Methodology and Specification of Activities

Joan Noguera (University of Valencia)

Section 5 is, by far, the largest of the Inception Delivery. The reason is that it includes nine sub-sections gathering all activities, groups of activities and/or working packages, grouped according to the constituent elements of the Inception Delivery described in the ToR. Therefore, Section 5 includes the following sub-sections

5.1 General Methodological Issues

5.2 Aspects of Operationalization of the Theoretical Concepts

5.3 Plan and Method for Identifying and Delineating Inner Peripheries

5.4 Overview on Data to be Used and Plan for Overcoming Challenges in Data Collection

5.5 Plan for Analysing 'Status' of Inner Peripheries Identified

5.6 Method and Plan for Identifying Processes and Drivers Playing a Key Role in the Marginalization of Inner Peripheries

5.7 Plan and Methodology for Carrying Out Case Studies of Inner Peripheries with Detail of the Role of Scenarios

5.8 Plan and Method for Developing Strategies for Inner Peripheries, Including Cooperation between Territories, and Proposal on Inputs for Cohesion Report

5.9 Plan for Developing the Handbook

5.10 Plan for Developing the Learning Package

The development of the conceptual framework of the project and the key issues for policy-making (Activities 2.1 and 2.2) have not been included subsections of Section 5. Conversely, specific sections (# 2 and # 3) have been created for these two issues. The reason is that they constitute the only activities that are in a state of completion or near completion at the time of finalising the Inception Delivery. However, it is important to note that the more technical parts of the operationalisation of the conceptual types of Inner Peripheries are still in progress as part of Activity 2.1 and, once completed, shall provide the basis for the development of Activities 2.3 and 2.4 (section 5.3).

5.1 General Methodological Issues

Joan Noguera (University of Valencia)

The vast majority of territorial development research can be addressed through various methodologies that have already been tested and used successfully over the years (literature and documentary review, GIS and related tools, multi-criteria analysis, qualitative methods and techniques including focus groups, interviews and surveys, among other).

Being one of the newest nomenclatures for a territorial phenomenon, the definition, identification, characterization, delineation and analysis of Inner Peripheries face several methodological challenges. The vast majority of methodological difficulties and challenges already evident in the investigation, as well as other that may emerge as the work of the project goes on, are largely due to the scarcity of specific research centered on Inner Peripheries. Certainly there are lines of research that have explored peripherality, but as already pointed out in Section 3, they mainly focus on the study of traditional peripherality (ie. remoteness, location), and not explicitly on inner peripherality. Therefore, from the empirical (and methodological) points of view, Inner Peripheries there is an evident lack of empirical baggage.

Taking into account these considerations, the purpose of this section is listing the main methodological challenges and issues already arising from the works in the different activities of the project. The presentation of the methodological challenges is carried out in a short and concise way, since the objective is to obtain an overview of the problem. More detailed descriptions of methodological challenges and strategies are included in each subsection.

The main methodological issues of the project at this stage

1. *The reduced scientific knowledge on the problem of Inner Peripheries may present the research with some of the following challenges:*
    a. The lack of a consensus definition of the phenomenon
    b. The novelty and heterogeneity of the concept of inner peripheries and the need for determining the different processes and features present in different types of IPs.
    c. The fragmented and heterogeneous work on the problem of IP and the consequent lack of identification and compilation of the best available data and indicators.

d. The subsequent need to operationalise the definition(s) of Inner Peripheries.
e. The absence of precedents in their delineation at European level or member states at a sufficient geographical scale to avoid hiding this phenomenon inside large and heterogeneous territorial units (i.e. NUTS 3 in some countries).
f. The need to study the processes by which a territory acquires characteristics of inner periphery (and vice-versa)
g. The possibility that the development of subsequent phases of the research provide evidence that contradicts (even partially) the findings of early parts of the project.

2. *The possibility that IPs are not homogeneous but diverse and, therefore, there are different types of IP that require different types of delineation, data, etc.*

3. *The lack of references in the design and implementation of policies and programs specifically addressed to Inner Peripheries with the exception of specific programs targeted to Inner Areas in Italy*.

4. *Problems associated to potential failure in the achievement of the objectives of one or more activities*:
   a. The efforts made to gain synergies among activities may turn out to be a methodological challenge since many tasks are input dependent to a large extent on results of research tasks from other work packages and activities. The coordination and the Steering Committee must remain vigilant to detect potential failures and/or contradictory findings and quickly search and effective methodological alternatives.
   b. Since activities have fundamental impacts on each other, the clarification of roles in interrelating tasks and intensive communication between responsible partners are essential.

5. *Potential methodological constraints caused by the length of the project*:
   a. The effective time of implementation poses important constrains to the potentials of the research.
   b. Although the availability of data provided by ESPON is a huge advantage, the project explores a little known territorial phenomenon, and must provide correct answers that allow obtaining the keys to

understand the phenomenon and design better public policies. Quantitative methodologies are fundamental but not sufficient due to the absence of sufficient data and the own limitations of data analysis. For this reason the project includes the implementation of 7 case studies.

c. The implementation of Case Studies demands a careful methodological approach to avoid the potential effects of context-related processes, path-dependency issues, etc. that could result in the impossibility to compare results. Therefore, a very detailed methodological guide is necessary to guide fieldwork in different countries in a way that produces comparable results. This applies to the different stages of the Case Studies (design and translation of methodological tools, organization of participatory methodologies (which requires the presence of all stakeholders, or interviews with enough qualified informants), implementation of case studies (collection, tabulation and data processing), further processing of information, etc.).
d. Iterative processes suggested for the project are time consuming and require highly motivated actors and stakeholders. It is important to start discussion processes under the consideration that strategic consideration will be an on-going issue beyond the project's final report.

6. *Potential overlaps caused by deviations in the implementation of activities:*
   a. Considering interrelated research tasks, there is a possibility of overlap between some activities and/or WP. The proposal presented a clear definition of roles and responsibilities that has now been adjusted in the Inception Report. All partners will have to do their best to strictly follow the distribution of roles and responsibilities.
   b. On the other hand, and intensive communication between responsible partners is very helpful to resolve these problems.

7. *Problems associated to availability of data:*
   a. Delineation shall be done as far as possible below NUTS-3 level (LAU2). This creates a challenge for data gathering and thus for identification of suitable, i.e. practical variables.

   b. The lack of relevant data available for the entire ESPON space. We anticipate that data situation is different across ESPON, i.e. variables that would work in one country may not be available in another.
   c. Inclusion of statistical variables. While geographical and accessibility indicators may be considered rather easily, inclusion of small-scale statistical variables may be difficult.

8. *Challenges associated to the delineation of Inner Peripheries.*
   a. Differentiation of inner peripheries from “traditional peripheries”. By definition, inner peripheries are lagging areas surrounded by areas of prosperity. While this theoretical definition might be clear, there may be situations in the practical IP delineation where, based upon the quantitative analysis, such a clear distinction between IPs on the one hand and traditional peripheries on the other hand might not be possible (for instance, in case of small islands, or in case of the Northern, peripheral areas in Scandinavia).
   b. Comparison and combination of all IP delineations. Since the different delineations apply various indicator sets and variables, they can hardly be combined into one overall delineation (i.e. each considers a different dimension)
   c. IPs and areas at risk: separating both by means of different thresholds may be tricky and may lead to intense debates with politicians.

9. *Challenges to the implementation of the Case Studies and the stakeholder approach*
   a. The first challenge is the selection and successful implementation of case study regions as IPs identified in Activity 2.4 may not fulfil all required criteria or they may be located over national borders.
   b. European countries have different administrative regimes and the content of regional development policies and formal documents might not be coherent. Thus, the work on methodological design of Case Studies and their selection requires strong cooperation with leaders of WP 2-5, access to reports on preceding WPs and, if necessary, adding as selection criteria the location of the case study within one country (i.e. not across national borders).
   c. There is also a need for carrying a pilot research of administrative structure and the content of regional development strategies in

European countries before choosing criteria for their qualitative analysis when implementing Case Studies.

d. The main results of cross-comparative analysis will be available for the Final Report only, as the main comparative analysis will start once the individual case study reports are finalized, that is, after the delivery of the Draft Final Report.

e. A potential threat for the success of activity 6.5 is that case study reports are not available on time, or are not sufficiently coherent and detailed for comparative analysis. However, a detailed framework for carrying out the empirical work, including a structure of the report to deliver (Activity 6.1) and close monitoring of progress in Activity 6.3 will reduce this risk.

5.2 Aspects of operationalization of the theoretical concepts

Carsten Schürmann (TCP International)

Joan Noguera (University of Valencia)

5.2.1 Objectives

This activity starts from the conceptualisation of the theoretical definitions of IPs (Activity 2.1) and operationalize them in a way that they can be implemented quantitatively within the GIS environment. Eventually the up to four delineations are clearly defined, the necessary variables/indicators for them are identified, along with proper thresholds and combination rules for both the identification of IPs and of areas at risk.

5.2.2 Methodology

This activity will start with the collection and comparison of existing definitions of IP, based upon the theoretical and conceptual works (see Chapter 3 and 4). Existing definitions refer to approaches already implemented in EU Member States (such as Italy), or concepts and findings developed in previous (ESPON) projects (like ESPON 1.2.1 or GEOSPECS).

Additionally, theoretical considerations as described above will be implemented to distil factors and variables for a possible delineation of IPs in Europe. An overview of potential variables and factors will be produced, and will be compared against data availability in European-wide databases (Eurostat, ESPON Database, others).

Eventually, this task will produce a methodological concept for the delineation of IPs in Europe, as input to task 2.3. This concept will account for existing IP definitions, account for theoretical aspects, and account for actual data availability. This activity produces up to 4 methods of delineations, one delineation per type of IP (see Chapter 3) allowing the project team to generate up to 4 IP delineations in activity 2.3. The concept defines

- The factors/variables/elements to consider in the delineations
- The spatial units (grid, LAU-2 or NUTS-3) to use
- The input data needed for the selected variables

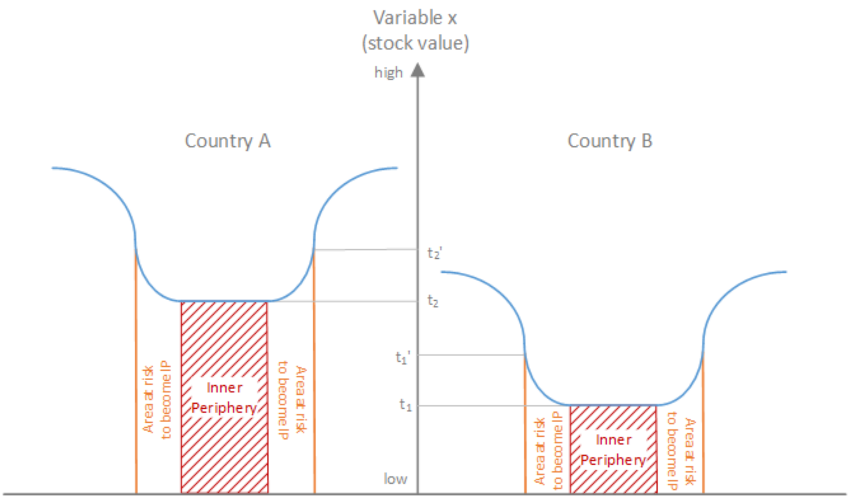
- The thresholds to apply for the variables (if any are to be applied).
- The rules how to mathematically/statistically/technically combine the different variables

Emphasis will be given by the consortium, when developing the delineation concepts, that the different definitions differ as much as possible, in order to account for as many factors as possible, acknowledging that not all influencing factors can be integrated into one delineation. The types of IPs already identified in Chapter 3 follow this logic, as each type has a certain thematic focus. Comparing the results of these different definitions not only ensures that a sufficiently large number of factors were considered, but also proofs that if certain areas appear as Inner Peripheries under all definitions, we can be quite sure that these results are statistically of high relevance.

Indicator standardization

One of the key conclusions of the theoretical reflections on IPs is that these areas cannot be delineated according to the absolute values of the chosen variables, but according to their performance relative to the surrounding areas (Figure 5.2.1). The methodological concept to be developed, and in particular the definition of indicators, will have to reflect this need. We will achieve this by standardizing all variables at the respective national averages before they enter the delineation workflow.

Figure 5.2.1. Delineation of Inner Peripheries in Europe



Usually, the range of values for any variable differs from country to country, subject to various factors (e.g. country size, geographical conditions, economic power, demographic factors). If only one threshold would be applied to stock variables to all countries, it is likely that for some countries no areas were identified as inner periphery, or in contrary, most of the country were defined as IP. Thus, the variables should be first standardized, for instance, at the national averages, so that the value ranges are proportioned.
Second, the figure illustrates that IP must always be defined in relation to surrounding areas and not just by looking at any location alone.
Third, in order to identify areas at risk to become IP, a second threshold is needed.

Once an indicator is standardized, Inner Peripheries can be identified as those areas experiencing standardized indicator values (SIV) below a certain threshold (for instance, below 25% of the national average). As this project for the first time tries to develop a set of harmonized delineations for entire Europe, the definition and choice of these thresholds is likely to be a "trial and error" process[5].

Indicator combination

If a delineation concept requires several indicators, they need to be combined. Different options will be tested (Table 1):

Table 1. Options of combining indicators in the process of IP delineation

Option	Rule	Description	Comment
1	AND	Any area will be idetified as IP if it fails to pass the defined threshold for indicator 1 AND for indicator 2 AND for indicator 3 ... $Ind1 \cap Ind2 \cap Ind3 \ldots$	Areas will only be IP if they fail in all indicators. This may lead to a limited but very focussed set of IPs.
2	OR	Any area will be idetified as IP if it fails to pass the defined threshold for indicator 1 OR for indicator 2 OR for indicator 3 ... $Ind1 \cup Ind2 \cup Ind3 \ldots$	Areas will be IP if they fail in any of the selected indicators. This will lead to a larger set of IPs (both in terms of number of IPs and in their size) compared to option 1.
3	WEIGHTS	Basically like option 1, but the indicators will be weighted, assuming that not all indicators are of similar importance in relation to IP. $\frac{Ind1}{w_1} \cap \frac{Ind2}{w_2} \cap \frac{Ind3}{w_3} \ldots$	Option 3 represents a combination of 1 and 2; however, the definition of the weights is another challenge (in addition to the definition of thresholds), which would require some testing.

[5] i.e. testing different thresholds and assessing the results. We may use the same threshold for all indicators, or individual thresholds may be applied to different groups of indicators, or to each individual indicator.

Areas of risk to become IPs in future

The project team will also identify areas of risk to become IPs in future. The identification of these areas is of course closely related to the identification of IPs itself. Different cases have to be distinguished (

Table 2):

Table 2. Options for identifying areas of risk.

Case		Identification of areas-of-risk	Example
1	Delineation of IPs based on one indicators	IPs represent areas that fail to pass a certain threshold. Areas of risk are then areas that fail to pass a second, less strict, threshold.	Threshold for IPs: 25% of national average Threshold for areas-of-risk: 40% of national average (but more than 25%)
2	Delineation of IPs based on several indicators, option 1 selected (see Table 1 above)	IPs are those areas that fail to pass thresholds for ALL selected indicators. Areas of risk will be those areas that fail to pass not all indicators. At least for one indicator the threshold is passed.	Areas that fail for indicators 1 and 2, but pass thresholds for indicators 3 and 4 will not be identified as IPs, but will be identified as areas of risk.
3	Delineation of IPs based on several indicators, option 2 selected (see Table 1 above)	IPs are those areas that fail to pass thresholds for any of the selected indicators, either for all, or at least for one of the indicators. Areas of risk are those areas that pass all the strict thresholds for IPs, but that fail to pass at least one of the less strict thresholds.	
4	Delineation of IPs based on several indicators, option 3 selected (see Table 1 above)	Basically like case 1; however, areas of risk are only those areas that fail to pass a less strict threshold for those indicators with high weights.	

Temporal dimension

The delineation of IPs in Europe will be done for the most recent year possible, by compiling the latest available data for the selected variables (depending in the data situation, most likely 2014 or 2015); however, the characterization and analysis of the IP status in WP 4 will also apply time-series for the selected descriptive indicators.

Framework for data collection

Beyond developing the concept for the delineation of IPs, this activity will also elaborate a methodological framework for the data collection and for the analysis of IPs in Europe. As regards the data collection, it will be important to identify those data that is needed for the IP delineation, in contrast to the data needed for the characterization and description of IPs. Both types of data may not be the same.

Challenges

The theoretical considerations presented in Chapters 2 and 3 will identify different basic types of IPS, which in turn form the basis for the different types if IP delineations.

A first challenge for the operationalization of these concepts is the selection of useful indicators. From a theoretical point of view, one can select any nice variable/indicator; however, when looking at the data availability of potential variables, the pool of potential variables diminishes quickly. Finding a good balance between theoretical demands and practicability is thus a challenge.

A second challenge is the definition of appropriate thresholds. Different thresholds will be tested (10%, 15%, 20%, 25%, 30% of national average), and their outcomes will be assessed.

A third challenge is the definition of rules how to combine several indicators, and how to identify areas at risk. The different options presented in Table 1 and

Table 2 will be tested and compared.

Next steps

The next steps under this activity are

- Finalizing the concepts for delineations
- Operationalization of these concepts
- Identification of required variables and indicators
- Definition of thresholds (trial-and-error)
- Choice of appropriate combination rule

5.3 Plan and Method for Delineating and Identifying Inner Peripheries

Carsten Schürmann (TCP International)

5.3.1 Objectives

Based upon the methodological concept developed in Activity 2.1, the main objectives of these activities are first of all the geographical delineation of Inner Peripheries in Europe by means of GIS techniques, by implementing the identified variables and indicators, and secondly by overlaying the delineated IPs with the actual NUTS3 regions in order to identify which NUTS3 regions represent IPs in Europe.

The project team will develop up to four different delineations of IPs in Europe, anticipating the different contextual dimensions that altogether constitute inner peripheries. The first delineation will be based upon access to regional centres (more precisely, we are looking at areas with a lack of access to these centres by car and rail transport), complemented by up to three more advanced delineations which take into account the access to selected services-of-general-interest (SGIs) and other variables.

5.3.2 Description and methodological approach

5.3.2.1 General remarks

Based upon the results of Activity 2.1, the basic characteristics of each delineation will be described by using the summary table as outlined in Table 3. The first delineation reflects the one already suggested in the TOR, i.e. based upon access to regional centres. The delineations 2, 3 and 4 have already been outlined in Chapter 2 of this report, but they need some more detailing in the coming weeks to be operationalized.

The table describes the background and objectives of each delineation approach, along with the needed variables and indicators, and how they relate to the theoretical concept of IP (i.e. what dimensions are covered).

Appropriate GIS layers will be compiled for each variable/indicator that should be taken into account (see Activity 3). These GIS layers will be compiled at the smallest possible spatial unit. Wherever possible, units below NUTS-3 level (i.e. grid or LAU-2 levels) will be used. However, due to data availability and the theoretical concepts for IPs, not all four delineations may be generated based upon grid or LAU-2 levels.

Table 3. Overview of delineation characteristics.

#	Delineation Name	Description / Thematic focus of delineation	Factors/Variables considered	Initial spatial unit
1	Access to regional centres by car and by public transport	Regional centres are considered as a proxy for administrative, economic and generally most important centres for SGI provision and for all social and economic activities. Areas experiencing a lack of access to such centres can thus be interpreted as 'inner peripheries'. This delineation accounts for the geographical distribution of regional centres, and for the existing transport networks connecting these centres with the surrounding territories.	- Geographical location (i.e. location of cities) - Population (via city size) - Accessibility / travel time - Physical factors (via transport networks)	grid
2	Economic potential interstitial areas	…	…	…
3	Areas of poor SGI access	…	…	…
4	Areas suffering from peripheralization	…		…

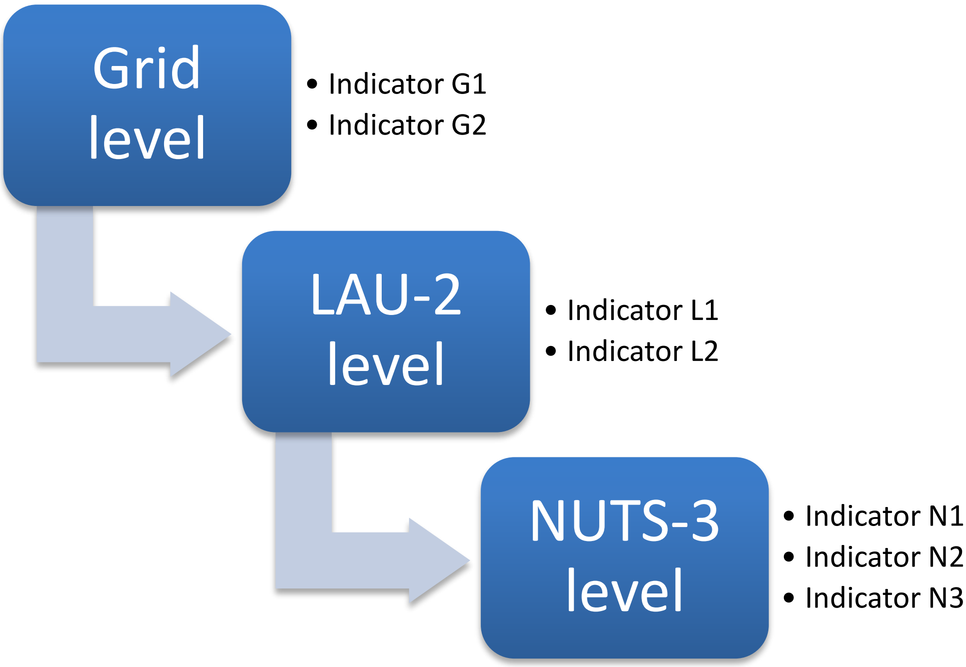
Source: own elaboration

Spatial levels

The delineation concept developed in Activity 2.1 tries to define the smallest spatial units possible (preferably grid level); however, due to data availability, not all delineations may be generated completely based upon grid or LAU-2 units as initial state. Considering the already difficulties in gathering local data covering all 32 ESPON countries experienced in previous project, the project team anticipates that some delimitations will be defined at grid or LAU-2 level, while the remaining one(s) will be defined at larger spatial scale. Alternatively, some variables may be applied initially at grid or LAU-2 level, while in a second step additional variables at NUTS-3 level are added in the delineation process.

If a delineation includes indicators that are only available for different spatial units, the actual delineation process in the GIS will start with those indicators available at the smallest level (for instance, grid level), followed by those indicators at the next higher level (for instance, LAU-2 level) and complemented by the indicators at the spatially higher level (for instance, NUTS-3 level).

Figure 1. Hierarchical approach by spatial level.



Source: own elaboration.

Following the delineation guidelines developed in Activity 2.1 (variables, spatial units, input data, thresholds, rules how to mathematically/statistically combine the variables), a dedicated script-based workflow will be developed in ArcGIS, with one script per delineation, which processes the various geographical and statistical input data (layers and tables) in several steps to generate the result, i.e. the delineation of IPs in Europe.

The advantage of using a script is that it can be modified and re-run at any time later in the project, for instance, if one wants to test different thresholds or wants to change the statistical combination rules of the variables. As this ESPON projects for the first time ever tries to develop a harmonized definition and delineation of IPs in Europe, it can be anticipated that some “trial & error” processes are needed in order to define the most suitable indicator combinations and in order to precisely define the needed thresholds.

The scripts will be developed with the help of the 64bit model builder in ArcGIS (i.e. ArcGIS' internal visual programming environment), and will basically reflect Python scripts. Acknowledging the spatially high disaggregation of the input data (grid data), as well as the complexity of the mathematical rules, the project team expects rather long processing times of the scripts (even on most powerful computer machines).

For each delineation, a minimum and maximum IP size will be defined. A minimum size threshold ensures that tiny spatial entities, which represent statistical artefacts of the applied variables rather than real-world IP situations, are avoided. A maximum IP size might also be useful in order to obtain real 'inner' areas, which are surrounded by well-developed areas, instead of obtaining very large areas which are de facto delimited by natural boundaries (such as coastlines) or national boundaries.

Overlay with NUTS-3 regions

Continuous areas of IP will be combined to one (large) 'IP area'. Continuous areas of IP that cross national borders will also be combined into one large IP area[6].

After the delineation of IPs in Europe, the IPs will be overlaid with the actual NUTS-3 regions in order to identify those NUTS-3 regions that represent IPs and areas of risk to become IP in the future. It is expected that there will be 50 to 100 IPs for each delineation (Activity 2.4). If possible, names will be attached to the identified IPs such as NUTS-3 region names or other 'official' or administrative names, and lists of these areas will be developed.

Based upon these results, a new typology on "inner peripheries" will be developed, differentiating NUTS-3 regions by the following three categories:

(i) inner periphery,

(ii) region at risk to become inner periphery in future, and

(iii) dynamic region.

This new typology will be handed over to ESPON in list form (Excel file).

[6] If they were not merged, the IP areas both sides of the border would not be considered as IP since they were located at the „edge" of the country.

Workflow

The entire workflow for the delineation of IPs and identification of areas at risk is illustrated in Figure 2. This workflow will be implemented for each delineation separately.

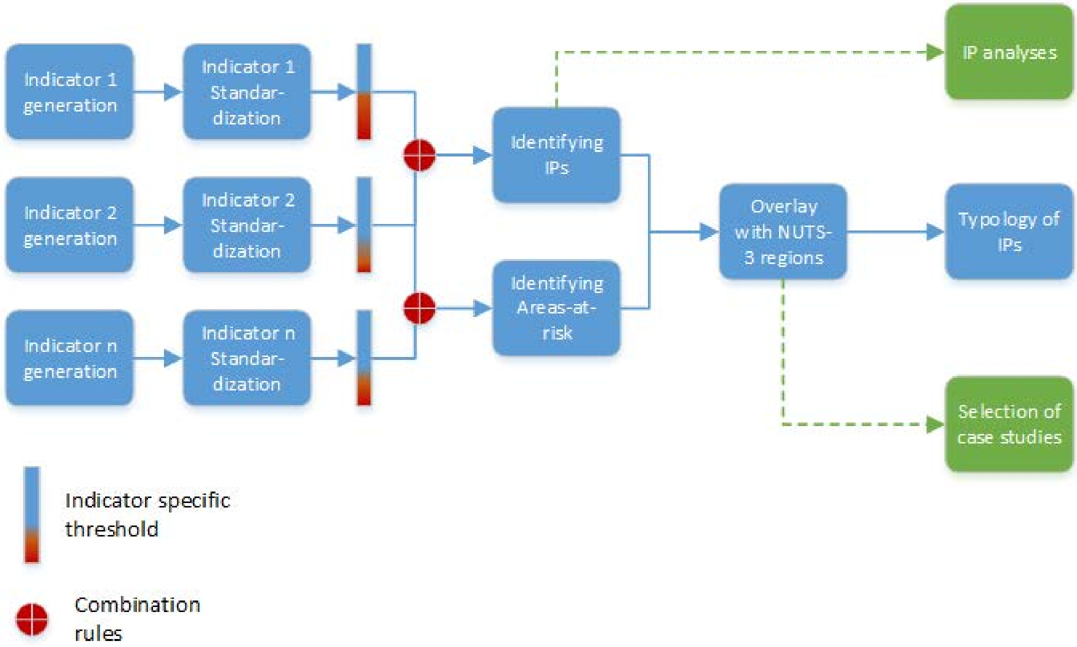


Figure 2. Workflow for delineating IPs.

All steps indicated with blue boxes and blue arrows will be implemented in a script. The green boxes are connected activities in other work packages, which are not covered by the script. The workflow starts with the generation of the indicators (which may involve processing of different types of input data, and/or application of models such as accessibility models and others), followed by the standardization of them. Then, IPs and areas at risk will be identified by applying the defined (indicator-specific) thresholds and combination rules. Next, NUTS-3 regions will be overlaid to identify those NUTS-3 regions that represent IPs, and to generate the IP typology.

5.3.2.2 Grid system

The initial delineation will be done at grid level (for geographical and accessibility indicators) (Figure 1). The entire territory of the 32 ESPON countries will be divided into regular raster cells (grid). Unlike the ESPON Reference Grids[7], which cover both land masses and the oceans, the PROFECY grid will only cover the land masses (European continent, plus islands).

[7] See actual ESPON Grid MapKit

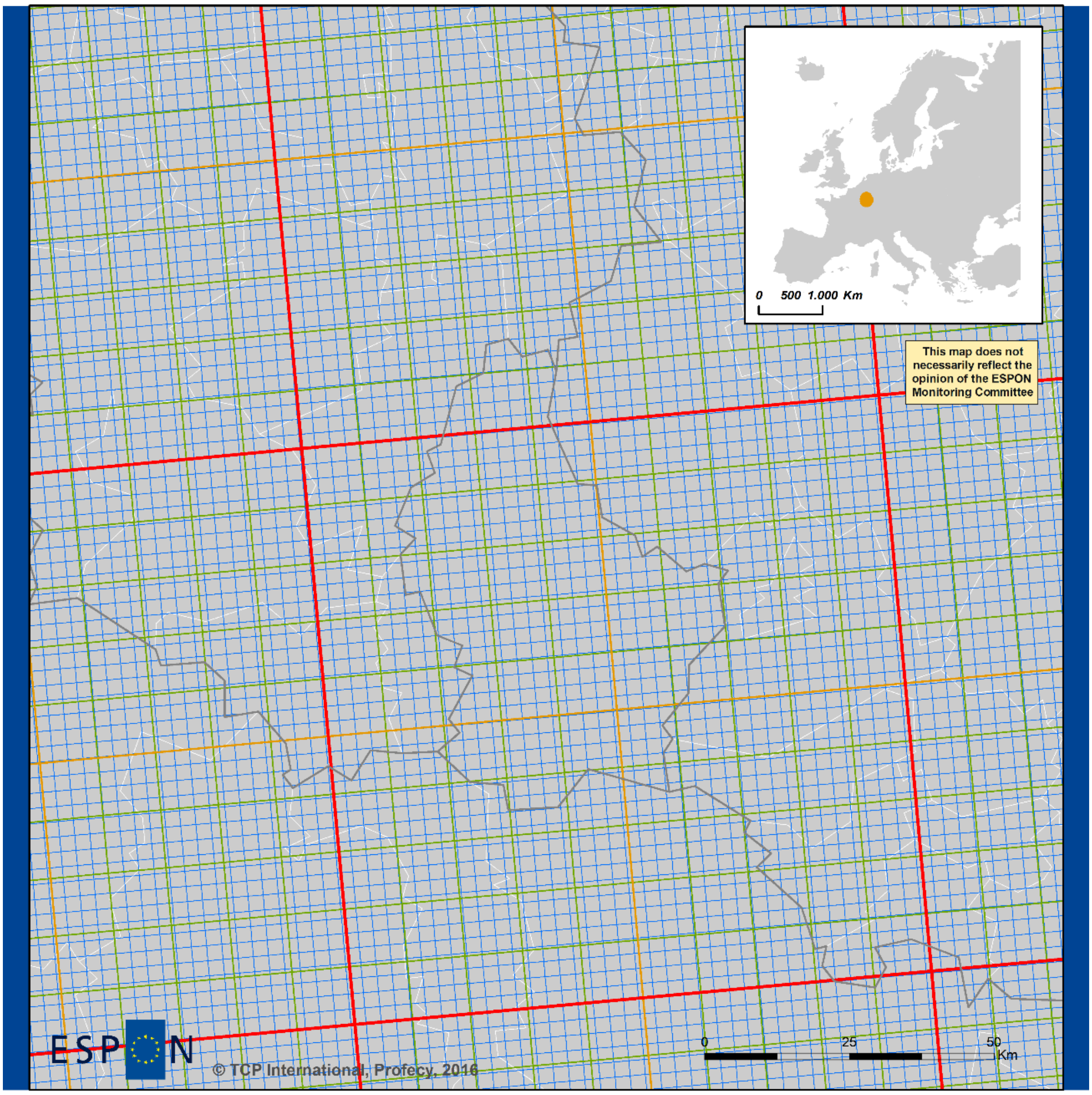
The choice of the grid resolution determines the results to a large degree. Generally, one can say that the finer the resolution (i.e. the smaller the area of each grid cell) is, the higher the accuracy of results will be. But the finer the resolution is, also the higher the total number of grid cells is and thus the longer the computational time is. Therefore, a good compromise between resolution and computation times needs to be found.

The three ESPON reference grids own resolutions of 10x10 km, 50x50 km and 100x100 kilometres, all of which, with the view of delimitating inner peripheries in Europe, seem to coarse. Another example is the population grid developed by the European Environment Agency, which owns am extremely high resolution of 100x100 meters, which is too overambitious for this project. The previous ESPON TRACC project already found a good compromise between both, by applying a raster system of 2.5 x 2.5 kilometres for entire Europe. It is proposed to use the same raster resolution in this project. Eventually, there will be 1,168,748 raster cells for all 32 countries under consideration (Table 4, Figure 3).

Table 4. Reference grids and their resolution.

Source	Resolution	Number of cells	Spatial coverage
ESPON reference grids	100x100 km	5,628	entire Europe, Caucasus, Northern Africa, incl. oceans (Atlantic Ocean, Arctic sea). Mediterranean Sea, Black Sea, Caspian Sea
	50x50 km	22,512	
	10x10 km	562,800	
ESPON TRACC	2.5x2.5 km	1,168,748	Entire Europe, including western parts of Russia and Turkey, no water bodies
EEA Population grid	100x100 m	3,621,725	EU Member States, no water bodies

Comparison of grid resolutions



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Spatial level: Grid systems
Source: ESPON Reference Grids, ESPON Database, 2016; ESPON TRACC, 2011.
© EuroGeographics Association for administrative boundaries

ESPO Reference Grids:
- 10x10 km
- 50x50 km
- 100x100 km

ESPON TRACC:
- 2.5x2.5km

- Country boundaries
- NUTS-3 region2

Figure 3. Comparison of grid resolutions.

5.3.2.3 Regional centres

Regional centres are considered as a proxy for administrative and economic activities, and for the provision of services of general interest (SGIs). The selection of an appropriate and harmonized set of cities is difficult since the system of cities and the way how and where services of general interest are provided, differ between the countries in Europe. For example, in the ESPON TRACC project all NUTS-3 region centroids as well as all cities with more than 50,000 inhabitants were considered as regional centres[8], which raised some debates in smaller countries where cities with less inhabitants are also considered as important regional centres in terms of administrative functions and SGI provision. The debates around the ESPON TRACC project called to include smaller cities (for instance, cities with more than 20,000 or even 10,000 inhabitants); on the other hand, in some countries small cities with population ranges between 10,000 and 20,000 are considered as residential towns, with only limited or no provision of public services. However, including cities of that (small) size in large countries such as France, Germany, Italy or the UK alike would probably lead to a situation where in such countries no IP areas would be identified at all. Therefore, we propose a hierarchical approach for the selection of regional centres for the first delineation, as shown in Table 5:

Table 5. Criteria for the definition of regional cities.

Criteria number	Criterion	Number of cities in 32 ESPON countries
1	all cities with more than 50,000 inhabitants	1,887
2	all NUTS-3 region centroids (whatever the population size is)	592 (in addition to (1))
3	all cities participating in Urban Audit Programme	1 (in addition to (1)+(2))
4	the 10 largest cities within each country if not already captured by the first three criteria (as long as more than 20,000 inhabitants)	36 (in addition to (1), (2) + (3))
Total number of cities		2,516

[8] Resulting in a total of approx. 1,700 regional centres in the entire ESPON space.

First, all cities with more than 50,000 inhabitants will be selected. Next, all NUTS-3 centroids that did not match the first criterion are added[9]. Then, all cities participating in the Urban Audit Programme are added (whatever their population number is), and finally additional cities are added to ensure that for each country at least the ten largest cities with more than 20,000 inhabitants are included[10].

Altogether, a total set of 2,516 regional centres for all 32 countries are identified by using these four criteria (Table 6 and Figure 4).

Table 6. Number of selected cities by country.

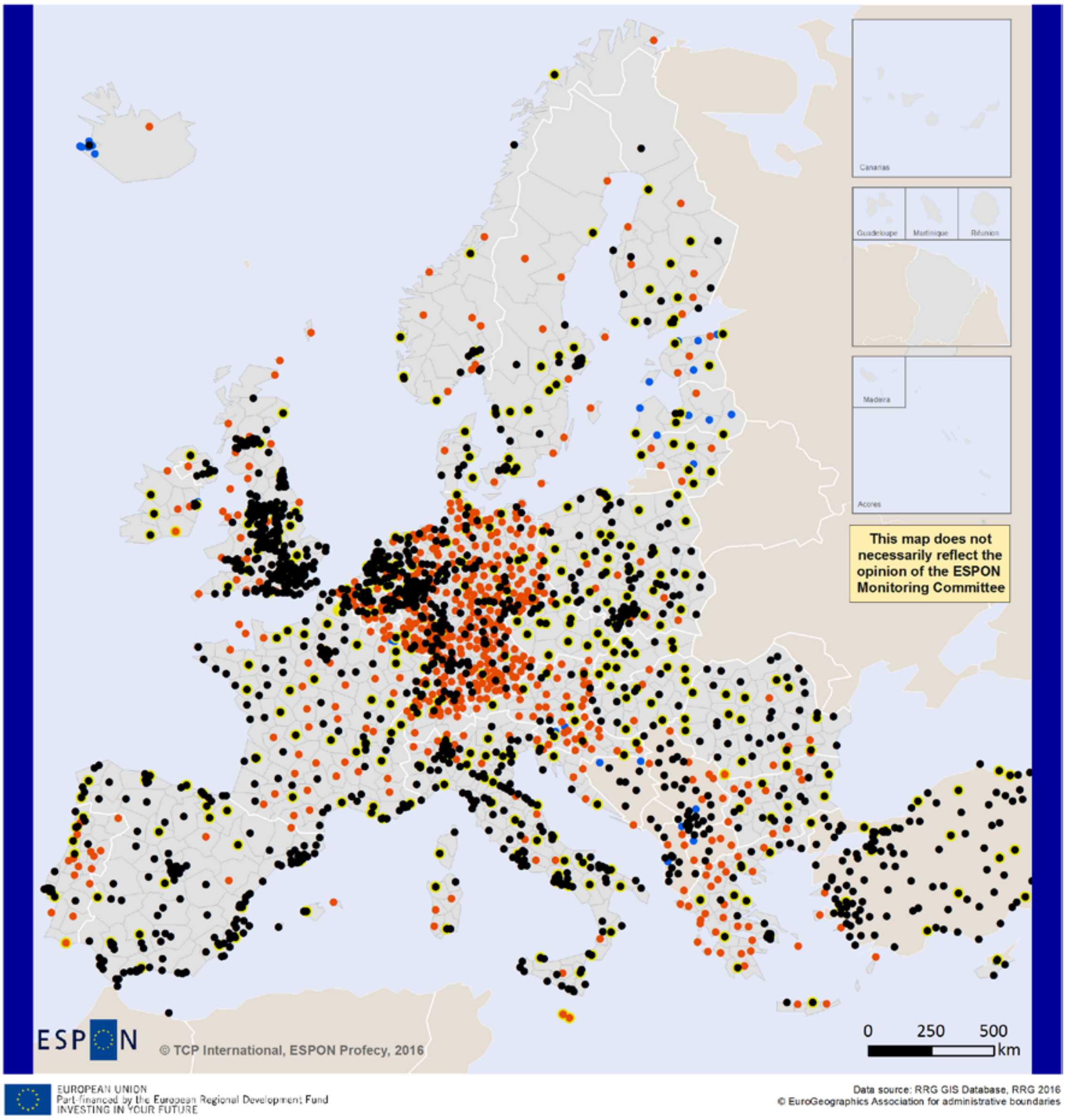
Country	Number of cities in selection set	Average population size	Top XX cities covered[11]
AD - -Andorra	1	22,546	1
AL - Albania	15	11,279	10
AT - Austria	36	90,452	11
BA – Bosnia Herzegovina	10	96,287	10
BE - Belgium	52	95,044	31
BG - Bulgaria	30	127,567	19
CH - Switzerland	29	61,998	10
CY - Cyprus	5	114,115	5
CZ – Czech Republic	21	158,435	21
DK - Denmark	19	106,659	15
DE - Germany	469	86,288	100
EE - Estonia	11	69,552	10
EL – Greece	75	66,237	20
ES - Spain	178	147,783	145
FI – Finland	25	110,926	15
FL - Liechtenstein	1	5,429	1
FR – France	167	101,977	107
HR - Croatia	19	99,884	14
HU – Hungary	23	160,415	20
IE – Ireland	13	86,012	10
IS - Iceland	10	23,930	10
IT - Italy	173	125,893	125

[9] Based on the assumption that the NUTS-3 region centroids by definition provide a certain amount of public and private services, such as general administration, banks, post offices, education facilities, shops etc. (otherwise they would hardly be considered as centroids).
[10] The fourth criterion was not applied to small countries like Malta, Cyprus, Andorra, Luxembourg or Liechtenstein.
[11] According to national population ranks of cities

KS - Kosovo*	14	73,047	14
LT – Lithuania	12	120,100	10
LU – Luxembourg	4	48,494	4
LV – Latvia	10	108,472	10
ME - Montenegro	2	97,343	2
MK -FYROM	10	88,036	10
MT - Malta	3	11,478	1
NL - Netherlands	75	106,795	67
NO – Norway	24	84,876	14
PL -Poland	104	146,442	86
PT - Portugal	38	82,705	19
RO – Romania	45	161,742	41
RS – Republic of Serbia	24	121,015	18
SE - Sweden	36	119,177	20
SI – Slovenia	16	50,599	10
SK – Slovakia	11	115,006	11
SM – San Marino	1	10,724	1
TR – Turkey	179	299,494	168
UK – United Kingdom	285	131,783	136

Table 6 shows some dynamic in terms of number of selected cities and their average population number between the countries, although the same criteria have been applied to all. The results thus reflect the specificities of the urban systems in the countries.

* Kosovo under UN Security Council Resolution 1244



Regional cities in Europe

- Criterion 1: Cities > 50,000 inhabitants
- Criterion 2: NUTS-3 region centroids and number of inhabitants < 50,000
- Criterion 3: Urban Audit City
- Criterion 4: additional cities (ten largest cities, if not included in criteria 1-3)

Figure 4. Regional centres in Europe.

5.3.2.4 Definition of first delineation – Access to regional centres

This first (simple) delineation is based upon the (lack of) access of areas to regional centres by car and by public transport. In a first step, the car and rail travel time from each grid cell to the nearest regional centre will be calculated. These two travel times will then be standardized at the national averages. Grid cells with a standardized travel time beyond a certain threshold[12] for both modes will be identified as "inner peripheries". In a second step, the concerned grid cells will be extracted. Continuous grid cell areas will be combined (merged) to form one (large) IP area. These IP areas will eventually be overlaid with current LAU-2/NUTS-3 region systems. Those NUTS-3 regions, whose major part overlap with the IP areas will be identified as "inner peripheries". The share of their overlaid territories will be recorded.

The delineation based upon access to regional centres will be generated for all 32 countries, i.e. including all candidate countries and Western Balkans. As Figure 4 shows, the required input data on regional centres and on the transport networks[13] are available with the project team.

5.3.2.5 Combining the different IP delineations

The results of the different IP delineations will be compared visually (i.e. delineations will be mapped), and statistically (i.e. size of IPs, proportion of IPs in relation to the country territory, number of LAU-2 and NUTS-3 entities concerned, population number).

A comparison of the results of all delineations will show which areas in Europe are considered as IP on only one, in two, in three or in all definitions. Areas identified as IPs in all definitions can be considered as the most problematic areas.

5.3.3 Main outputs for other sections of the project

The main outputs of these activities are the following:

- Up to 4 delineations of IPs and of areas at risk
- Identification and naming of IPs in Europe, as the basis for (input to)
    - the analysis of the status of IPs in Europe (WP 4)

[12] The actual threshold will be defined in Activity 2.1, and will be applied to the standardized indicator values.

[13] Road and rail networks will be taken from the RRG GIS Database, a GIS database of trans-European transport networks for entire Europe, which already includes attributes such as speed limits and travel speeds (and others), necessary for accessibility modelling.

- for the selection of case studies (WP 6)

- Assignment of NUTS-3 units to IPs
- A new ESPON typology on IPs (Excel file)
- Shapefile(s) of IP delineations
- Map series, illustrating the delineation results, the developed typology, as well as the individual variables and factors that were applied to produce the delineation

5.3.4 Conclusions and next steps towards the Interim Delivery. Challenges and strategies

5.3.4.1 Challenges

The following challenges can be anticipated when implementing these activities (Table 7):

Table 7. Anticipated challenges for the delineation of IPs.

Challenge	Description	Solution
Spatial level: delineation shall be done as far as possible below NUTS-3 level	Challenge for data gathering and thus for identification of suitable, i.e. practical variables	multi-level, practical approach: variables will be considered in the workflow at the spatial level they are available, starting with raster level, LAU-2 level and then NUTS-3 level
Data availability for entire ESPON space	we anticipate that data situation is different across ESPON, i.e. variables that would work in one country may not be available in another	data availability needs to be carefully considered already in WP 2.1 in the definition of the delineations. Variables that are available everywhere may be included in one delineation, while other delineations may only be implemented for parts of the ESPON space, or variables for which data is only available for a limited set of countries will be

		excluded at all.
IPs and areas of risk:	separating both by means of different thresholds may be tricky and may lead to intense debates with politicians	We may test different thresholds for selected test beds (i.e. apply them to certain subareas in Europe) to evaluate the outcomes and to discuss them with the Steering Committee.
Inclusion of statistical variables	while geographical and accessibility indicators may be considered rather easily, inclusion of small-scale statistical variables may be difficult	Careful selection of (statistical and geographical) variables in 2.1 while developing the concept
Differentiation of IPs from "traditional peripheries"	By definition, inner peripheries are lagging areas surrounded by areas of prosperity. While this theoretical definition might be clear, there may be situations in the practical IP delineation where, based upon the quantitative analysis, such a clear distinction between IPs on the one hand and traditional peripheries on the other hand might not be possible (for instance, in case of small islands, or in case of the Northern, peripheral areas in Scandinavia).	In order to avoid such practical pitfalls, the project team might decide, together with ESPON EGTC, to exclude specific areas, which are traditionally considered as peripheral areas, from processing. Such areas might include small islands (i.e. islands with only one or with no regional centre) and the Northernmost parts of Scandinavia (for instance, areas north of the Arctic Cycle).
Comparison and combination of all delineations	Since the different delineations apply various indicator sets and variables, they can hardly be combined into one overall delineation (i.e. each considers another dimension)	Results will be compared - Visually (mapping of delineations) - Statistically (size, area, number of NUTS-3 units) - List form

5.3.4.2 Next steps

The next steps under these activities are closely linked to the results of Activity 2.1 and to the data collection activities in WP 3:

(i) Implementation of the grid system for the entire study area (i.e. ESPON space)
(ii) Compilation of a GIS layer on regional centres in Europe (see WP 3)
(iii) Preparation of road and rail transport network layers (see WP 3)
(iv) Setting up the accessibility model (calibration) and preparing scripting environment in ArcGIS
(v) Implementation of the methodological (theoretical) concept for IP delineation (output of Activity 2.1) into the GIS

5.4 Overview on data to be used and plan for overcoming challenges in data collection

Carsten Schürmann (TCP International)

5.4.1 Objectives

Work package 3 on data collection and data processing has four main objectives:

1. Developing an actual overview of data availability in correspondence with the datasets proposed in the ToR, as well as with the data needs identified in Activity 2.1 as part of the development of the theoretical concept. (Activity 3.1)
2. Collecting the identified datasets, and building the overall database of GIS and statistical datasets (filling data gaps, processing data, converting data formats, …) (Activity 3.2)
3. Development of the database and calculation/generation of the indicators including modelling of GIS-based and of accessibility indicators (Activity 3.3)
4. Indicator mapping and preparation of contributions to the ESPON database.

5.4.2 Description and methodological approach

5.4.2.1 General remarks

The activities under WP 3 have a serving function for the other work packages. WP 3 will not generate, or obtain, substantive content-wise findings, but it provides a sound and necessary quantitative basis for all other work packages through its data collection and indicator generation activities. WP 3 is subdivided into four activities on data review (Activity 3.1), data gathering and indicator generation (Activity 3.2), database development (Activity 3.3), and mapping (Activity 3.4).

5.4.2.2 Review of data availability

In this activity, an overview about the actual data availability at grid, LAU-2, NUTS-2 and NUTS-3 levels for 32 countries (28 EU countries plus Switzerland, Liechtenstein, Norway and Iceland) is given for the main required datasets, as identified already identified in the ToR and after initial discussions with responsible Activity 2.1 experts.

Basically, the delineation and characterization of Inner Peripheries in Europe require different GIS datasets as well as statistical data. For both type of data, and for those datasets required for the delineation of IPs in Europe, the project team strives to compile a complete geographical coverage for the ESPON space, at the smallest spatial level possible.

Additional datasets, that will only be used for the characterization and analysis of IPs, do not necessarily be collected for the entire ESPON space, but for the territories of the selected case studies (see Activity 6.2). In order to allow for a small-scale analysis of these case study areas (Activity 6.4), these additional datasets need to be collected at very local level (preferable LAU-2) from national data sources.

Table 10 gives an overview about data availability of potentially required datasets. The table describes the needed geographical scale (or unit) and the spatial coverage, identifies potential data sources, describes the available years, and indicates its usage, whether the dataset is required for the delineation of IPs ('D' in column Use), for the characterization and analysis of IPs ('A'), or for both ('DA'). This column, however, is subject to revisions reflecting the theoretical concept developed in Activity 2.1.

While Table 8 gives a general overview about the data sources for entire Europe, a detailed assessment of the data situation in the Candidate countries and Western Balkans is given in Table 11. An additional overview about existing accessibility indicators calculated in previous (ESPON) projects is provided in Table 10.

Table 8. Overview on data availability of potentially required datasets.

Dataset	ToR list	Required geographical scale/unit	Data source(s)	Country coverage / comments	Avail. Year(s)	Use
GIS layers						
Regional centres	(a)	x-/y coordinates (GIS point layer)	RRG GIS Database	32 countries, including ESPON countries, EU Candidate countries and Western Balkans	2016	D
Urban morphological zones (UMZ)	./.	Polygon GIS layer	ESPON Database	EU Member States The UMZ layer may be used to delineate IPs (i.e. IPs should not include UMZ, or only small UMZ should be included)	2012	
Road network ** Rail network **	./.	Alignment of roads and railways (GIS line and point layers)	RRG GIS Database, OpenStreetMap (OSM)	Entire Europe (32 countries as study area, plus remaining European countries to allow for reasonable generation of shortest paths). Road and rail networks are needed to generate the required accessibility and travel time indicators.	2016	
Corine land cover ****		Raster GIS layer (100x100 m), and vector polygon data	EEA	Europe (excluding Russia, Belarus, Ukraine, Moldova) Can be used as part of the case studies to characterize the case study areas	1990, 2000, 2006	A
NUTS regions (levels 2		Polygon GIS	ESPON Database /	European Union plus Candidate countries	2006, 2010,	DA

and 3) ***		layer(s)	ESPON MapKit (ESPON Database project) Eurostat GISCO	and Western Balkans (special layer provided by ESPON EGTC) NUTS layers are needed for identifying the NUTS-3 regions representing IPs, and for analysing the IPs in Europe.	2013	
LAU-2 units ***			EUROSTAT GISCO	EU Member States, EFTA States, certain Candidate countries. Shapefile includes harmonized population figures for 1961, 1981, 1991, 2001, and 2011; these can be used to delineate the IPs and to analyse the population dynamics within the IPs	2011	
Highway ramps	(e, III)	x-/y coordinates (GIS point layers)	RRG GIS Database, OSM	Highway ramps and train stations are available for entire Europe. Tram and metro stations are available for those cities owning tram and metro systems. We have some doubts whether tram and metro stations are a useful indicator for IPs, since usually they are located in large cities or urban conurbations, and are normally not located in potential IP areas.	2015, 2016	D
Train stations						
Tram and metro stations						
Bus stations			OSM	Basically data from OpenStreetMap are available as GIS layers for entire Europe (i.e. EU Member States, ESPON states, Candidate countries and Western Balkans); however,	2016	DA
Health (general doctors, childbirth facilities, emergency care,	(e, I)		OSM, Wikipedia (List of hospitals in Europe)			

pharmacies, retirement homes)			RRG GIS Database (hospitals) National Sources	OSM will give no guarantee about the completeness of these datasets. Usually, for some countries OSM already has a very good coverage close to 100%, while for other countries the coverage is poorer. Therefore, additional data sources need to be consulted to verify / complement the OSM data. The RRG GIS Database already includes European-wide GIS point layers on hospitals and universities, which in the past have already been utilized in different projects (for instance, recently ESPON TRACC, mountain study of DG Regio). For Kosovo, the annual health statistics published by ASK include lists of university clinics, hospitals, family medicine centres and Primary Health Care Centres in Kosovo which can be used to check OSM data. Similarly, AKS published lists of education facilities (schools and universities) as part of their annual education statistics.		
Education (primary schools, secondary schools, higher education, professional training programmes)	(e, II)		OSM, OpenEducation Europe, Enic-Naric.net RRG GIS Database (universities)			
Culture (cultural centres, cinemas, theatres)	(e, IV)		OSM			
Shopping (super markets, shopping centres)	(e, V)		OSM, European Shopping Centres database (www.shoppingcentres-index.com)			
Businesses (banks, tax experts)	(e, VII)		OSM, European Banking Federation, National Banking Federations			
Statistical data *						
Population (absolute, development)	(b)	Grid, LAU-2, NUTS-3	ESPON database (filling data gaps),	Different statistical datasets on population available in ESPON database, at Eurostat	1990-2013, partly data	DA

			Eurostat GISCO, EEA (grid) National statistical offices	and at national statistical offices Eurostat GISCO provides population data for 1961, 1981, 1991, 2001, and 2011 as part of its LAU-2 geodataset (see above). EEA developed a population (density) grid for EU Member States for the year 2000.	are already available until 2015	
Births, total		NUTS-3	ESPON database (filling data gaps), Eurostat National statistical offices		1990-2012	A
Gender balance / gender imbalances					1990-2013	
Net migration (total)	./.	NUTS-3	ESPON filling data gaps National statistical offices		1991-2012	A
Economic activities:	(c)	Ideally at NUTS-3 level Actual data availability at various levels, usually NUTS-2 and NUTS-3	ESPON database, Eurostat National statistical offices	32 countries.		DA
GDP per capita					2001-2013	DA
Old age dependency ratio					2009	A
Economic resilience						
Employment & unemployment					2005-2011	
Price of property markets	(d)	NUTS-3, LAU-2	ESPON database, Eurostat, National Statistical	If this data cannot be gathered for all 32 countries, data may be collected for case study areas-		A

Jobs	(e, VI)		Offices	'Jobs' do not represent 'access points' in the mere sense. The project team makes a proposal in Table 9 how to replace this data with a more reasonable approach.		DA
Accessibility potential by road and rail	./.	NUTS-3	ESPON database, ESPON TRACC project, ESPON Matrix project	ESPON space. In addition to the indicators on access to services, the more general indicators on accessibility potential (latest updates by ESPON Matrix project) might be used to characterize IPs.	2001, 2006, 2011, 2014	A
Daily accessibility by road, rail and fastest mode					2011	
Availability of urban functions by road and rail		Grid, NUTS-3				
Broadband connection	(e, VII)	Country level	ESPON database, Eurostat	These data do not represent 'access points' as suggested by the ToR, rather they represent statistical measures. The project team makes a proposal in Table 9 to replace these data with a more reasonable approaches towards delineation of IPs.	./.	A
Commuting flows	(e, VI)	Flows between regions			./.	
Typologies						
Urban-rural typology developed by DG Agri & DG Regio	./.	NUTS-3	ESPON database	The typologies may be used as spatial categories as part of the analysis and characterization of IPs. How relate IPs to these type of areas? To what extent do they overlap? Where are overlaps, where are deviations?	Typologies developed in various years (urban rural: last update 2012;	A
Urban-rural typology incl. remoteness to cities						
Typology based on mountain regions (DG						

Regio study on mountain areas)					mountains: 2004; border regions: 2007- 2013)	
Typology of border regions						
Basic typology of morphological urban polygons			ESPON TOWN project		2006	

** as an output of Activity 2.1, we may add further statistical variables needed to characterize and describe the status of IPs in Europe.*

*** these datasets were not explicitly mentioned in the ToR, but are required by the accessibility model to generate accessibility indicators.*

**** these datasets were not explicitly mentioned in the ToR, but are needed for the statistical analyses of the Inner Peripheries, and are furthermore needed to produce all the maps for this study.*

***** this layer was not mentioned in the ToR, but could be useful for the description of case studies in WP 6.*

For the access points suggested in the ToR (i.e. 'e'-datasets), the project team will either collect a list of these facilities with the relevant addresses (full address information including street name and house number, zip code, city name and country name), or a GIS layer where these facilities are already georeferenced. In the former case, the project team will georeference the facilities based upon the address information, to obtain a GIS point layer for this type of access point. There will be one GIS layer generated for each type of service. In case of OpenStreetMap, the project team will already download a point layer of these facilities.

Some datasets, like jobs, labour market, commuting flows or broadband connections, suggested in the ToR, do not represent 'access points' or 'service categories' in the mere sense, but rather statistical information attributed to spatial entities, such as statistical measures (jobs), economic concepts (labour markets) or actually flows (commuting flows); Table 9 provides a proposal how to replace these datasets by a new approach that is still trying to capture the underlying idea – access to work. It is however part of Activity 2.1 to discuss whether this approach is relevant for the delineation or characterization of IPs in Europe.

For many access points, OpenStreetMap (OSM) GIS database will be the first data source to be reviewed. OSM already provides a European-wide (in fact, world-wide) coverage of geographical features, including Candidate Countries and Western Balkans, basically covering all the requested access points. Nevertheless, when working with OSM data special consideration needs to be given in relation to:

- *Complete coverage of all access points*: OSM does not give any warranty that there is a complete coverage of these access points in all parts of Europe. Particularly rural and peripheral regions of Europe may encounter gaps in the coverage of access points. In relation to the delimitation of IPs in Europe, a lack of facilities in OSM may lead to overestimation of IP areas. Therefore, additional information and alternative data sources will be explorer to check completeness of OSM data.
- *Multiple-counting*: Sometimes access points appear more than one time in the OSM database. For instance, if a facility (like hospital, university) is composed of several buildings, every single building might be labelled accordingly, which would increase the number and locations of these facilities. Assuming that individual buildings of hospitals or universities are in fact located close to each other, this circumstance

does not affect the delineation of IPs in Europe, where the travel time from each grid cell to the closest facility is of prime interest.

- *Feature types*: Internally, OSM stores real-world features as points, ways, or relations. Usually, access points are stored as simple points; however, there might be cases where access points are also stored as ways or relations. When exporting the facilities from OSM, the project team will check and take care that ways and relations are exported accordingly.
- *Actually*: Even though the OSM Community appears to be very active in many parts of Europe, actuality of every bit of information is not guaranteed. Most recent changes to the existence of access points might not be reflected in OSM. This is a general problem not only affecting OSM, but which affects every potential data source. Double-checking the OSM information with other data sources will minimize this risk.

The ToR already provided clear guidelines for data gathering for the different datasets, which implicitly means that these data should be used in one way or the other either for the delineation of IPs or for their characterization/analysis. According to the ToR, datasets on a, b, c, and if possible on d (see second column of **Table 8**) shall be collected by the project team; in addition, 'e'-datasets should be gathered as follows (page 7, ToR): at least two datasets on health, two on education and two on transport; at least one on culture, one on shopping, and one on work and one on business (i.e. ten in total).

The proposals of the project team on data collection are presented in Table 9. As regards the 'e'-datasets, the project team was primarily guided by theoretical considerations (instead of purely considering data availability): some of the proposed facilities are usually considered as high-quality goods or services, which normally are only provided in large cities (such as theatres) and not in rural areas or peripheral areas. If they usually cannot be found in the latter areas, they should not be used to delineate IPs. Thus, emphasis was given to select those facilities that are more likely to be found outside cities and outside agglomerations in the countryside, in rural and mountainous regions, in border regions etc. In order to follow the example of the theatre: instead of collecting theatre data, the project team suggests to collect data on cinemas.

Table 9. Proposal for data gathering.

Dataset (ToR)	Data description	Data gathering	Comments and proposals
a	Regional centres and access to regional centres	☒	
b	Demographic development including gender balance, population density, ethnic minorities	☒	
c	Economic activity	(☐)	The definition of this dataset is still unclear. The following data may be used: GDP per capita, old-age dependency ratio, employment, unemployment, jobs. Further elaborations on the theoretical concept will operationalize, which of these indicators are useful for PROFECY. A decision will thus be postponed.
d	Price development of property markets	☐	A complete data gathering for all 32 countries is unlikely; it will be assessed whether such data can be collected for the selected case studies at LAU-2 or urban level.
e	Access points and access to the following service categories:		
	(i) Health: general doctors, childbirth facilities, emergency care, pharmacies, retirement homes	☒	The project team proposes to collect data on ***general doctors***, ***emergency care*** (hospitals) and ***pharmacies***.
	(ii) Education: primary schools, secondary schools, higher education, professional training programmes	☒	From the point of view of IPs, ***primary*** and ***secondary schools*** are most important to prevent areas from being marginalised.
	(iii) Transport: train stations, bus, tram and metro stations,	☒	The project team proposes to collect data on ***train***

	access to highways		***stations*** and ***motorway (highway) ramps***.
	(iv) Culture: culture centres, cinemas, theatres	☒	All three types of facilities mentioned are usually considered as high-quality goods. From the point of view of IPs, ***cinemas*** are those facilities that usually one can find most often, even in rural areas.
	(v) Shopping: super markets, shopping centres	☒	The project team proposes to collect data on ***supermarkets***.
	(vi) Work: jobs, labour market, commuting flows	☐	All these three datasets do not really represent 'facilities' in the mere sense. The project team thinks of two approximations: ***First***, statistical data on employment could be used to calculate 'access to employment' indicator; however, it will be difficult to gather employment data for all 32 countries at NUTS-3 level or below. ***Second***, assuming that jobs are located within urban zones, and that urban zones are the centres of labour markets and the destination of commuting flows, one could calculate an indicator of 'access to UMZ'. The project team prefers the second option.
	(vii) Business: banks, tax experts, broadband connection	☒	The project team proposes to collect data on ***banks***.

Depending on the progress made in Activity 2.1 as regards the theoretical and conceptual framework for the delineation and identification of IPs, above ***Table 8*** and

Table 9 +(further needed datasets added, or unnecessary datasets removed), as required.

5.4.2.3 Data gathering and building for the ESPON space

In this activity, the required groups of data will be gathered from the identified data sources (see above) for the entire ESPON space[14]. The distinction made in Table 8 above between GIS data and statistical data is important since they require different ways and methods of data collection and data processing.

The GIS datasets will be collected and processed by TCP International. While the required data sets on transportation networks (road, rail, stations, hubs etc.) are already available in the needed spatial coverage and detail from the RRG GIS Database and from OpenStreetMap (OSM), uncertainty exist as to whether the requested GIS datasets on access points (SGIs) are completely covered in data sources like OSM. The project team will need to check for data gaps, and will try to fill these gaps by utilizing nation-specific additional sources. In any case, the GIS datasets will be processed in a way that they comply with the input requirements of the accessibility model available with TCP International. Depending on the specific dataset, the following steps might be required:

- Harmonization of projections of GIS layers
- Conversion of file formats
- Filtering of data (unselecting unnecessary elements)
- Adding specific attributes required for modelling, and deleting unnecessary fields (in order to keep the database as small as possible)
- validation of objects
- test for completeness

[14] We propose to exclude the outermost regions of France, Spain and Portugal, from the project. Although all of them are considered peripheries, none of them can be considered as “inner peripheries”. In case of the islands, each island of course has its “regional centre” (some of them with a significant population, though), but they lack a system of centres which allow to build some form of inner peripheries between them. In case of Guyana, almost 80% of its territory is covered by tropical rainforest, and only small towns exist along the coast line. Thus, the concept of inner peripheries is not applicable to Guyana.
The project team proposes, therefore, not collect any data, whether GIS layers nor statistical data, for Canary Islands, Guadeloupe, Martinique, Reunion, Guyana, Madeira, and the Azores.

- filling of data gaps
- merging into single layers

Parts of these steps will be implemented with the help of specific scripts/models within ArcGIS.

The needed statistical data will be collected by University of Valencia, according to the specifications developed in Activity 2.1 as part of the conceptual framework. First, the identified central databases like Eurostat and the ESPON Database will be explored. Even though content-wise both databases partly overlap, for some needed datasets the ESPON Database may the primarily data source since it already includes complete datasets, as earlier ESPON projects already filled data gaps which exist in Eurostat datasets. If individual data sets are not available from Eurostat or from ESPON database, or if the existing datasets entail gaps, additional country-specific data sources from national statistical offices (NSOs) and from other data vendors will be explored.

5.4.2.4 Development of databases and indicators for IPs

In Activity 3.3 all collected and generated datasets (both GIS layers and statistical data) will be combined into one central and comprehensive database. Due to the expected size of the GIS layers (inter alias, 2.5x2.5 km grid system for entire ESPON space), it is recommended to use ESRI´s File Geodatabase format for this database. A File Geodatabase is able to accommodate both GIS layers and statistical tables. The layers may be grouped by themes (so-called feature datasets). A file geodatabase provides an efficient and fast database gateway, and allows to store layers of any size[15].

This database will then be used in different activities, such as

- Delineation of inner peripheries (Activity 2.3)
- Identification of 50-100 IPs in Europe and of areas at risk (Activity 2.4)
- Mapping of indicators and results, and production of learning materials (Activity 3.4)
- Analysis of the status of IPs (Activity 4)
- Selection of case studies (Activity 6.2)

[15] Unlike, for instance, ArcView Shapefiles, ArcInfo Coverages or Personal Geodatabase, all of which own certain file size limits, a File Geodatabase is not restricted by such limits.

- Implementation of case studies (Activity 6.3)

i.e. the entire project team will eventually utilize this database for various activities.

In parallel to the development of the overall database, Activity 3.3 is also concerned with the calculation and generation of indicators. Generally, two cases can be distinguished here:

Case 1: Statistical data

Statistical data, retrieved from statistical data sources such as ESPON database, Eurostat, national statistical offices and others, may be processed in various ways to transform the input data (usually stock numbers) into policy-relevant and project-related indicators. Depending on the indicator in question, different statistical input data such as population numbers, GDP and others may be combined, normalized, and eventually standardized to obtain the required indicator. The selection of the required indicators is done in Activity 2.1 as part of the development of the IP concept.

Case 2: GIS data and accessibility indicators

Some of the foreseen indicators require GIS processing, mainly the different types of accessibility indicators. By definition, these indicators cannot be retrieved from statistical data sources, but represent output of certain types of (accessibility) models. Although previous (ESPON) projects[16] already generated a rich variety of different accessibility indicators, among them some projects that already implemented small-scale grid-based approaches, the existing indicators cannot simply be applied by PROFECY mainly because of the following four reasons, as Table 10 shows:

- *Spatial extent*: The existing indicators were only calculated for selected case studies or for certain areas in Europe, i.e. they lack a European-wide coverage.
- *Spatial level*: The existing indicators were calculated for NUTS-3 or NUTS-2 levels, i.e. spatial levels that appear to coarse for PROFECY (grid level or LAU-2 level is required).

[16] Such as ESPON 1.2.1, ESPON Geospecs, ESPON TRACC, and ESPON Matrices project, just to mention some.

- *Indicator definitions*: The definitions of the existing indicators do not fully comply with the PROFECY requirements.
- *Reference year*: Some existing indicators were already calculated some years ago, i.e. given the rapid development of the transport networks and of the provision and location of SGI facilities, these indicators may already require updates.

Table 10 compares the accessibility indicators proposed in the ToR of PROFECY with corresponding indicators already calculated in previous (ESPON) projects, and how their definition, spatial level, coverage and reference year would fit for PROFECY. Only such projects are referenced, which utilized grid approaches for the accessibility calculations.

Table 10. Proposed accessibility indicators - Assessment of usability of existing indicators calculated in previous studies.

Proposed accessibility indicator (ToR)	*Project*	*Indicator name*	*Spatial level*	*Coverage*	*Year*	*Assessment*
Access to region centres	ESPON TRACC	Availability of urban functions	2.5x2.5 km grid	Europe	2011	The existing indicator is defined as the number of cities with more than 50,000 inhabitants that can be reached within 60 min travel time. For the delineation of IPs, we rather need to know the travel time from each grid cell to the nearest centre.
		Access to regional centres	2.5x2.5 km grid / LAU-2	7 case studies		The existing indicator is calculating the travel time to the nearest regional centre. For the delineation of IPs, we however need a full European coverage at grid level for the actual year.
	BSR Interreg IIB[17]	Car and rail travel times to large cities	2x2 km grid / NUTS-3	Baltic Sea region and North-East Europe	2006	The travel time from each grid cell to the nearest city with more than 50,000 inhabitants was calculated for the following countries: Norway, Sweden, Finland, Baltic States, Belarus, Poland, Slovakia, Czech Republic, Germany, Benelux countries, and Denmark. For the delineation of IPs, we however need a full European coverage at grid level for the actual year.
	StMWIVT[18]	Accessibility to central locations (local and central	100x100 m / LAU-2	Bavaria	2007	The travel time by car and by public transport from each grid cell to the nearest central place was calculated for the territory of Bavaria, and then averaged to LAU-2 level. While the general approach is similar to PROFECY, results are only available for

[17] Schürmann, C.; and Spiekermann, K. (2006): *Accessibility analysis of the Baltic Sea Region*. Study for the BSR INTERREG IIIB Joint Secretariat within the framework of the preparatory process for the BSR Transnational Programme 2007-2013. Dortmund und Oldenburg: S&W, RRG. [unpublished study]

[18] Schürmann, C. And Spiekermann, K (2010): *Erreichbarkeit ausgewählter zentralörtlicher Einrichtungen in Bayern*. Abschlussbericht. Studie für das Bayerische Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie (StMWIVT). München: StMWIVT.

		regions)				Bavaria. The grid resolution of 100x100 meters was extremely high, which was perfectly for the Bavaria case study, but which is not applicable for a European-wide approach.
Access to health care	ESPON TRACC	Access to health care facilities	2.5x2.5 km grid / LAU-2	7 case studies	2011	The existing indicator is calculating the travel time to the nearest hospital. For the delineation of IPs, we however need a full European coverage at grid level.
		Potential accessibility to basic health care				The existing indicator is calculating the potential accessibility to all basic health care facilities / doctors. For the delineation of IPs we would need a travel time indicator seamlessly for the entire 32 requested countries at grid level.
	StMWIVT	Erreichbarkeit von Einrichtungen des Gesundheitswesens *(accessiblity of health-care facilities)*	100x100 m / LAU-2	Bavaria	2007	Individual travel times by car and by public transport from each grid cell to the nearest doctors, dentists, pharmacies and hospitals were calculated for the territory of Bavaria, and then averaged to LAU-2 level. While the general approach is similar to PROFECY, results are only available for Bavaria. The grid resolution of 100x100 meters was extremely high, which was perfectly for the Bavaria case study, but which is not applicable for a European-wide approach.
	Sør-Norge[19]	Kjøretid med bil til sykehus *(car travel time to hospitals)*	1x1 km / LAU-2	Southern Norway	2010	Car travel times from each grid cell to the nearest hospital were calculated, and then averages to LAU-2 level. While the general approach is similar to PROFECY, results are only available for Southern Norway. The grid resolution of 1x1 km seems too high for entire Europe.
	European Parliament[20]	Car travel times to hospitals	2.5x2.5 km/ NUTS-3	European Union, Norway and	2007	Car travel times to nearest hospital is calculated from each grid cell, and later aggregated to NUTS-3. This indicator is concerned with facilities of higher education. Spatially, data for Baltic

[19] Arnese, T.; Overvåg, K.; Gløersen, E.; Schürmann, C.; and Riise, Ø. (2010): *Fjellområder og Fjellkommuner i Sør-Norge*. ØF-rapport 08/2010. Lillehammer: Østlandsforskning.
[20] European Parliament, DG Internal Policies of the Union (2007): *Regional disparities and cohesion: What strategies for the future*? IP/B/REGI/IC/2006-201. Brussels: European Parliament.

				Switzerland		States, Czech Republic, the UK, the Candidate countries, Western Balkans and Iceland are missing.
Access to education	ESPON TRACC	Availability of secondary schools	2.5x2.5 km grid / LAU-2	7 case studies	2011	The existing indicator is defined as the number of secondary schools within 30 min travel time. For the IP delineation we would need travel time to next facility with full European coverage at grid level.
	StMWIVT	Erreichbarkeit von Schulen *(access to schools)*	100x100 m / LAU-2	Bavaria	2007	Individual travel times by car and by public transport from each grid cell to the nearest primary and secondary schools were calculated for the territory of Bavaria, and then averaged to LAU-2 level. While the general approach is similar to PROFECY, results are only available for Bavaria. The grid resolution of 100x100 meters was extremely high, which was perfectly for the Bavaria case study, but which is not applicable for a European-wide approach.
	Sør-Norge	Kjøretid med bil til universitet eller høyskole *(car travel time to universities)*	1x1 km / LAU-2	Southern Norway	2010	Car travel times from each grid cell to the nearest university were calculated, and then averages to LAU-2 level. While the general approach is similar to PROFECY, results are only available for Southern Norway. For PROFECY, we should also look into schools rather than high-education facilities. The grid resolution of 1x1 km seems too high for entire Europe.
	European Parliament	Car travel times to universities and polytechnics	2.5x2.5 km/ NUTS-3	European Union, Norway and Switzerland	2007	Car travel times to nearest university and polytechnic is calculated from each grid cell, and later aggregated to NUTS-3. This indicator is concerned with facilities of higher education. Spatially, data for Candidate countries, Western Balkans and Iceland are missing.
Access to train stations	ESPON TRACC	Access to high-level transport infrastructures	2.5x2.5 km grid	Europe	2011	The existing ESPON TRACC indicator was defined as the average travel time from each grid cell to all motorway ramps, rail stations and airports for entire Europe. This definition could be applied in this study; if train stations and highway ramps are to be considered separately, a new calculation is needed.

	BSR Interreg IIB[21]	Car travel time to rail stations	2x2 km grid / NUTS-3	Baltic Sea region and North-East Europe	2006	The travel time from each grid cell to the nearest passenger train station was calculated for the following countries: Norway, Sweden, Finland, Baltic States, Belarus, Poland, Slovakia, Czech Republic, Germany, Benelux countries, and Denmark. For the delineation of IPs, we however need a full European coverage at grid level for the actual year.
	Sør-Norge	Kjøretid med bil til jernbanestasjoner *(car travel time to rail stations)*	1x1 km / LAU-2	Southern Norway	2010	Car travel times from each grid cell to the nearest railway station were calculated, and then averages to LAU-2 level. While the general approach is similar to PROFECY, results are only available for Southern Norway. The grid resolution of 1x1 km seems too high for entire Europe.
	European Parliament	Access to main rail stations	2.5x2.5 km/ NUTS-3	European Union, Norway and Switzerland	2007	The indicator is defined as the car travel time from each grid cell to the next passenger train stations; travel times were also aggregated to NUTS-3. This indicator perfectly matches the PROFECY requirements, except that data for the Candidate Countries, Western Balkans and Iceland are missing, and that the indicator is somewhat outdated.
Access to highways	ESPON TRACC	Access to high-level transport infrastructures	2.5x2.5 km grid	Europe	2011	The existing ESPON TRACC indicator was defined as the average travel time from each grid cell to all motorway ramps, rail stations and airports for entire Europe. This definition could be applied in this study; if train stations and highway ramps are to be considered separately, a new calculation is needed.
	European Parliament	Access to national roads	2.5x2.5 km/ NUTS-3	European Union, Norway and Switzerland	2007	The indicator is defined as the car travel time from each grid cell to the next national road, which were then aggregated to NUTS-3. For PROFECY, we should make a distinction between access to high-level roads (i.e. motorway ramps), and the remaining national roads. Calculating access to all national roads does not result in distinct spatial patterns. Spatially, the existing indicator lacks data for Candidate countries, Western Balkans and Iceland.
Access to	ESPON	./.	./.	./.	./.	So far such indicators have not been calculated European-wide in any previous

[21] Schürmann, C.; and Spiekermann, K. (2006): *Accessibility analysis of the Baltic Sea Region*. Study for the BSR INTERREG IIIB Joint Secretariat within the framework of the preparatory process for the BSR Transnational Programme 2007-2013. Dortmund und Oldenburg: S&W, RRG.

cultural centres	TRACC					(ESPON) project.
Access to shopping						
Access to work	ESPON TRACC	Daily accessibility of jobs	2.5x2.5 km grid / LAU-2	7 case studies	2011	The existing indicator was defined as the number of jobs reachable within 60 min travel time. A full coverage for 32 European countries at grid level would be required for this study.
Access to business	ESPON TRACC	./.	./.	./.	./.	So far such indicators have not been calculated European-wide in any previous (ESPON) project.
	StMWIVT	Erreichbarkeit von Dienstleistungen *(accessibility of services)*	100x100 m / LAU-2	Bavaria	2007	Individual travel times by car and by public transport from each grid cell to the nearest post office and bank were calculated for the territory of Bavaria, and then averaged to LAU-2 level. While the general approach is similar to PROFECY, results are only available for Bavaria. The grid resolution of 100x100 meters was extremely high, which was perfectly for the Bavaria case study, but which is not applicable for a European-wide approach.
		Erreichbarkeit von Behörden *(accessibility of public administration)*				Individual travel times by car and by public transport from each grid cell to the nearest police station, tax office, and job center were calculated for the territory of Bavaria, and then averaged to LAU-2 level. While the general approach is similar to PROFECY, results are only available for Bavaria. The grid resolution of 100x100 meters was extremely high, which was perfectly for the Bavaria case study, but which is not applicable for a European-wide approach.

Source: own elaboration

Table 10 shows that none of the existing indicators can just simply be utilized in PROFECY, for the reasons mentioned. But the same table also shows the high potentials for raster-based accessibility approaches for the delineation of inner peripheries.

The calculated accessibility indicators will eventually be used in PROFECY in different ways:

- Accessibility is one variable in the delineation of IPs in Europe (Activity 2.3). The 'simple' delineation will exclusively be based upon the access to regional centres, and the other delineations are also expected to apply accessibility to SGIs as variables (among others).
- Accessibility indicators will be used in Activity 4.1 to characterize IP areas in Europe.
- In Activity 6.4, (local) accessibility will be one issue in the individual analysis of the case study areas.

Nevertheless, the previous projects mentioned in Table 10 already developed sound methodological bases for the calculation of such indicators (see, for instance, Volume 4 of the ESPON TRACC Final Report - "TRACC Accessibility Indicator Factsheets"), that can be used as starting point for possible modifications of the indicator definition or indicator implementation as required by PROFECY. All accessibility indicators will first be calculated at grid level (see Chapter 5.2), and will then be aggregated to NUTS-3 levels.

In Activity 2.1 the project team selects and precisely defines the type of (accessibility) indicator(s) to be used in this study for the delineation and for the characterisation of IPs in Europe. In Activity 3.3 then the selected (accessibility) indicators will be generated.

5.4.2.5 Mapping and contributions to ESPON database

All WPs and activities will generate (quantitative) outputs that will be mapped in Activity 3.4, by utilizing the map templates provided through the latest ESPON MapKit and the recommendations given in the ESPON Map Guide, developed by the ESPON Database project.

The project team will produce European-wide maps for the 32 countries in question, such as the delineations of IPs and the variables and input data used for this exercise, and the results of the developed typology (Activities 2.3, 2.4 and 3.2). Apart from that, the project will also produce specific maps for the case studies (activities 6.3, 6.4 and 6.5). In contrast to the European-wide maps, the spatial extent of these maps will be chosen so that each case study area is best illustrated[22].

In relation to the development of the Handbook (Activity 8.1) and learning package (Activity 8.3), the project team intends to produce specific kind of maps and illustrations, either content-wise or by highlighting specific regions or areas, or by using specific kind of diagrams or charts, in order to explain certain patterns, drivers or processes. In order to produce easy-to-understand learning materials, this may lead to visual outputs that may not always fully correspond to the ESPON Map Guide[23]. In any case, the usefulness of these materials will be discussed with ESPON EGTC and with the Steering Committee.

In this activity, also metadata for all collected and generated indicators will be compiled in accordance to the latest ESPON metadata template. All produced maps will be exported in raster file (PNG) and vector file (AI, SVG) formats, and the overall geostatistical database will be finalized according to the format and structures as predefined by ESPON EGTC.

Standard Excel files in the latest ESPON indicator file format will be produced for each indicator, and will be uploaded to the ESPON database by using the web interface provided by ESPON. A proof for this integration will be collected and handed over to ESPON EGTC.

It should be noted that the road and rail transport networks used to delineate the IPs cannot be handed over to ESPON EGTC, due to pre-existing property rights. As regards the other GIS layers on access points and on SGIs, it will be evaluated during the project whether or not they can be submitted to ESPON EGTC, subject to the conditions and rights as set out in the original data sources (such as OSM)[24].

[22] Apart from their spatial extent, these maps will of course honor the map layout guidelines as laid down in the ESPON MapKit.
[23] For instance, specific zoom-in maps may be produced, or certain types of 'abstract' illustrations or school-book types of diagrams.
[24] Taking OpenStreetMap (OSM) as an example, the OSM Open Database License model allows to use OSM datasets in projects like these, however, a further distribution of these OSM datasets over ESPON webpage requires a similar database license model. Thus, it will need to be checked whether the general

5.4.2.6 Data situation for EU Candidate Countries and Western Balkans

The inclusion of the EU Candidate countries and of Western Balkans (i.e. former Yugoslav Republic of Macedonia, Turkey, Montenegro, Bosnia and Herzegovina, Serbia, Albania, Kosovo under UN Security Council Resolution 1244) in the delineation, characterization and analysis of inner peripheries in Europe is mainly a question of data availability within these countries.

Depending on the nature of the delineation approach (see Chapter 2), there will be delineations based on access to regional centres and access to certain types of SGIs, so as their will be delineations taking other statistical variables into account.

Because the project team already owns a GIS layer representing regional centres for entire Europe (i.e. including Candidate Countries and Western Balkans), the first delineation approach will cover the entire set of 32 countries (i.e. all ESPON countries, plus EU Candidate Countries and Western Balkans).

Delineations based upon access to SGIs are requiring on the one hand European-wide road and rail transport networks. This requirement is fulfilled by utilizing road and rail networks from the RRG GIS Database and from OSM. On the other hand, European-wide GIS layers of these facilities are needed as well (see Table 8). So data availability for these facilities is not a generic problem of the Candidate countries and Western Balkans, but of the used GIS data sources as such (OSM). As explained in Chapter 2.2 above, the completeness of the OSM database needs to be check with national sources. In any case, depending on the selected types of SGI facilities, the Candidate Countries and Western Balkans will be included in these delineations.

The final type of delineation will, in addition, utilize statistical variables. Table 11 details the availability of selected datasets for the Candidate countries and Western Balkans. This initial overview shows that as far as demographic indicators are concerned (population, migration, births), a good coverage for all these countries, except for Bosnia and Herzegovina, exist with datasets at NUTS-3 and LAU-2 levels. As far as economic datasets (GDP, employment, unemployment) are concerned, most of them are only available at country level, except for Serbia and Turkey, which also provide small-scale information.

All in all, the participation of the Candidate Countries and Western Balkans in the final type of delineation thus highly depends on the statistical indicators that will be selected (see Chapter 2 for more details). If focus is given on demographic indicators,

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ESPON database and website rules complies with the OSM license mode, or not. Similar checks need to be performed for each individual data sources that is eventually being used.

these countries may easily participate; if in contrary focus is given to economic indicators, only Turkey and Serbia may participate. A question mark must be attributed to Bosnia and Herzegovina, which even lacks small-scale demographic data. The project team continues trying to find alternative small-scale data sources for this country. If this attempt fails, it is most likely that Bosnia and Herzegovina must be excluded from the final type of delineation.

Table 11. Availability of statistical data in Candidate Countries and Western Balkans.

Indicator	**NUTS level**	**Years**	**Avail.**	**Source**[25]
Former Yugoslav Republic of Macedonia				
Net migration rate	NUTS 2010 level 3	2010-2012	☒	NSO
Population by age groups and gender		2010-2013	☒	ESPON
Population, total			☒	
Live births	NUTS level 3	2010-2014	☒	Eurostat
Total fertility rate		2014	☒	
GDP at current market prices	NUTS level 2	2010-2014	☒	
GDP per capita in PPS	NUTS level 3	2005-2011	☒	ESPON
Employment		2010-2013	☒	Eurostat
Albania				
Net migration rate			☐	
Population by age group and gender	NUTS level 3	2010-2016	☒	NSO
Live births		2013-2014	☒	Eurostat
Total fertility rate		2014	☒	
GDP per capita		2001-2009	☒	NSO
GDP at current prices	Country level	1996-2012	☒	
Employment rate		2007-2012	☒	
Unemployment rate		2007-2015	☒	
Republic of Serbia				
Net migration rate (only internal migration)	LAU-2	2011	☒	NSO
Population by age group and gender	NUTS level 2	2011-2015	☒	
Live births			☒	
GDP per capita	Country level	1995-2014	☒	
Employment	NUTS level 2	2014-2015	☒	
Unemployment rate			☒	
Kosovo under UN Security Council Resolution 1244				
Net migration rate	LAU-2	2011-2014	☒	NSO
Population by age group and gender			☒	

[25] NSO = National Statistical Offices

Live births		2007,2008, 2009, 2010, 2014	☒	
Mortality (death) (absolute figures; rates can be calculated)		2011-2014	☒	
GDP	Country level	2007-2014	☒	
Employment			☒	
Unemployment rate			☒	
Bosnia and Herzegovina				
Net migration rate	./.	./.	☐	./.
Population by sex / gender balance (women and men)	Country level	2011, 2014, 2016	☒	NSO
Live births		1996-2014	☒	
Total fertility rate		1996-2014	☒	
GDP		2010-2016	☒	
Employment		2012-2015	☒	
Unemployment rate			☒	
Montenegro				
Net migration rate	Country level	2011-2014	☒	NSO
Total population	NUTS level 3	2010-2013	☒	ESPON
Population by age group and gender			☒	
Live births	Country level	2010-2015	☒	NSO
Total fertility rate		2014	☒	
GDP	Country level	2010-2013	☒	
Employment			☒	
Unemployment rate		2014-2015	☒	
Turkey				
Net migration rate	NUTS level 3	2010-2015	☒	NSO
Total population		2010-2013	☒	ESPON
Population by age group and gender			☒	
Live births		2010-2015	☒	Eurostat
Total fertility rate		2014	☒	
GDP, in million US $ at current prices GDP per capita	NUTS level 3 (old system)	1987-2001	☒	NSO
GDP per capita in PPS	NUTS level 2	2005-2011	☒	ESPON
Employment			☒	ESPON
Unemployment rate		2014-2015	☒	NSO
Unemployment rate		2006-2009	☒	ESPON

5.4.3 Main outputs for other sections of the project

The main outputs of these activities are the following:

- Completed and actual data review for both GIS and statistical datasets (Activity 3.1)
- Collection, generation and harmonization of the needed datasets for the ESPON space, as identified in Activity 2.1 (Activity 3.2)
- Calculation of statistical, GIS and accessibility indicators (Activity 3.3)
- Overall (GIS) database set up and filled (Activity 3.3), as basis for
  - Delineation if the IPs (Activity 2.3)
  - Identification of 50-100 IPs in Europe and of areas at risk (Activity 2.4)
  - Analysis of the status of IPs (WP 4)
  - Selection and implementation of case studies (Activities 6.2 and 63)
- Mapping of indicators (Activity 3.4): Production of a series of maps, one map per indicator or per input dataset, following the standard ESPON map format as laid down in the latest ESPON MapKit, and provision of these maps in different electronic file formats (PNG, AI, SVG).
- Illustrations and visual materials for the handbook and for the learning package (Activities 8.1 and 8.3)
- Contributions to ESPON database (Excel files, metadata) (Activity 3.4)

5.4.4 Conclusions and next steps towards the Interim Delivery. Challenges and strategies

5.4.4.1 Challenges

The following challenges as listed in Table 7 can be anticipated when implementing these activities. Some of them are concerned with data availability at small spatial scale (grid, LAU-2, NUTS-3), others are concerned with unclear definitions.

In any of these cases, the project team is of the strong opinion that we should follow a pragmatic approach towards these data issues. The overall focus of the entire PROFECY project is to develop and implement a harmonized definition of the concept of inner peripheries for the entire ESPON space - for the first time ever in Europe.

Instead of focussing too much on data issues, emphasis should be made to capture and analytically grasp the new policy concept of IPs as best as possible.

Table 12. Anticipated challenges for the data collection and data processing.

Challenge	Description	Solution
Collection of small-scale data	The collection of statistical data at grid and LAU-2 levels, and often also at NUTS-3 level turns out to be difficult given the actual data availability in the ESPON countries.	The project team will implement a practical approach as we are going to collect the data at the most suitable, i.e. available level. As far as accessibility indicators will be calculated, the calculation will be based upon grid level (see Chapter 5.2) As far as the SGI datasets are concerned, the project team strives to use innovative data sources such as OpenStreetMap (OSM) and others.
Unclear definition of “economic activities” in the ToR	The term “economic activities” as suggested in the TOR needs to be further defined. Similarly, datasets marked with an ‘e’ (health, education, culture, shopping, business) in the TOR need to be further specified.	GDP, old-age dependency ratio, economic resilience or unemployment could be relevant indicators for this. A final decision on this will be made together with ESPON EGTC, reflecting the actual data availability. As regards the ‘e datasets’ (i.e. SGI datasets), the project team will initially compile such service facilities based upon innovative data sources (e.g. OSM), and will map them. A decision which of these datasets will eventually be used will be made together with ESPON EGTC, based upon

		a proposal of the project team.
Missing statistical data / data gaps	Certain datasets may be missing for individual areas or regions of a country, or may be lacking for entire countries.	As far as possible, the project team will fill these data gaps. If this is not possible for certain countries, but if the indicator concerned is, from a theoretical-conceptual point of view, important for the delineation or for the characterization of IPs, the area, region or country concerned will be excluded from further processing.
GIS layers on SGIs	GIS layers on services-of-general-interest (SGIs) will be compiled from innovative data sources like OSM; however, the level of completeness of these facilities may differ between regions and countries.	The project team will inspect other data sources to fill data gaps, or to check for completeness. In any case, pragmatically, the project team will not try to fill all data gaps for all potential SGIs, but will select those SGIs which have the best spatial coverage.
Accessibility indicators	The required grid-based accessibility indicators cannot be taken from existing ESPON datasets or from any other statistical data source, either because they are not available in the ESPON database at grid level, or are not available for the entire ESPON space, or because their actual definition does not meet the PROFECY requirements. The calculation of these indicators is challenging and time-consuming at grid level.	The project team will generate these indicators. The needed road and rail transport networks are available with the project team, so as the required accessibility models within the GIS.

Source: own elaboration

5.4.4.2 Next steps

The next steps under these activities are closely linked to the results of Activity 2.1 (i.e. identification of required datasets) and to the requirements arising from the delineation of IPs (Activities 2.3 and 2.4):

- Developing database structure and setting up of overall database (Activity 3.3)
- Finalization of the data needs in correspondence with the theoretical concept for the delineation if IPs (Activity 2.1)
- Proposal for the 'e'-datasets to be compiled for agreement with ESPON EGTC and with Steering Committee (Activity 3.1)
- Preparation of road and rail transport network layers (extraction of relevant networks from the RRG GIS Database)
- Preparation of a point layer on regional centres
- Review and assessment of the datasets provided by ESPON, incorporation of these into the overall database.
- Familiarization with the actual ESPON MapKit, provided by ESPON EGTC (Activity 3.4)

5.5 Plan for analysing the 'status' of Inner Peripheries identified

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5.5.1 The WP/Activities in the framework of the project: aim and main objectives

There is no comprehensive knowledge about European Inner Peripheries. This 'new' phenomenon is explored in current studies from a conceptual point of view and attempts are already presented on how to define IP areas (ESPON 2013; Noguera & Copus 2016). Nevertheless, there is still a lack of information on what socio-economic characteristics these areas are associated with. The main goal of WP 4 activities in ESPON PROFECY is to gain evidences about the socio-economic situation of IP regions identified by earlier activities of the project.

Therefore, WP 4 tasks will focus upon exploring the characteristics of Inner Peripheries according to the following objectives:

- Providing a detailed analysis on European Inner Peripheries and areas at risk of becoming IP in relation to different demographic and socio-economic issues (gender, age and population development characteristics, various features of labour market)
- Analysing the status of Inner Peripheries compared to central areas and exploring similarities and differences with lagging regions (extent of overlap)
- Following changes in IP characteristics over time in order to capture the evolution of Inner Peripheries

Tasks of WP 4 have close links with other activities of the project, namely:

- WP 2 activities, such as the conceptual definition of Inner Peripheries and delineation of IP regions in Europe will give the framework for analysing the status of Inner Peripheries by identifying areas to be focused upon and providing thematic viewpoints for the analysis
- Characterisation of IP in WP 4 activities will be carried out on the basis of datasets produced by Activities 3.2–3.3. Maps provided by Activity 3.4 are also planned to be used for the analysis of characteristics of Inner Peripheries

Outcomes of WP 4 activities may also feed into various other activities in the project:

- Results of the characterisation of IP status and the analysis of their changes over time might serve as inputs for WP 5 with regard to the identification of processes and drivers of marginalisation of Inner Peripheries. There might also be a potential feedback loop between WP 5 and WP 4, because drivers explored by the qualitative analysis of WP 5 could be important for the interpretation of IP characteristics and processes revealed by changes over time
- The linkage between WP 4 and WP 6 is also two-way. The selection of case studies of WP 6 will partly depend on the results of the analyses and regional profiles outlined by WP 4 activities. At the same time, case study work gives the opportunity for diachronic analysis and a deeper understanding of causes of peripherisation in general and becoming IP in particular in case of selected IP regions whose general evidences might serve as useful reflections at the European level too
- WP 4 results might also partly compose the evidence basis for WP 7 (development of strategies for IP) and WP 8 (impact) activities of ESPON PROFECY

5.5.2 Description and methodological approach

Quantitative analyses of various kinds on Inner Peripheries at NUTS 3 level to be carried out in WP 4 will be split into two major subdivisions.

In Activity 4.1 comparative analysis of status of IPs (and NUTS 3 regions at risk of becoming IP regions) on the basis of datasets and maps provided by WP 3 is planned to be elaborated. Analysing various socio-economic characteristics of Inner Peripheries helps interpret structural causes behind the phenomenon. According to the ToR of the project proposal socio-economic factors to be covered in the analysis are mainly related to demographic and labour market issues. Other socio-economic variables, data on accessibility and institutional coverage, information on access to services of general interests used for IP delineation in WP 2 will also be considered if available at NUTS 3 level and if they do not cause a problem of circularity (overlap between the analyses of IP delineation and IP status). The exact set of indicators will be finalised after consultation rounds with regard to the outputs of Activities 3.1 and 3.2 (data review and gathering).

A set of explanatory variables preselected from the pool of variables to be provided by WP 3 in three major themes (social, economic and spatial) will help explain characteristics of IPs as compared to non-IP regions (horizontal aspect) and range them along according to the degree of development (vertical aspect). These two crosscutting aspects will provide analytical tools for defining the status of IPs amongst the regions of Europe. Depending on the results of IP delineation, aspects such as different types of delineations and the degree of NUTS 3 coverage of IP might also be considered.

In order to explore the socio-spatial variances within the group of IP areas, experiments on classifications will also be performed. A typology of Inner Peripheries based on the above-mentioned explanatory variables may help to outline different profiles of IP regions and interpret background structures. Potential methods for the classification might be (factor and) cluster analysis – which is frequently used for regional typologies (Aumayr 2007; ESPON 2014) –, qualitative comparative analysis – which provides a logical framework for classification (Ragin 2014) – or the combination of the two models (Haynes 2014). Other possibilities may also be considered and the exact method for typology will be chosen upon the basis of data availability and further methodological considerations. Evidences on IP typology and regional profiles may serve as useful inputs for the process models of WP 5 and for the selection of case studies (WP 6).

Activity 4.2 aims at analysing the changing status of Inner Peripheries over time. Since IP delineations of WP 2 will only provide an actual snapshot of geographies of European Inner Peripheries, efforts should be invested in order to reflect on the dynamic nature of IP concept. The ultimate goal of this task is to explore changing positions of today's IP in recent past. What we aim to assess in this sub-WP is how internal potentials of IPs could be exploited under changing external challenges over time. This way, the evolution of inner peripheries might also be interpreted in an indirect way. Evidences from the analysis of the changing status of IPs could help the identification of processes and drivers playing key role in the marginalisation of Inner Peripheries and at risk areas which is intended to be explored in WP 5.

The analysis is planned to be based on time series of a reduced set of indicators (at NUTS 3 level) used in Activity 4.1, which have good temporal coverage and are considered to be important from the aspect of following trends associated with Inner Peripheries and peripherisation. The time frame of this analysis is intended to cover the past 10 to 15 years[26]. A deeper, diachronic analysis of socio-economic changes in Inner Peripheries could be carried out in case study analyses in WP 6 activities.

5.5.3 Results to date and description of main outputs for other sections of the project

Outcomes and deliverables resulting from WP 4 activities will serve as bases for an evidence-based description of IPs. By the end of January 2017 a draft working paper (an annex of Interim Delivery) will be carried out. The first part of the working paper is planned to refer to 4.1 activities and include the analysis and methodological description on:

- Situating Inner Peripheries and regions at risk of becoming IP between centres and geographical peripheries
- Positioning of IP on the development scale – analysing similarities and differences (potential overlap) with lagging regions
- A typology of Inner peripheries – characterising the territorial/regional and socio-economic profiles of IP

The second part of the working paper should summarize evidences on changes in the situation of Inner Peripheries analysed as within Activity 4.2.

Outcomes and evidences from WP 4 working paper feed into further deliverables of ESPON PROFECY project. The interim delivery of the project (March 2017) should give an overview on the state of affairs for the 'status' of inner peripheries identified. For this purpose, a chapter focusing on the main results of WP 4 will be delivered into the interim project report. For the draft final and final deliveries this chapter will be updated, counting on the potential feedback from case studies (WP 6) and identification of IP processes and drivers (WP 5).

Besides these deliveries several outcomes from Activities 4.1 and 4.2 may serve as inputs for various other tasks in the project. Among others they might feed into:

- WP 5 – by providing evidences on IP characteristics and socio-economic changes for identifying processes and drivers
- WP 6 – by offering an IP typology and profiles for the selection of Case Studies (in order to establishing their regional context)

[26] Longer time periods would be highly appreciated; however, when looking at time-series data availability at NUTS-3 level for entire Europe, the analysis of even longer time series seems not possible (due to changes in the NUTS classification, general data gaps, changes in methods for data collection, etc.).

- WP 7 – by giving an overview of evidences on IP for policy considerations
- WP 8 – by providing inputs on the 'status' of inner peripheries for the handbook for policy makers

Results of socio-economic IP typology is planned to be combined with NUTS 3 delineation typologies of Inner Peripheries and areas at risk of becoming IP, and the dataset might be provided for building into the ESPON Database.

5.5.4 Conclusions and next steps towards the Interim Delivery. Challenges and strategies

WP 4 activities face various conceptual, methodological and organizational/management challenges during the implementation of research tasks. Firstly, activities in WP 4 are input dependent to a large extent on results of research tasks from other work packages. WP 2 will draw the delineation of Inner Peripheries by identifying those groups of regions which provide basis for WP 4 analyses, while all these WP productions are dependent on data gathered by WP 3 activities. Nevertheless, WP 4 should also serve various further research tasks in the project (analysis and typology for WP 5 and 6, evidences for WP 7 and 8). Since these activities have fundamental impacts on each other the clarification of roles in interrelating tasks and intensive communication between responsible partners are essential. Besides there is a very tight time schedule for implementing WP 4 tasks, between November 2016 and January 2017: the start of implementation depends on the results of IP delineation, while evidences from WP 4 are also important for starting other research activities. In order to fulfil these interrelating tasks feasible activities and strict deadlines need to be established for all involved partners.

Considering interrelated research tasks, there is a possibility of overlap between WP 4 and WP 5 activities. While Activities 4.1 and 4.2 also aim at analysing the status of Inner Peripheries by interpreting socio-economic causes behind their marginalisation, it is the role of WP 5 to identify processes and drivers of the creating and perpetuating IP. It is important to avoid having different research tasks that support the same goal and that could lead to mismatch in results. The clear definition of roles and responsibilities (i.e. how WP 4 results could support WP 5 and activities, and what kinds of feedbacks are expected between WP 5 and WP 4) and intensive communication between responsible partners might help to resolve these problems.

WP 4 analyses have to take into account various, multiply-combined aspects (different delineations, degree of NUTS 3 coverage of Inner Peripheries, status compared to nonperipheral regions, status compared to lagging areas) when characterising IP status and defining IP types. These might make the interpretation and communication of evidences complicated or hard to understand. In order to avoid these difficulties simpler methods of analysis and description of results could be favoured. Challenges concerning access and usage of data may need creative ways to resolve. For instance, if adequate data for time series analysis was not available, different years of regular data surveys (e.g. from census databases) could be used as alternative bases of information on socio-economic changes over time.

Until the actual timing of implementation of WP 4 tasks (from August to November 2016) preparations for research activities will be accomplished (literature review, definition of methodological tools). These preparations will be supported by consultations between partners responsible for WP 2 and 3 tasks in order to gain early access to information needed for the elaboration of WP 4 analyses. WP 4 research activities are shared between HAS (as task leader) and UVAL (as co-leader). The thematic division of tasks, shares in analyses will be defined after having more information on IP delineation and data gathering processes. The two teams will have shared responsibility for WP outputs and the sufficient quality of scientific reports.

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5.6 Methods and plan for identifying processes and drivers playing a key role in the marginalisation of Inner Peripheries

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Work package 5 (along with WP 4) forms the theoretical and conceptual backbone of the PROFECY project as it spans over the majority of the projects life time (continuously from Nov. 2016 to Oct. 2017). Therefore it provides a central platform for recurrent reviews of main ideas and hypotheses on the basis of exchange with other WPs' results.

5.6.1 The WP/Activities in the framework of the project: aim and main objectives

The aim of WP 5 is to clarify the concept of Inner Peripheries and to create clear written and graphic "interpretative models" (Woods 2011) of the processes creating and perpetuating IPs.

Based on the knowledge and experience accumulated so far we expect that different models of interacting processes can be identified that lead to the formation of Inner Peripheries. Also past and future of processes will be taken into account.

The outcome will be several variants of flow chart inspired graphics, illustrating the potential causal relationships of creators, drivers, accelerators, decelerators, perpetuators: processes that can reasonably be argued to constitute the hitherto black box of Inner Peripheries processes.

The various model graphics will be accompanied by explanatory texts, and will be used to represent different kinds of inner peripheries. These marginalization narratives will then form an accessible and memorable basis for discussion and communication both within the PROFECY team and with stakeholders at various policy levels.

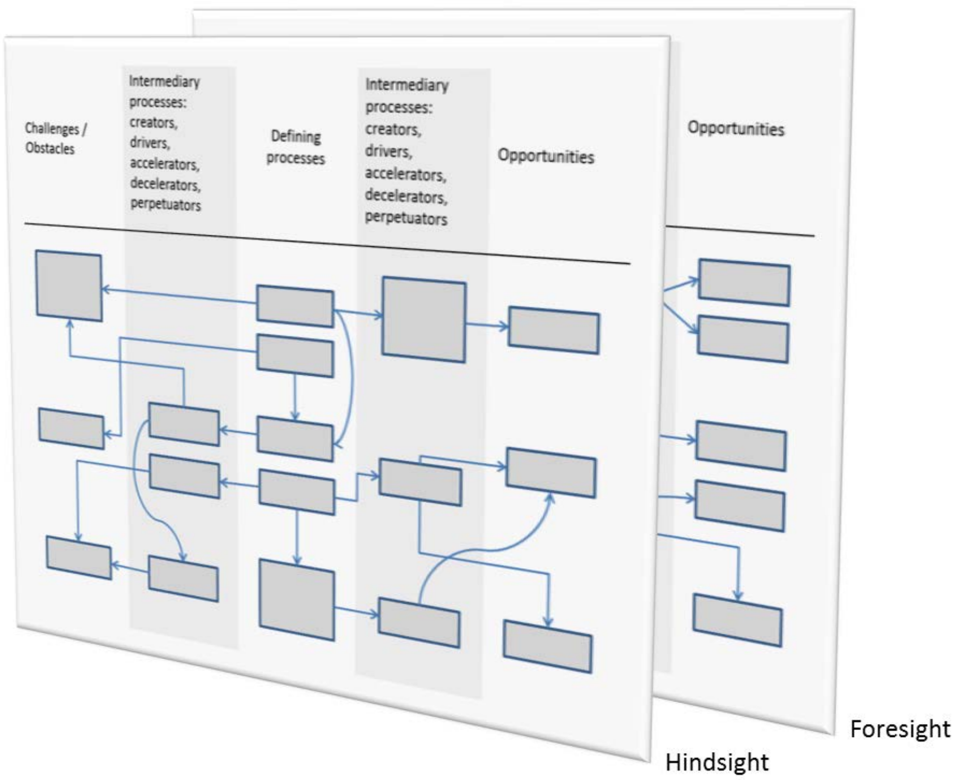
On this basis we will approach a general framework and understanding of "inner peripherality" as a theoretical concept. Theoretical approaches and concepts to critically review will include New Economic Geography agglomeration theory (Fujita et al 1999), the concept of lagging regions, organised proximity (Boshma 2005) and aspatial peripherality (Copus 2001).

5.6.2 Description and methodological approach

The method to carry out the tasks of WP 5 will be producing theory-informed graphics and accompanying sets of short explanatory texts. This will be based on Activity 2.1 and 2.2 (review of literature), which is, by the start of WP 5, already completed. Activity 2.1 and 2.2 compiles the state-of-the-art as regards the main theoretical and conceptual discourses and policy-relevant knowledge on intervention logics in Inner Peripheries. Based upon that, and as detailed in the previous Section 3 and 4 of this Delivery, alternative definitions of Inner Peripheries will be identified. The outcomes of WP 2 form the baseline from which WP 5 will start to develop, in detail, a clear idea about what Inner Peripheries are, their characteristics, how regions develop into Inner Peripheries, the mechanisms through which they reproduce themselves and approaches for intervention and counter-acting. WP 5 will also be continuously supplemented with what we learn from WP 3, WP 4 and WP 6: the informed compilation, review and discussion of quantitative and qualitative data.

On the basis of this information, draft “interpretative” model graphics will be designed, which show the relations between geographic specificities and socio-economic processes, but also the intervening factors and options for policy development. The model graphics are inspired by models, as they have been developed in previous ESPON projects, specifically in the GEOSPECS project (ESPON 2013 programme). Graphic models are a helpful tool for visualizing interacting processes and help to communicate to policy makers and stakeholders the different development processes and policy options in a synthesized, easy to understand form. They aim at overcoming the weaknesses of measuring single quantifiable processes and of too complex models taking into account too many processes and making it therefore difficult to communicate the implications (Schnellnhuber et al. 1997). Out of a more analytical perspective, the draft model graphics will also be used in the project to identify specificities and commonalities of Inner Peripheries across European macro-regions. Conceptually, they also inform the empirical case study work as “hypotheses” which are tested in the selected localities and at the same time they build a framework for visualizing the specificities of each case study area. A rough impression of such a graphic is given in figure [5.6.1].

Figure 5.6.1: Outline of a model graphic



Source: own elaboration

The focus lies on processes that are related to opportunities, obstacles and challenges. Within the ESPON GEOSPECS project the interpretative models are applied to geographically specific areas. PROFECY will link its models not only to geographically specific regions but to types of regions that are specific in their geographical as well as socio-economic and political processes and thus represent different narratives through which regions, which are not necessarily geographically peripheral, become marginalised, depleted of various forms of territorial capital, and deprived of access to services of general interest.

Theoretically, the series of graphics will trace the “theory(ies) of change” associated with inner peripheries (see Sections 3 and 4). This means that the graphs ought to reflect the contextual embeddedness (Blamey & Mackenzie 2007) of the processes creating and perpetuating IPs, and draw on the following sources (Mason & Barnes 2007): research evidence, advocacy and participation of users and communities and the professional experience of practitioners.

On this basis we will draft model graphics and narratives of the regions' processes of peripheralization. We will refine these graphics and narratives through iterative consultation with "experts" and stakeholders, "on the ground" in the case study areas, but also with the wider policy community. The models will only be finalized for the Final Delivery after getting feedback from a larger forum of stakeholders.

This process of application, iterative discussion and adjustment will help to clarify the concept of Inner Peripheries itself.

5.6.3 Results to date and description of main outputs for other sections of the project

As stated above, WP 5 builds on activities from WP 2 where a first conceptual narrative for the process of change encompassing all inner periphery components is presented.

WP 5 is interwoven with WP 3, with which it partly overlaps in activity time. This allows for feedback loops to test hypotheses on causal relationships stated in the models, depending on the availability of data sets. WP 5 and WP 4 are concurrent work packages and therefore are expected to create continuous reciprocal inspiration for each WP's team further work.

The draft model graphics are used as kind of "hypotheses" which are to be tested, refined and further developed in the case studies (WP 6). The underlying hypotheses of the draft model graphics may then form a basis from which to develop a set of coherent questions that shall be answered across all selected case studies. At the same time, findings from empirical case study work feed back into the conceptual and analytical work in WP 5.

Results of WP 5 will also feed into all activities of WP 7 as a basis for developing strategies for IPs, and will be especially useful for Activity 7.2.

In summary, the draft model graphics will subsequently be updated in an iterative process. Key milestones will include:

- Reflecting on findings of WP4 (January 2017 – for D3, Interim Delivery)
- Reflecting on findings of WP6 Case studies (June 2017 – for D4, Draft Final Delivery)
- Reflecting on findings of WP4 (June 2017 – for D4, Draft Final Delivery)
- WP 7.2 extends the models into "intervention logics" (Oct 2017 – for D5, Final Delivery).
- Input from "experts" and "stakeholders" at "Final Dissemination Events" (Oct 2017 – for D5, Final Delivery)

5.6.4 Conclusions and next steps towards the Interim Delivery. Challenges and strategies

Being prepared to also add first outlines of graphic illustrations on different IP types as Delivery for the Cohesion Report (January 2017) the next milestone for the work package to report to is the Interim delivery (March 2017).

The work feeding into the interim delivery will take place from November 2016 to end of January 2017 and will as main results have first drafts of the graphics and explanatory texts for different inner periphery types.

To ensure good results of this work package we keep in mind the following challenges and risk preventing strategies:

Challenge 1: Incorporating a feedback loop with WP 3 to test hypothesis created by WP 5 will depend on time and data availability. Early exchange on potentially influential factors on IPs between (co-) leaders of WP 2, 3 and 5 will be ensured to allow for time to access data sources of theoretically grounded interest.

Challenge 2: Iterative processes and the production of coherent results are challenging when looking at the complex interrelatedness of activities in WP 4, WP 6 and WP 7. To avoid unaccounted mismatches or contradictions in IP typologies or logics of processes feeding into IP typologies, thoughts and preliminary results will be circulated at an early stage. Joint discussions of the engaged teams will provide a basis for creating coherent but differentiated and well-founded results.

Challenge 3: To create impact out of our project, it has to be ensured that DG Regio and the wider cohesion policy community accept the validity of the model(s), and adopt them for future policies. This challenge will be tackled by extensive exchange with policy stakeholders to ensure the applicability and feasibility of the models and their practical implications. The models will be created according to the principles of: clarity and political relevance.

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5.7 Plan and methodology for carrying out case studies of IP with detail of the role of scenarios

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5.7.1 The WP/Activities in the framework of the project: aim and main objectives

The case studies, as expected to capture in details the complexity of multidimensional nature of IPs phenomenon in the context of their evolution, components and scale (see page 18 of the proposal) within single, specific locations, should be considered as a nexus between research questions and predominantly quantitative empirical analysis in preceding work packages (WPs 2-5) with an exploring and expanding focus towards policy debates for Inner Peripheries (WP7).

First activities within the work package focused on methodological design, selection of seven IP regions for carrying case studies, their implementation and individual analysis will lead to comparative analysis whose effects allows to:

- understand common and specific causes, factors and drivers influencing patterns and processes of peripherality;
- explore commonalities, degrees of variation and specificities of IP characteristics across the different territorial and national contexts, as well as across different types of IP regions, as defined before (WP2, WP4);
- generalise findings (overall/type-specific) out of this comparative view, as a step forward to the formulation of policy recommendations (WP7), as well as information feeding back to conceptual work on the drivers and processes of IP regions (WP5).

5.7.2 Description and methodological approach

5.7.2.1 Basic description and methodological approach

The preliminary framework for individual analysis of seven chosen regions consists of 4 main activities:

1) quantitative analysis of the distance between chosen IP regions and average situation in the regional, national and European scale [positioning of case

studies according to these socio-economic components of regional development which are the subject of analysis in WP2 and WP 4, i.e.: demographic, economic (labour market, functions), access to SGI, spatial and functional connections]; carried by all partners according to instructions provided by leading partners

2) quantitative and content analysis of internal diversity with the special attention to socio-economic and spatial disparities (disproportions) in the local scale (LAU-1 or/and LAU-2, depending on the data availability), to collect detailed information about their character based not only on statistical data but also on their subjective perceptions and interpretations; carried by all partners according to instructions provided by leading partners
3) quantitative and qualitative analysis of current and previous formal documents on development strategies of chosen IP regions (regional development strategies – do they point these locations as problematic? what solutions for these locations they present?); carried by all partners according to a standard form for collecting information provided by leading partners;
4) quantitative and qualitative analysis of the role of existing policies (including Cohesion policies and Rural Development policies) and the type of multi-level governance arrangements that influence the use and the effectiveness of policies adopted. This implies gathering information about the most relevant policies in use in each case; carried by all partners according to a standard form for collecting information provided by WP6 and WP7 leading partners;
5) 8-12 interviews with experts representing two groups of local and regional stakeholders: 1) people responsible for local and regional strategies and planning and 2) members of NGOs interested in these issues, to formulate alternative scenarios for chosen IP regions. The task aims at 1) selecting opposing key drivers to generate a range of different but plausible scenarios 2) developing scenario 'stories'[27] and identifying impact of alternative scenarios on regions as the final stage of scenario building; carried by all partners according to instructions provided by leading partners; leading partners prepare summary report on future scenarios for selected IP regions.

[27] Scenario methods are mainly used in development strategies and planning of enterprises, organizations and various business ventures. However, they became popular also in drawing prospects for different territorial units on local and regional level (Coates 2000, Westhoek et al. 2006, Dammers 2010). Several research projects involving scenario methods have been carried, for example VISIONS focusing on the relationship between the processes of socio-economic and environmental factors and their implications for the development of Europe (Gough, 1999) or PRELUDE analysing alternative scenarios for the use of land and landscape (Volkery et al. 2008).

Individual analysis of seven chosen IP regions will lead towards cross-comparative studies based on dimensions of IP that is the (1) evolution of IP, ranging from the past to alternate development options for the near future, (2) components which drive the evolution of IP, ranging from socio-economic processes and governance factors to the provision of services of general interest. In addition, (3) there is a cross-comparative analysis of local or regional coping strategies and their embeddedness into policy frameworks at higher policy levels.

5.7.2.2 Ideas for selecting case study regions

Selection of seven case study regions will be based on data gathered, and the results of the delineation and description of inner peripheries in Europe, in consultation with the partners and their "local" knowledge and the ESPON Project Support Team.

Apart from representing the category of IP as defined in Activity 2.4, criteria for selecting case study regions should include the presence of interesting practices (use of EU policies, good governance, cooperation of local stakeholders, etc.) which can provide insights on the development of strategies in WP7.

At an early stage in the project, we set out three preliminary criteria for selecting case study regions:

1) Location in European Space – according to a classification of EU member states based on the analysis of coherence and convergence in Europe between 1995 and 2013 (Andor 2015), widening the traditional three-fold classification of EU member states into "old" North, "Old" South and New Member States.
2) IPs representing different types according to delineations and descriptions (Activities 2.4 and 4.1) or/and the most problematic areas considered as IP in all delineations.
3) Coping strategies – from community-centred, more bottom-up, endogenous, to a state-centred, more top-down approach.

5.7.2.3 Level of analysis in case study regions

We assume that the basic level for analysing chosen IP regions is NUTS-3 as the IPs delineations carried in WP2 on this level are the most important input towards their selection. However, as the administrative structure varies around European countries, NUTS-3 not necessarily are administrative units responsible for regional development planning. Therefore, we expect that in particular cases, according to the national practices of driving regional development policies and preparation of strategic documents, there might be a need to widen the scale of analysis to 2-3 neighbouring NUTS-3 or to aggregate information from NUTS-4 or LAU-2 levels.

5.7.3 Results to date and description of main outputs for other sections of the project

Internal reports on all seven chosen IP regions presenting detailed information on the drivers and effects of inner peripherality as well as their perspectives for the future.

Final Report on Case Studies based on cross-comparative analysis of chosen IP regions as a direct input for the formulation of policy recommendations (WP7), as well as feedback to conceptual work on the drivers and processes of IP regions (WP5).

Final Report on Case Studies can take the form of a chapter in the (Draft) Final Report, or a single-standing document which is attached as an annex to the (Draft) Final Report. It is planned that the report is structured as follows:

I. Executive Summary / Introduction
II. Presentation of the seven individual cases in their characteristics and main findings, and the IP types they represent
III. Analysis of findings across cases, according to the above-mentioned different dimensions, regarding evolution and characteristics
IV. Local and regional coping strategies, and their embeddedness into higher policy level framework
V. Conclusions regarding causal mechanisms and key drivers, as well as the previously defined project typologies (WP2, WP4)
VI. Conclusions regarding further development of policy framework (WP7) and conceptual thinking (WP5)

As a part of the implementation of the case studies, the project team will prepare overview maps of the location and delineation of the case studies. Furthermore, case study specific maps will be developed, showing some basic characteristics and analysis results of the chosen IP regions.

5.7.4 Conclusions and next steps towards the Interim Delivery. Challenges and strategies

5.7.4.1 Workplan

- Work on the case studies starts for leading partners in PM 8 when Methodological Design of Case Studies and Selection of Case Studies as a crucial part of the Interim Report are planned.
- Between PM 10 and PM 14 all partners of the Consortium implement Case Studies and collect information for individual reports for each selected IP region (Internal Reports).
- Cross-comparative report starts in PM 12. It is planned, that the presentation of the seven individual cases is an output of WP6 for the Draft Final Report of the Project.

5.7.4.2 Challenges and strategies

The first challenge for WP6 is the selection and successful implementation of case study regions as IPs identified in Activity 2.4 may not fulfil all required criteria or they may be located over national borders. Also, European countries have different administrative regimes and the content of regional development policies and formal documents might not be coherent. Thus, the work on methodological design of Case Studies and their selection requires strong cooperation with leaders of WP 2-5, access to reports on preceding WPs and, if necessary, adding CSs selection criteria, e.g.: location within one country. There is also a need for carrying a pilot research of administrative structure and the content of regional development strategies in European countries before choosing criteria for their qualitative analysis when implementing Case Studies.

The main results of cross-comparative analysis will be available for the Final Report only, as the main comparative analysis will start once the individual case study reports are finalized, that is, after the delivery of the Draft Final Report. A potential threat for the success of activity 6.5 is, that case study reports are not available on time, or are not sufficiently coherent and detailed for comparative analysis. However, a detailed framework for carrying out the empirical work, including a structure of the report to deliver (Activity 6.1) and close monitoring of progress in Activity 6.3 will reduce this risk.

References:

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5.8 Plan and method for developing strategies for IP, including cooperation between territories, and proposals for Cohesion Policies

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5.8.1 The WP/Activities in the framework of the project: aim and main objectives

Following the in-depth analysis of the project on the relevance of Inner Peripheralities, the identification of key processes and drivers towards marginalisation of IP and the analysis of selected cases of IP across Europe, the final task of the project aims at developing appropriate strategies for IP that include cooperation activities between territories to cope with threats of marginalisation processes. It will be important elaborate integrated approaches to address the diverse development needs of IPs and to pay attention to the different territorial scales and the time dimension of the emergence of IP.

The strategy development activity in the project will focus upon developing "intervention logics" from the descriptive models developed in previous Activities. This is conveniently sub-divided into a number of sub-tasks, focusing first upon the issue of integration (policy coherence), secondly upon the territorial assets and potentials which are available, thirdly upon the potential contribution of current EU policy, and finally drawing together conclusions and recommendations in terms of the future research agenda.

In this section, general strategies and recommendations to overcome threats of IP are sought that refer to the overall situation and context of IP. The specific role of Cohesion Policy and the contribution to the evolution of IP (activity 7.3) are also presented in this section in order to highlight the response of relevant EU policies to the development needs of IP.

5.8.1.1 Designing an integrated approach to address and overcome needs of IP (activity 7.1)

This activity focuses upon governance and policy coherence, both of which not only play a role in the process of marginalisation of the IP, but can also, if reconfigured, support the success of interventions to reverse the negative trends, as some interesting experiences of case studies selected in Task 6 can demonstrate. Coherence is understood in terms of integrated strategies, that make use of multi-sectoral strategies which consider all elements of multi-level governance, maximising synergistic effects.

The specific focus in the project's analysis on "integration" and "coherence" is based on the assessment of processes and drivers shaping the emergence of IP which cannot be attributes to single policies, but have to comprise the full set of influencing sectoral policies, institutional settings, socio-economic drivers, large-scale effects and specific contextual situations. It seems crucial to synthesize the lessons from individual case study analysis and to assess future activities of different levels and actors in a comprehensive and coherent way.

5.8.1.2 Identification of development potentials and definition of strategies for IP (activity 7.2)

This activity also builds upon the descriptive models developed, this time focusing on the generic development potentials and territorial capitals associated with each variant of the IP marginalisation process. A key question will be why these are currently under-utilised, and what would be required to remove barriers to exploitation. Based on the theoretical considerations and the case study work it will be important to reveal that IP dispose of specific (place-specific) development potentials which have to be nurtured by well-targeted activities. Defining strategies for IP seems therefore a highly sensible task in order to overcome spiralling-down processes associated with IP development.

5.8.1.3 Assessment of policies in IP. Proposals for future Cohesion Policy (activity 7.3)

This activity focuses in particular on Cohesion Policy and discusses how Cohesion is related to other territorial policies, notably Rural Development policies, but also to other sectoral policies such as transport policies or education policies. In other words this activity is focused on instruments of policies adopted in the last programming periods and concerns:

- The definition of scale of territories interested by cohesion and rural policies and how these definitions can interact and overlap each other and with the concept of IP examined in the previous tasks;
- which kind of multi-level governance models appear appropriate in the different institutional and territorial contexts and which organisational solutions could be supported accordingly by EU policies and ESI Funds seen as integrated policies
- how the role of national policies can be combined with EU Cohesion policies
- how the evaluation methodological frame can evolve to take into account IPs

5.8.1.4 Summary of Policy Recommendations on IP (activity 7.4)

The elaboration of policy recommendations on IP is a summary task that largely builds on the whole analytical work of the project and particularly the previous steps of aiming at an integrated approach and finding appropriate strategies for IP. It summarises the policy implications analysed throughout the project's different activities and recommendations for the different territorial levels. This task is concerned with reflecting upon the implications for policy to support IPs in utilizing their territorial potentials and improve their situation. The research team will explicate recommendations in relation to the state of peripherality, i.e. to territories identified as IP as well as to territories which are at risk to become IPs. It will further develop policy recommendations related to the different characteristics found in IPs and to different processes driving marginalisation. Special attention will be given to recommendation on SGI.

The recommendations target at national, regional and local strategy levels, based on and linked to the already existing EU policy agenda and cohesion policy. Recommendations will be presented in a manner and layout that is convenient to access for stakeholders at all policy levels.

5.8.2 Description and methodological approach

The work of Activity 7 is based on establishing a concise theoretical framework for IP analysis and the previous analytical work in the project. This input is particularly important as it allows a strategic approach for targeted response to territorial objectives, differentiation between different types and phases of IP, as well as relevance of the results of case study analyses for policy implications and future (development) activities. In this regard, input from WP 2 – WP 5 will be very important for these tasks. In particular, the data sets built with available data to characterize IP situations, with details on accessibility indicators, relevance of IP at European level and information on the evolution of IP over time will be valuable sources for WP 7. Moreover, the analysis of processes and drivers are crucial input to the elaboration and discussion of strategies and options for activities, as well as the findings from case studies will form an important body of information for good practice and feasibility of development approaches.

The methodological approach is based on the in depth analysis of:

- The concept of integrated approach
- The identification of potentials and strategies for IP
- The analysis of policy instruments (notably Cohesion and Rural Development policies)
- The elaboration of policy recommendations

Integrated approach

The methodology in this task will be based upon draws on the descriptive model, plus good practice observed in the case studies. It is crucial that case studies report and conclude on the role of actors, institutions and networks in taking account of the needs of IP and addressing an integrated approach. The focus on policy coherence (Copus et al. 2015) is targeted at studying the coordination aspects and aiming at overcoming fragmentation of diverse actors in IP.

Specific attention will be placed on a comprehensive assessment of the policy context, including all policies impacting on IP mechanisms. In this regard in addition to Cohesion Policy the whole set of ESI-funds (in particular EAFRD and ESF programmes), territorial implications of other general policies and relevant national (and regional) support will be explored and checked for policy coherence. Lessons on difficulties of applying integrated approaches and new ideas for “intervention logics” that overcome weak coherence will be useful input for dissemination activities.

Identification of potentials and strategies for IP

Case study findings, and quantitative analysis of key indicators (Activities 2-4) will be crucial resources for this work. An expert consultation process will be the key to validation of the findings. “Descriptive models” (developed in WP 5) will focus on generic development potentials and territorial capitals associated with each variant of the IP marginalisation process which will feed into strategy building in WP 7.2.

With regard to the iterative process it will be important to update the models (built initially in the first stages of the project) and extend them into more detailed "intervention logics". As this task is foreseen for months 16/17 it will be an input to the recommendations and the discussion with experts and stakeholders at the project's concluding International Conference (about December 2017).

The analysis of policy instruments

These parts of activities are related to 7.3 and include:

- Critical review of integrated local development approaches mostly used in EU policies (especially in rural development and territorial development). This critical review takes into considerations the notion of area/scale of intervention, types of partnership underpinning the diverse approaches, financial instruments involved, and finally main categories of interventions (infrastructural, environmental, local development, human resources, etc.). In this analysis main sources of information are as follows: research literature, evaluation reports, previous EU research projects.

- Analysis of potentials and limits in policy use by the whole set of case studies (WP6). These cases will provide some more in depth analysis of the role of policies (including Cohesion policies and eventually also Rural Development policies) and the type of multi-level governance structure that influenced the use and effectiveness of policies adopted. This would give also the idea of the importance and effectiveness of specific instruments within the set of Cohesion policies and rural development. A complementary analysis would be opportune at a wider scale, involving the use of Cohesion Policies and Rural Development expenditures at least in the regions where case studies are located. This requires an exploration of the statistical data on policy distribution at territorial level of ERDF and EARDF and, to do so, the availability of data on categories of policy expenditures (environment, energy, research and development, infrastructures, local development, rural development measures, etc.) at territorial level (LAU 2 possibly), in order to evaluate how Cohesion policy and Rural development instruments are distributed in percentage and absolute value between IPs and non-IPs, as quantified by delineation and mapping of IPs in activities 3.3 and 3.4. In this regard all possible sources of data will be evaluated for the programming period 2007-13, both coming from other research projects or DG Regio data bases and from eventual open data sources[28]. If not possible, at least the quantification of the global expenditures between IPs and non-IPs will be investigated at the most significant territorial level.

- Analysis of the critical points in programming and delivering of Cohesion policies and Rural Development policies and their relations with national policies eventually focusing IPs. This requires a series of interviews with: a) national/regional officials in those countries where some particular policies related to IPs is currently implemented. In this context, the Italian case, where a concrete policy specifically targeted to IPs (under the name of National Strategy for Inner Areas, with the contribution of all ESI Funds, notably the ERDF), will be considered in the sample of interviews; b) EU experts, in order to test their perception about the need of a more focused approach to IPs and their potentials and limitations with regard to EU Cohesion policies. A semi-structured questionnaire will be elaborated to gather all necessary information. The questionnaire will focus on the present opportunities in the 2014-20 regulation frame for a policy targeted to IPs, and what could be improved to define better approaches and instruments for IPs and eventually what is the need to change in the present regulatory frame. In interviews with national/regional officers and EU experts the findings of mapping the distribution of 2007-13 expenditures will be discussed in order to understand with interviewees the reasons of expenditures patterns and the differences between IPs and non-IPs.

    - This analysis of policy instruments will allow us to produce conclusions on some crucial policy issues: likely synergies and complementarity between Cohesion policy and other territorial policies, notably rural development and national policies;

    - Key variables in the governance models that need to be supported by Cohesion policies (e.g. types of partnerships, costs of cooperation, specific local development measures, etc.);

    - Which implications for the current EU framework-regulations in terms of: policy tools, strengthening local governance, etc.

[28] See for example the case of the Italian regions, whose ERDF expenditures are published through an open data source called “Open Coesione” in the web site of the Ministry of Economics, Department for Cohesion and development, Rome, at LAU 2 territorial level; and also EAFRD expenditures are available from the data base of the National Payment Agency.

These conclusions will inform the policy recommendations to be formulated in a specific part of the final report of WP7.

Policy recommendations

The aim of this work package is to develop specific recommendations to tackle marginalisation on local, regional, national, and EU level and at the interlinkages between the single levels. Therefore, specific policy recommendations for stakeholders at different levels are needed that enable stakeholders to support IPs in utilizing their territorial potential and that create a basis against which existing programs aiming to tackle IPs can be evaluated.

In this step the outcomes of the analytic steps of Activities 7.1 to 7.3 will be screened and discussed with regards to policy relevance. Potentials and main factors for policy influence and further intervention will be marked and generalized where possible. Research gaps that concern IP can be identified and bundled with research gaps that were discovered at other project stages.

Against this background policy recommendations will be developed that apply to all IPs as well as recommendations that are specific for certain types of IPs. The policy recommendations will cover different topics such as infrastructure, SGI, socio-economic and cultural development. The embeddedness of the IP development into different long-term processes will be taken into consideration as well as various different time frames (short term / long term) and scales of interventions. Relevant types, topics and processes will be derived from analysis carried out in WP 2, WP 4 and WP 5. Building further on the analysis carried out in Activity 7.1 and Activity 7.3 recommendations for existing national and EU programs will be summarized.

To ensure that the policy recommendations are applicable and comprehensible at various stakeholders' level, we plan to discuss our preliminary results with policy stakeholders before delivering the final project report. One possible chance to get in touch with various stakeholders for this purpose could be the European Week of Regions and Cities 2017.

5.8.3 Results to date and description of main outputs for other sections of the project

The first steps of WP7, in particular those related to the analysis of the development of potentials and the critical review of integrated local development approaches mostly used in EU policies, will provide relevant elements for the methodological design of case studies (activity 6.1) and the selection of case studies (activity 6.2).

The draft report of the WP 7 activities will include conclusions on strategies, relevant activities at different scales and recommendations to address the needs of IPs and will be compiled in a brief report for stakeholders at the specific relevant actors' levels. Special attention will be given to easy access via good layout and clear outline. The summary of policy recommendations then also provides input for WP 8 which carries out the preparation of dissemination material (particularly the elaboration of the project's Handbook for local actors and decision makers, and input to other dissemination activities of the project).

5.8.4 Inputs for D2 "Delivery for Cohesion Report"

Inputs and policy recommendations for the Cohesion Report are to be provided in a period (January 2017) when the project is completing WP2/WP3 activities and has just started to elaborate draft "interpretative" model graphics within the WP5.

Consequently, main inputs that can be provided for the Cohesion report are as follows:

a) The identification of 50-100 IPs in Europe and the areas at risk of becoming IPs (activity 2.4);

b) The mapping of these areas and the analysis of how the IPs relate/overlap with other typologies developed at the EU level (e.g. urban-rural typology by DG SGRI and DG REGIO; urban-rural typology including remoteness to cities; mountain regions typologies by ESPON; border regions typologies);

c) The first graphic illustration of interpretative models developed within WP5, where drivers, opportunities and policies are linked with the reproduction of the different types of IPs.

5.8.5 Conclusions and next steps towards the Interim Delivery. Challenges and strategies

An early focus on the role of policy coherence, the comprehensive perspective for potentials and needs of IP and strategic options is crucial to engage in the debate how to counterbalance processes of marginalization. The Interim Delivery will report on the preparation activities for building strategies for the IP. At that stage of the project main input to the strategy discussion process will be based on the theoretical framework and the analysis of processes and drivers with an impact on IP.

Iterative processes suggested for the project are time consuming and require highly motivated actors and stakeholders. It will be important to start discussion processes under the consideration that strategic consideration will be an on-going issue beyond the project's final report. The Handbook and dissemination activities aim to contribute to that discussion.

References:

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5.9 Plan for developing the Handbook

Joan Noguera (University of Valencia)

5.9.1 The Handbook in the framework of the project: aim and main objectives

According to the ToR (p.3), a Handbook for policy makers at different geographical levels is the main outcome expected from the project. The aim of this Handbook is describing strategies for inner peripheries using an integrated approach to address and overcome their specific needs.

It belongs to WP 8. "Impact and Dissemination", where it stands as Activity 8.1.

The Handbook will use information, materials (for instance maps, diagrams and statistics) and results from different parts of the project. It will be mainly based on the work and output of WP 7 "Development of strategies for IP using integrated approach", but will also include maps and illustrations from WPs 2 and 3, material and examples from the Case Studies (WP 6) and from WP 4, and 'graphics' from WP 5. The Handbook will be accompanied by two other dissemination and impact actions. On the one hand, Activity 8.2, consisting on an event organized during the last months of the project life with the aim of gathering feedback from targeted audience and stakeholders about the project and, in particular, about the Handbook. On the other hand, Activity 8.3 will consist of a Learning Package.

As a dissemination action it is important to point out that the Handbook, along with the other two Activities of WP 8, will be planned and implemented in strict coordination with the communication strategy of the ESPON program.

5.9.2 Description and methodological approach

The Handbook is a guidance tool for decision-makers at all levels, including local actors, on ideas, experiences, initiatives and good practices that may have a positive direct or indirect impact on the evolution of Inner Peripheries, thus helping them overcome any trend towards further marginalisation and/or "disconnection". The Handbook will use results from different works carried out during the project. The text will contain proposals, mechanisms and methodologies for action on various dimensions of IPs. It will be illustrated with examples of good practice detailing elements of transferability. Actions will be incorporated for different territorial levels.

As developing strategies for IP is one of the main purposes of WP 7, the Handbook does not attempt at all to repeat that objective. Rather, it constitutes a high divulgation tool oriented to innovatively use the results obtained through WP 7, focused on the development of activities aimed at solving the problem of IP and provide strategies, mechanisms and pathways of action to prevent the progressive marginalization of territories at risk of becoming Inner Peripheries. The added value of the Handbook is the incorporation of innovative formats of divulgation that effectively capture the attention of the target audience. It will not be, therefore, a book, magazine or any other traditional format. It will rather consist of an orderly sequenced set of infographics (i.e. a combination of illustrations of any kind with texts), with an appealing layout, to show the different possibilities of action against the consolidation of Inner Peripheries. There may also be a digital version with interactive content depending on the availability of financial resources.

5.9.3 Results to date and description of main outputs for other sections of the project

Given the location of the Handbook at the end of the project calendar, and its very nature, this activity mainly collects information and data from other parts of the project activities, rather than being a source of information for other activities. It is therefore a synthesizer of results and evidence obtained during the development of the project.

5.9.4 Conclusions and next steps towards the Interim Delivery

The elaboration of the Handbook should allow to respond to a set of fundamental research questions using evidence obtained during the project (mostly still to be obtained by the work in other activities and WPs).

Next steps towards the Interim Report will include working in the development of the contents of each part of the structure of the Handbook. Specifically, the structure and the sources of information to be taken as a reference, are as follows:

- A conceptual introduction including the fundamental concepts: understand what are IP, how do they evolve, where they are, which are the main causing factors, how does the “downward spiral move, etc. This part of the Handbook is not meant to be a full conceptual framework, rather the strictly necessary conceptual background to allow for a correct understanding of the subject by the targeted audience. Information for this section will be obtained from Activities 2.1 and 4.1.

- A reflection on policy implications of the existence of IP, answering questions as why are IP a problem for citizens, territories and sustainable development? (Act. 2.2)
- Relevant facts about Inner Peripheries in Europe (numbers, statistics, maps) (Acts. 2.3, 2.4, 3.4)
- Can IP stop and reverse its marginalisation? How? (Acts. 4.1, 4.2; WP 5)
- Which are the strategies to avoid further deprivation in IP? (Acts. 7.1, 7.2)
- Policy needs in terms of Cohesion Policy for IP (Act. 7.3)
- Policy recommendations (Act. 7.4)

Each chapter will include illustrations and examples mainly extracted from the analysis of the Case Studies.

5.10 Plan for developing the Learning Package

Hèctor del Alcàzar and Joan Noguera (University of Valencia)

5.10.1 The WP/Activities in the framework of the project: aim and main objectives

The learning package is a dissemination tool aimed at spreading to wide audiences the main results and lessons arising from the development of the project. The main goal is to show, through Lifelong Learning tools when and why a territory is an Inner Periphery or an area at risk of becoming an IP. This tool will allow policy makers from a local perspective to perform a CLLD based exercise of checking the situation of their territory in relation to the indicators of Inner Peripherality. The Learning Package will, then, lead to different sources of information and/or tools (including the Handbook) to guide on the development of a local development strategy to face the consequences of inner periperalisation in a particular place. A good part of the necessary knowledge to build the learning package will come from the achievements of the project (definitions, significant indicators, policy recommendations, examples, …)

5.10.1.1 Main objectives

The main objectives of the Learning Package are:

- Raising awareness of local politicians and general public (stakeholders) about the processes and features of Inner Peripherality which are present in their territory.
- Proposing different solutions to decision makers. Good and bad results will be shown in order to give them information on the consequences of taking specific decisions particularly linked to the constituent elements of inner peripherality.

In order to achieve the main objectives, the Learning Package will make use of several findings of the project that will constitute the basis for the implementation of the learning tool. To be able to build the tool of the Learning Package the following actions will be carried out:

- Collecting information about the definition(s) for Inner Peripheries
- Collecting information about the most relevant indicators/factors/variables that help to identify an IP or an area at risk of becoming an IP
- Collecting information about the different types of Inner Peripherality

- Collecting information about the different “stages” of an Inner Periphery
- Collecting information about the characterisation of the different types of Inner Peripheries in Europe.
- Showing the main potential results emerging as a consequence of the implementation of an action, program or strategy in a particular territory, and the extent to which it has an impact (positive or negative) in the condition of IP or territory at risk.

5.10.1.2 Target public

The target public is wider than the one of the Handbook. Here we take a step down to focus on regions and territories, and their actors. As a CLLD-based tool, the focus is placed on:

- Local and regional policy makers (regional governments, local administrations, Local Action Groups, etc.)
- Local and regional stakeholders that can be involved in regional development processes (ie. entrepreneurs, associations, trade unions, lobbies, think-tanks, professionals in the field of planning, urbanism and land use, etc.)
- The local population considered as a key active in local development processes.

5.10.2 Description and methodological approach

The learning package will be a document where some relevant information created during the project will be presented in an attractive and visual way. This information will be presented mostly through graphics, illustrations, tables and maps already created under different activities of the project. The tool will also have links to others outputs created during the project (ie. strategies, Handbook), in order to create synergies and make possible further analyses.

It will be based on lifelong learning education principles with a common structure of contents for all target publics, including specific examples or annexes and at the end of each chapter, addressed to particular publics to reinforce key ideas.

The tool’s main goal is to contribute to determine in a clear and concise way, where a region is in terms of inner peripherality to allow public and private stakeholders at the local and regional levels to determine the best strategy to stop deprivation or disconnection from the processes and paths that favour sustainable development. Therefore, the Learning Package intends to facilitate empowerment of local and regional communities through raising concern about the own situation of peripherality and deprivation, and the rank of potential solutions that can be implemented to reach a better situation.

The Learning Package will be structured in three parts:

- The first part will constitute an introduction to the concept of Inner Periphery as developed by the project. It will be based upon graphical information and the format will be one of general divulgation. The information presented will include the concept and types of Inner peripheries, the features of areas at risk of becoming inner peripheries (main processes and features at play), the dominating reasons why a region falls down into a condition of Inner Periphery and the dominating reasons why an Inner periphery comes back from this situation, the key indicators and variables that help characterise each type of IP and each stage of the deprivation or dynamisation processes. Finally, the strategies, policies and programs that can be implemented to reverse inner peripherality and examples for illustration.
- The second part will build a method to identify the situation of a region under analysis in relation to the process of Inner Peripherality. It will take the form of an interactive process in which some information and/or data will be required from the territory under analysis. The information introduced will be, then, compared with indicators and other information that will allow to determine whether the territory is an Inner Periphery, it is in the process of becoming and Inner Periphery, or it is far from the risk of being an Inner Periphery. When the results indicate that the territory is and IP or it is under the risk of becoming an IP, more information about the region will be required to determine the type of Inner Periphery (in case the region is already an IP), of the stage in which is the territory (when the region is at risk of becoming an IP). At the end of this diagnosis, the tool will be ready to make an assessment of the current strategy of the region.
- The third part will propose some general strategies or public policies to overcome the weaknesses that maintain the region under the condition of IP or at risk of becoming an IP. The strategies will be related to the different characterizations of the diagnosis obtained in the assessment of the previous part and they will be presented in a common template (description, scale, challenges to deal with, results expected after the implementation of the proposed strategies and/or policies, actors that need to be involved and/or

take the lead to achieve expected results, resources needed, etc.). This template will be developed for the Interim Report.

Depending on costs and the type and quality of the outputs emerging from previous Activities of the project, which are essential inputs for the Learning Package, the option of developing a tool with some degree of interactivity will be carefully explored. This work would consist on a further elaboration on parts two and three of the learning package in the form of a quick response tool based on a simple input/output methodology.

5.10.3 Results to date and description of main outputs for other sections of the project

The Learning Package, together with the handbook, constitute two of the most relevant outputs of the project, both will be fed with results from other sections of the project. A draft version may be shown at an appropriate stage, in order to have feedback and improvement for building the final version.

5.10.4 Conclusions and next steps towards the Interim Delivery. Challenges and strategies

The main challenge come from the need to translate relevant information generated during the project, into an appropriate “language” (style, media types, etc.) which is appropriate for the target public (from local decision makers to citizens).

Although the Learning Package comes at the end of the project and is based upon the findings of previous stages, it is important to have already in mind the full strategy and methodology towards the construction of the Learning Package tool. This will allow to have a clear opinion during the implementation of different about the types of outputs (graphics, tables, images, etc.) will be needed for the learning package. From this perspective, we will be able to save time in the elaboration of new materials for the learning packages and to focus on adjusting the language and the design which are most appropriate to achieve the target publics.

6. Project Management Structure and Procedures

Joan Noguera (University of Valencia)

The consortium has developed an internal Partnership Agreement whose purpose is to specify the relationship among partners, in particular concerning the rules of procedure for the work to be carried out, the rights and obligations of partners concerning, inter alia, liability, access rights and dispute resolution and the relations that shall govern them within the transnational Partnership set up in order to complete the PROFECY Project as approved by ESPON EGTC.

There are several chapters of the Partnership Agreement that explain in detail the Project Management Structure and its Procedures. Inter alia, the organizational structure of operation of the partnership, the obligations and roles of the lead partner and the other partners of the consortium, the evaluation aspects of the project development.

Below are presented in more detail each of these elements of the project management system.

6.1 Project Management Structure

The Organisational Structure of the Partnership consists of the coordinated functioning of the following elements:

- The **Project Steering Committee**. This is the main body of representation of the Consortium and includes, at least, one named representative per partner. This Committee will meet 4 key moments during the lifetime of the project and will discuss in detail all issues related to the development of the project. Among its main functions are included: holding meetings at key moments in the development of the project, to account for the progress of each element in the array of research, dealing with conflict and/or controversial issues that may cause a serious problem regarding compliance with the obligations of one or more partners, or the whole consortium, with respect to commitments acquired by contract. In addition, it is also responsible for checking that adequate interconnection between project activities occur, resulting in the generation of synergies and feedbacks which are being achieved effectively, thus contributing to meet commitments with ESPON EGTC. It is also responsible for scheduling the task sequence to the next deliverable by organizing internal deliveries in a certain order, setting the time for feedback to internal deliveries, and marking final deadlines for external deliveries to ESPON EGTC.

- **Research Management Committee**. The Research Management Committee is the highest body of monitoring the development of the project in the periods between meetings of the Project Steering Committee. Given its restricted composition, it is an internal body designed to respond on behalf of all Consortium in situations requiring a rapid response. The main role in this body belongs to the Coordinator, who may convene the committee or decide individually depending on the nature of the problem and its potential impact in the project performance. However, the committee also has an important role in scientific and technical discussion when circumstances make impossible the contribution of all partners. The Committee will meet at least six times (mainly virtually) during the length of the project. It is composed by the Project Coordinator, assisted by three thematic Research Coordinators belonging to three different partners. All members except the Coordinator may change during the implementation of the project if decided by the PSC.

- In addition to overall project management, there will be **Work Package Leaders and Co-leaders**, responsible for the smooth implementation of the respective WP and/or Activity. WP leaders may have individual skype meetings with the Coordinator and/or Research Management Committee in order to monitor project progress, identify delays, risks and problems early in advance. An early coordination between leader and co-leader is advised to facilitate a common understanding of the Activity and a shared workplan towards its implementation, including creation of synergies and feedback from/to other activities.

- The **Research Coordinator**. The maximum responsible for the adequate development of the project. He will be supported by the other managing structures.

6.2 Obligations and duties of Coordination and partners

The Lead Partner and the partners commit themselves in doing everything in their power to foster the implementation of the Project in the best possible way, and shall ensure timely commencement of the project and implementation of the entire project within the time schedule in compliance with all obligations to the ESPON EGTC.

The **Lead Partner** shall fulfil the following obligations:

- Comply with the requirements set in the Service Contract;
- Provide the overall coordination, management and implementation of the Project;
- Represent the partnership and fulfil all the duties rising from representing the partnership, as listed in the Service Contract;
- Appoint a Project Coordinator and a financial manager and setting-up efficient and reliable management and control system, coordination system and audit trail;
- Start and implement the project according to the description in the ToR and the Contract approved by ESPON;
- Request payments according to the procedure set in the Service Contract;
- Receive payments from ESPON and transfer portions of it to the partners as soon as possible;
- Guarantee the sound financial management of the funds allocated to the project, including arrangements for recovering amounts unduly paid;
- Communicate with ESPON and bodies involved in the Programme implementation and report timely to the project partnership;
- React promptly to any request by ESPON and bodies involved in the Programme implementation;
- Notify the partners immediately of any event that could lead to a temporary or final discontinuation or any other deviation of the project;
- Properly archive documentation.

Every partner shall fulfil the following obligations:

- Comply with the requirements set in the Service Contract;
- Appoint a project manager for the parts of the project for which it is responsible and give the project leader the authority to represent the partner in the project;
- Start and implement the part of the project for which it is responsible according to the description and the implementation schedule given in the application form (including annexes) approved by ESPON;
- Ensure that his expenditure has incurred for the purpose of implementing the project and correspond to the activities agreed by the partners and described in the application form (including annexes);
- Having his share of expenditure verified by the Lead Partner;

- Support the Lead Partner in preparing the request payments according to the procedure set in the Service Contract;
- Guarantee the sound financial management of the funds allocated to the project;
- React promptly to any request of the Lead Partner, of ESPON, in particular for what concerns requests related to the coordination and implementation of the project;
- Notify the Lead Partner immediately of any event that could lead to a temporary or final discontinuation or any other deviation of the project;
- Support any audit or control;
- Properly archive documentation, as required by the Service Contract.

All rights, obligations and liabilities arising out of the Service Contract and accepted by the Lead Partner on behalf of the Partners by means of the Service Contract shall be transferred to each Partner insofar as they are applicable to the activities to be performed by each Partner under this Agreement.

6.3 Monitoring and evaluation

An important part of the management procedures of the project is referred to the monitoring systems and integer evaluation. The principal elements of the internal monitoring and evaluation of the project consists of:

1. The Lead Partner has overall responsibility for monitoring the actions undertaken by the Project Partners on an on-going basis.
2. The Lead Partner is responsible for submitting the Inception Delivery, Delivery for Cohesion Report, Interim Delivery, the Draft Final Delivery, and Final Delivery to ESPON EGTC through the project lifetime.
3. Each Project Partner is obliged to supply the Lead Partner with all information that the latter deems necessary for the preparation of above reports and for any other specific documentation that might be requested by the Project Steering Committee or ESPON.
4. The consortium will set up a quality security system including the review of the works and duties of one partner by another, according to a protocol that will detail procedure and calendar
5. The lead partner shall systematically keep partners informed on a regular basis of all relevant communication with the bodies implementing the Programme.

7. Quality Control Measures and Risk Assessment Measures

Joan Noguera (University of Valencia)

Quality control and risk management constitute two key elements oriented to guarantee the proper functioning of the project.

The function of a quality control system consists of setting up control systems, double checking, filters and revisions to the early detection of problems of orientation, validity and robustness in the way the different phases of the project come together. The components of the "quality control system" activate automatically upon detection of any problem. The quality control system of the project shall allow, among other minor benefits, for: (i) obtaining more relevant and significant results through the introduction of various mechanisms for monitoring and review; (ii) an early coordination of the implementation of each part of the project among responsible partners (leader and co-leader); (Iii) a better integration of the different parts of the project through management mechanisms, to detect and correct errors, deviations and overlaps in the planning and execution of each activity; and (iv) the generation and application of feedback between activities of the project to obtain more robust results and somehow break the linearity imposed by the overall structure and timing.

7.1 Quality Control Measures

The quality control system consists of a set of core, always active measures, and another set of *ad hoc* mechanisms to be applied depending on whether the motivating circumstances exist. The **core measures** will include, at least:

- A good quality control begins with a **strong project management** which, in turn, depends on strong leadership. The lead partner, University of Valencia, will monitor whether all tasks are carried out according to the plan. Work progress will be monitored through regular skype meetings/telephone, email to early detect problems and find solutions firstly with the concerned partner(s) and, not having succeeded, in the framework of the Steering Committee Group. Shall the problem or conflict persist, the Coordinator will seek one more time a solution with the partner(s) concerned. If the partner(s) persist in their attitude, the Coordinator will inform ESPON EGTC and a definitive solution will be imposed depending on the nature and circumstances of the specific problem or conflict.

- A **Project Server** has been established where all partners can upload and download documents of the project (administrative templates, minutes, methodological tools, texts for discussions, etc.). At the moment, a Dropbox Group has been set up but it may be changed to a pay version of Dropbox or to another virtual platform depending on the functionalities, the amount of data and documents, and its size (Dropbox establishes size limits for regular users). Some simple rules for use and an adequate management of the project server are essential to ensure, for instance, that last versions of documents are always recognizable with outdated versions in specific folders. The lead partner will be in charge of informing the rest of partners in the event that a relevant document is made available in the project server for discussions, review or information. In particular, when comments are required and due by an immediate deadline.
- **Frequent Feedback Rule.** The coordinator will regularly report ESPON about project progress, relevant issues identified, etc. (via skype, telephone, email). The coordinator will also regularly consult with the Research Management Committee in the event of doubt or before having to take important decisions on behalf of the consortium.
- **Internal Reporting**. Each partner may prepare and circulate Technical Notes (see template at the end of this chapter) on individual topics, which (a) demonstrate the work progress, (b) are being used for internal exchange of information, and (c) can later be used to easily compile the deliverables.
- **Administrative and Technical project management by the Lead Partner** will ensure necessary backstopping staff checking that administrative procedures are on time and in line with requirements.
- **Detailed guidelines from WP and Activity Leaders on how to carry out the activity or WP**. This information will be essential so that the procedure and output of individual partners is as much standardized and comparable as possible, which makes synthesis reports easier and scientifically valid.

7.2 Risk Assessment Measures

Risk Assessment measures intend to plan for eventualities in the project that could be caused, for instance, by a breach of obligations of one or more partners by inability or negligence. Risk can take the form of unforeseen difficulties that arise or become evident at the time of addressing the implementation of some of the project activities. Can also consists of changes in the overall thematic context (i.e. data availability and sources of information deemed essential to achieve the objectives of the project, etc.) and territorial context (i.e. significant changes in political organization of the territory that consolidate during the project, etc.). The prevision of these hypothetical events must be accompanied by specific plans to overcome, as effectively as possible, the potential damage caused for the optimal development of the project.

The main types of risks are described below, along with some risk assessment measures.

7.2.1 Information Gaps, Deficiencies

As already remarked by previous ESPON Projects dealing with Inner Peripheries (GEOSPECS 2013) missing data is a significant problem with some of the key regional data sources. A recent review (Copus 2006) found that the most complete coverage is a feature of data tables derived from European-wide surveys, such as the Labour Force Survey. Data tables which report on statistical exercises carried out within a Eurostat standard specification, (such as the Regional Accounts Methodology) are also relatively complete. However other tables are compiled from the results of member state censuses and surveys. Some like the demographic data have gaps due to the different periodicities and schedule. Others, such as the unemployment data, are hampered by differences in definition and practice.

Previous experience working with these data suggests that some of the data gaps can be filled by careful substitution of data for the same region in the nearest available year, or, (for ratio indicators – where, for example NUTS 2 data exists, but not NUTS 3) for the next level in the NUTS hierarchy. In certain circumstances apportionment using correlated proxy variables may be an acceptable means of “filling in” regional detail. Member state sources may also provide acceptable data. These are, however, laborious processes, which can only be attempted for a limited number of key indicators, and the most appropriate method should be selected on a case by case basis.

An important part of the work will be based on a range of case studies, depending on the availability and participation of local stakeholder. The willingness of policy makers and stakeholders to participate in research is not always guaranteed. As most of the partners have considerable experience in conducting case studies in their respective countries, they have extensive expertise on how to motivate and encourage policy maker and stakeholder participation. The structure of the research plan is designed to be flexible, so that in the case of the non-participation of a specific region or project, another region can be selected. In any case, contingency plans for concrete situations have been thought.

7.2.2 Risks with regards to methods

Unlike the usual approaches to the theoretical framework of research projects, the essentially policy-oriented nature of this research advices for a different approach. Thus, the conceptual review tasks are clearly aimed at the achievement of action and intervention tools on top of a standard review of the state of the art. The interdisciplinary nature of the project and mix of research methods demands careful attention to the specification of a common conceptual framework and baseline position. UNIVAL will coordinate the elaboration of a comprehensive methodological framework (see WP2). The WP team will review the conceptual framework for the study and elaborate the key concepts. Interactive working with all partners will initially expose and elaborate alternative disciplinary understandings of the key problems and concepts and work towards more common understandings.

7.2.3 Temporal risks

The timely delivery of milestones and deliverables is a crucial precondition for the progress of the project. Due to the explicit links made between the WPs and between specific tasks, the planning and control cycle has to address specifically the issues that are needed for integration across the project and to make sure that output from one WP that is needed as input to another is delivered in a timely manner. As this project for the first time ever tries to delineate IPs in Europe based upon a harmonized definition, some “trial and error” loops may be need to select the most appropriate types of threshold and indicator combination rules which may, depending on the required number of iterations, lead to delays in the further project. The evaluation of the tasks and the WP progress will strongly focus on these links. The Coordinator will be responsible for this control.

7.2.4 Risks with regard to contents

The proposed research in the work packages is based on the extensive experience of the participating scientists and experts. For each topic, several scientists are responsible for the development of the specific research approach. This will ensure a broad approach [for example in relation to research design and methods of data collection] that is flexible enough to respond to unforeseen topical problems. The planned regular meetings will provide a solid basis for the timely detection of research design and data collection differences and contradictions as they arise. In addition, the Coordinator will be in touch with all project partners regularly to stay in continuous contact and to be able to foresee upcoming conflicts. Most of the participating scientists are members of existing scientific networks, thus allowing for the inclusion of the considerable experiential base that can be used to overcome any methodological problems.

7.2.5 Risk assessment

Risk assessment covers all activities and requires timely response to issues that arise but which were not foreseen at the planning phase. An integrated approach will be used to execute, monitor and evaluate the progress in and beyond the WPs and Activities. The project management will provide planning and control tools. All Tasks will be evaluated regularly and reports made to the project management.

The timing of the deliverables will be according to the List of Deliverables in the minutes of the Kick-off meeting. The quality of deliverables will be guaranteed by a formal “deliverables acceptance procedure‟. The relevant guidelines will be defined by the Steering Committee.

7.2.6 Data management and maintenance

The project will create a well-functioning and up-to-date database, where all the data, indicators and geo-spatial information will be gathered. The basis of this database will be an electronic database from where the data can easily be presented, delivered to other activities and transferred to tables, figures and maps. The database will contain all of the comprehensive data, indicators and indices collected and estimated, as well as the methodology and calculations used (i.e. metadata). Particular focus will be placed on time series, data harmonisation and metadata in order to make it as easy as possible to further work with the indicators.

The final dataset will be fully documented, including the sources, availability, comparability, missing data, statistical models, estimation procedures and other possible peculiarities. The format used to write up these metadata will correspond to the latest ESPON metadata template as provided by ESPON EGTC to the project team.

The database will also be easily moved such that later use and updates are as feasible as possible. The resulting datasets of the previous data collecting and processing exercises will be transferred to an integrated geo-database in accordance with ESPON database guidelines (Activity 2.4). This also includes ensuring that metadata documentation is available and complete. The database can build on excel, statistical programs or GIS-based databases. The final format will be discussed and outlined in the Interim Report and a final decision will be taken after consultation with the ESPON EGTC and the project Steering Committee.

All indicators will be handed over to ESPON EGTC by individual Excel files, one file per indicator, in accordance to the latest ESPON Excel file template. At the end of the study, these Excel files will be uploaded to the ESPON database by using the web portal provided through the ESPON website.

7.2.7 Visualisation

The visualisation of the IP delineations, of indicator results and of input data is crucial for this study. The ESPON Database project already provided a number of map kits for ArcGIS, which helps all ESPON projects to generate standard ESPON maps. The latest versions of these map kits will be provided by ESPON EGTC, and will be used by the project team as a guideline and reference point.

The visualisation needs in this project however go beyond the standard ESPON map templates in various ways:

- (i) the project is expected to analyse up to seven case study areas. Thus new standard map templates for these case study areas need to be developed, in addition to the mapping of indicators for the entire ESPON space;
- (ii) this project deals with time-series data. Often time-series are illustrated by line charts or bar charts. Appropriate charts thus need to be developed;
- (iii) (iii) as part of the case studies, the project is likely to go beyond the NUTS-2/3 level by using smaller spatial units, so the existing ESPON map kits need to be extended / improved towards a higher spatial disaggregation.

All of the above-mentioned extensions to the standard ESPON map templates will of course take into account all of the ESPON layout guidelines and will rely as much as possible on the existing map templates.

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PROFECY TECHNICAL NOTE

VERSION 1 (10-07-2016)

Title:
Activity(ies):
From (Partner or person):
To (partner(s) or person(s):

Type of note

☐	**Informative** (requires answer or comments)
☐	**Informative** (does not require answer or comments)
☐	**Input** for other Activities
☐	**Propositive** (requires debate among all or some partners)

Description of the process, conflict, element for discussion, progress (whatever applies)

Proposals for action (if applicable)

8. Timetable and Work Plan

Joan Noguera (University of Valencia)

In this section two organizational aspects of the project are presented: on the one hand, the scheme of milestones and main deadlines of the project (timetable); on the other hand, the agreed Work Plan designed to achieve the project objectives and deliverables in a solvent and prominent way.

8.1 The Timetable

The project has an overall duration of 18 months. The project schedule starts with the determination of so-called "T"-day, which in turn, is subject to the celebration of the Kick-Off meeting of the project. The Kick-Off meeting was held in the premises of ESPON EGTC (Luxembourg) on the 7th of June 2016. The establishment of this date as "T" determines much of the rest of the project timetable, especially in what has to do with dates for main project deliverables (see Table 8.1), but also affects the establishment of meetings with representatives of the Consortium ESPON EGTC and PST. These meetings may be face to face or virtual, and roughly take place one month after the delivery of each of the major deliverables.

It is therefore an ambitious project that faces major questions to be solved in a very limited period of time, considering the difficulties of the subject matter in terms of novelty and availability of the necessary information (in the form of objective data principally) to trace the geographical limits what we call "inner peripheries". Still more dangerous and difficult is to determine the historical evolution of the phenomenon in Europe, and find out how the delineation of the phenomenon changes as regions make progress or losses track in different types of development processes.

Figure 8.1 Timetable with the main Deliveries and deadlines of PROFECY

Code	Delivery/meeting	Description	Deadline
T	Kick-off meeting	General dialogue regarding objectives and tasks. Participation of Project Support Team (PST)	07-06-2016
D1	Inception delivery	Includes: (i) Description of conceptual and methodological framework; (ii) Plan for identifying IP; (iii) Overview on data to be used and plan for overcoming challenges in data collection; (iv) Plan for analysing 'status' of IP identified; (v) Plan for identifying processes and drivers; (vi) Plan for carrying out case studies; (vii) Plan for developing strategies for IP; (viii) Proposal on inputs expected for Cohesion Report	07-08-2016
	Meeting or teleconference	Teleconference ESPON EGTC, PST and Consortium	07-09-2016
D2	Delivery for Cohesion Report	Elaborated inputs and policy recommendations expected for Cohesion Report	January 2017
D3	Interim delivery	Includes: (i) Overview of data gathered; (ii) IP identified; (iii) State of affairs for the 'status' of the IP identified; (iv) Processes and drivers identified; (v) Case study regions proposed; (vi) State of affairs for strategies for IP	07-03-2017
	Meeting or teleconference	ESPON Activity 2	07-04-2017
D4	Draft Final delivery	Includes: (i) Draft executive summary (max. 5 pages) based on key policy questions; (ii) Draft main report (max. 50 pages) (including: short description of methodology, maps and analyses of IP, description of processes and drivers, synthesis of the case studies, description of strategies for IP, ideas on future analysis and research on this topic); (iii) Draft scientific annexes (including: everything that has to be known to make the study repeatable and verifiable, case study reports); (iv) Draft handbook on strategies for IP (max. 20 pages)	07-08-2017
	Meeting or teleconference	ESPON Activity 3	07-09-2017

Figure 8.1 (cont.)

Code	Delivery/meeting	Description	Deadline
D5	Final delivery	Includes: (i) Final versions of the reports included in the draft final delivery; (ii) Data gathered according to ESPON metadata template; (iii) Maps included in Final Delivery reports (in vector format) and related geodatabase; (iv) PPT presentation (max. 30 slides), made up of the main components of the Main Report; (v) Proof of the integration of data used in the framework of the study into the ESPON database.	07-12-2017

8.2 Workplan

A Work Plan has been designed thinking in the overall structure of the project and the timetable of Deliveries to ESPON EGTC. In most cases, Activities produce their part of the Delivery about a month before the deadline for ESPON EGTC. This procedure to allow for an intensive internal review (does not meaning that work on ongoing activities cannot continue, it is just an alert that it is the time to focus on what needs to be provided by each WP for the next Delivery).

The Work Plan has been designed to allow enough time to prepare contributions by partners, integrate all contributions by the project coordinator, and leaving some time for the partners to review the integrated Delivery and make last minute comments that will be integrated before sending the final Delivery to ESPON.

The Work Plan has undergone significant changes with respect to that presented in the original proposal, mainly in response to the comments and findings of the PST members during the Kick-Off meeting. The first consequence is that all activities include some work to be done during the first two months in order to produce the necessary output for the Inception Deliverable so that each activity can work on preparing the items to be included in this first Deliverable.

Subsequently, and for the rest of the project development, the calendar unfolds based on the inputs and outputs of different activities for the rest of the project. This way of planning allows for maximising the availability of results that advance to successive activities dependent on obtaining information or empirical evidence from previous activities of the project. Thus, we reach the last project deliverable largely avoiding the difficulties of lack of knowledge and lack of information that could largely influence the achievements of PROFECY in a scenario of 18 months.

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SCHEDULE OF WORKING PACKAGES AND ACTIVITIES

Work towards Inception Deliv.	D1	Inception Delivery (07-08-2016)
Work towards Interim Deliv.	D2	Delivery for Cohesion Report (January 2017)
Work towards D.F.D.	D3	Interim Delivery (07-03-2017)
Work towards F.D.	D4	Draft Final Delivery (p7-08-2017)
Formal Delivery to ESPON	D5	Final Delivery (07-12-2017)

	Jun.17	July 16	D1	Aug. 16	Sept. 16	Oct. 16	Nov. 16	Dec. 16	D2	Jan.17	Feb.17	D3	Mar.17	Apr.17	May.17	Jun.17	Jul.17	D4	Aug.17	Sep.17	Oct.17	Nov.17	D5	Dec.17
WP 1. COORDINATION																								
Activity 1.1 Research Activity Coordination.																								
Activity 1.2 Administrative and Financial Management.																								
Activity 1.3 Reporting.			Inception D.						Cohesion P. D.			Interim D.						D.F.D.					F. D.	
WP 2. IDENTIFICATION OF INNER PERIPHERIES AT EUROPEAN LEVEL																								
Activity 2.1 Definition of IP and Conceptual Framework																								
Activity 2.2 Key issues for policy making																								
Activity 2.3 Identification of 50-100 IP in Europe and areas at risk of becoming IP																								
Activity 2.4 Delineations of IP in Europe and identification of NUTS 3 that are IP																								
WP 3. DATA GATHERING AND ANALYSIS TO IDENTIFY I.P. AT EUROPEAN LEVEL																								
Activity 3.1 Review of data availability																								
Activity 3.1 Data gathering at building for the ESPON Space																								
Activity 3.2 Development of databases and indicators for IPs																								
Activity 3.3 Mapping and contributions to ESPON Database																								
WP 4. ANALYSING THE STATUS OF INNER PERIPHERIES																								
Activity 4.1 Charac. and analysis of the status of IP and areas at risk of becoming IP																								
Activity 4.2 Analysing the evolution of IP delineation over time																								
WP 5. IDENTIFY PROCESSES AND DRIVERS PLAYING A KEY ROLE IN MARGIN. OF I.P.																								
WP 6. CASE STUDIES OF INNER PERIPHERIES																								
Activity 6.1 Methodological Design of Case Studies																								
Activity 6.2 Selection of Case Studies																								
Activity 6.3 Implementation of Case Studies																								
Activity 6.4 Individual analysis and reporting of Case Studies																								
Activity 6.5 Comparative analysis and reporting of Case Studies																								
Activity 6.6 Standard maps and databases for Case Studies																								
WP 7. DEVELOPMENT OF STRATEGIES FOR I.P. USING INTEGRATED APPROACH																								
Activity 7.1 Designing an integrated approach to address and overcome needs of IP																								
Activity 7.2 Identification of dev. potentials and definition of strategies for IP																								
Activity 7.3 Assessment of policies in IP. Proposals for future Cohesion Policy																								
Activity 7.4 Research agenda for future research on IP																								
WP 8. IMPACT AND DISSEMINATION																								
Activity 8.1 Handbook for local actors and decision makers																								
Activity 8.2 International Conference on IP																								
Activity 8.2 Learning Package																								
CONSORTIUM MEETINGS	22-23									W16-20						W19-23					W23-27			
OUTREACH ESPON ACTIVITIES								08-09							22-26									
MEETING or SKYPE ESPON EGTC - CONSORTIUM (min. 1 person from Consortium)					Day 7									Day 7						Day 7				

9. Orientation of Research towards the Interim Report

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The Inception Delivery constitutes a detailed report of the PROFECY project as it stands two months after its approval. This last section of the ID provides a synthesis picture of the development of the project towards the Interim Report.

According to the detailed project schedule, all Working Packages and most of the activities in which they are structured have completed preparatory activities for the Inception Delivery following a standard template. In particular, activities of WP 1 "Coordination" and WP 2 "Identification of IP at European level" are those that have concentrated more activity since the project schedule includes an early development of the theoretical framework (Activity 2.1) and of the key issues of policy-making (Activity 2.2).

In the process of preparation of the Inception Delivery each activity has defined and develop key aspects like its objectives and purpose, the methodologies to be used, the input-output relations with other activities, the challenges to be overcome during the development of each activity, and the strategies to address them. This information is now a fundamental starting point for the integrated organization of the project’s work and development in the coming months with an eye on the objectives of the Interim Delivery.

PROFECY towards the Interim Delivery

The first few months after delivery of the Inception Delivery correspond to the completion of the technical aspects of Activity 2.1, which should serve as a starting point for the operationalization of the types of Inner Peripheries defined in the conceptual framework, and the subsequent delineation of the different types of IP, to as far as possible depending on the information available. Contacts and discussions between responsible partners for Activity 2.1 and Activities 2.3 and 2.4 will be essential to complete the operationalization of the different types of IP identified and for developing up to 4 delineations of IP in Europe. Each of these delineations will be in complete harmony with the conceptual types of IP identified in Activity 2.1. For each IP delineation performed, between 50 and 100 NUTS3 will be identified as corresponding to this type of IP region. Although results are already being provided, it is expected that all activities of WP 2 will be completed by January 2017. The information provided by this WP constitutes fundamental knowledge contribution to the development of much of the rest of the project.

The dimension of the achievements of PROFECY project will depend, largely, on the possibilities offered by statistical data. Following the identification of the conceptual types of IP (Activity 2.1) and the methods for their operationalization, activities relating to the search and construction of databases with variables and indicators needed for mapping the different types of IP identified become a priority (WP3). Partners responsible for this WP have already begun to compile information from various sources, primarily those covering the continental space in a harmonised way and, possibly, showing diachronic series. One of the main challenges in this respect is the difficulty of obtaining the necessary information to the appropriate geographical scale. By using GIS tools, WP 3 intends a coverage of the entire continental space at least at NUTS3 level. It is much more difficult to obtain adequate data for the entire ESPON space to what would be the most appropriate scale (LAU-2) in order to identify IP processes optimally. In any case, the data collection will mark the possibilities of working at this scale. WP3 will make all efforts to apply the delineation model for one or more types of IPs for the Continental space. In any case, the project will try to obtain the relevant data for at least the 7 case studies in order to explore the behaviour of the optimal indicators.

Working Packages 4, 5 and 6 will utilise the results and achievements of WP 2 and 3 in an attempt to derive new knowledge about the territories identified as Inner Peripheries or areas at risk of becoming Inner Peripheries. Therefore, each of these working packages will have as one of its main points of referenced results of WP2 and WP3. For instance, WP4 on the analysis of the status of the inner peripheries departs from the previous delineations of IPs systematised, conceptualised and carried out in WP 2 and 3, in order to detect and characterise the processes and features that cause the condition of IP or the marginalisation process leading a standard region to an inner periphery. On the other hand, WP5 will work partly with the knowledge generated in the WP4 to identify processes and drivers who have a role in the marginalization process leading to IP. Finally, WP6 dealing with the implementation of Case Studies seek to provide qualitative knowledge from carrying out seven examples of Inner Periphery territories, possibly corresponding to each of the various types identified. Taking a look at the objectives and tasks of these three WP (4, 5, 6), no doubt it is essential that the circuits and feedback procedures between them are completely developed as necessary, the tight schedule of the project may imply added challenges that the team will have to overcome. Given the novelty of the concept under study, the results obtained in the development of these WP may lead to important feedback to previous tasks of the project and even to the very conceptualisation of the IP phenomenon in its various manifestations.

The remaining activities of the project, corresponding to the WP 7 "Development of Strategies for IP using Integrated Approach" and WP 8 "Impact and Dissemination" are in the preparatory phase awaiting emerging results from previous WP that will constitute relevant inputs for them. For the Interim Report is expected that these WP can present a complete development of their methodological approaches and, to some extent, specific developments in some of their parts. However, it will be the Draft Final Report which will contain greater detail on the results and instruments obtained in the development of these WP.

This document constitutes the Inception Delivery of the project "Processes, Features and Cycles of Inner Peripheries in Europe. ESPON Project EE/SO1/013/2016.

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ESPON 2020 – More information

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