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The full tendering documentation (ToR and annexes) can be downloaded from the *Portail des marches publics* in the link available under the section for this call.

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In case of interest, you are invited to download the full tendering documentation from the *Portail des marches publics* and submit your tender via the same platform.

Call for tenders

Terms of reference

“Territorial Exaptive Resilience along EU Eastern Borders”

TERRA RES

Extract from the Terms of reference

ESPON EGTC

17 April 2024

Implementation Framework: The Single Operation within the ESPON 2030 Cooperation Programme implemented by the ESPON EGTC. The ESPON 2030 Monitoring Committee approved the Single Operation on 26 September 2022. The Single Operation is co-financed by the European Regional Development Fund via the ESPON 2030 Cooperation Programme.

Key Information on the Procurement

Title	Territorial Exaptive Resilience: Reinvigoration along EU Eastern Borders (TERRA RES)
Procedure	EU Open
Contracting authority	ESPOG EGTC 11, Avenue John F. Kennedy L-1855 Luxembourg Grand Duchy of Luxembourg
Type of contract	Service contract
Duration	8 months (6 months implementation + 2 months closure)
Maximum available budget	EUR 80.000 (excluding VAT)
Place of delivery	Luxembourg
Lots	This tender is not divided into lots
Variants	Not permitted
Market access	Participation in this tender is open to all economic operators established in the European Union, the European Economic Area and third countries signatories to international agreements in the field of public procurement by which the EU is bound
Tender submission method	Electronic submission via the Luxembourg Public Procurement Portal (www.pmp.lu)
Deadline for sending requests for information And/or reporting errors, omissions, ambiguities, or discrepancies	07 May 2024 at 10h59 CET
Deadline for submission of tenders	14 May 2024 at 11h00 CET

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1 What is to be done? (Purpose of the contract)

The ESPON EGTC is launching an open call for tenders to further build up ESPON's stock of research and provide new European territorial evidence in the framework of the [ESPON 2030 Programme](#). Expertise support is sought to gather new evidence on “Territorial Exaptive Resilience: Reinvigoration along EU Eastern Borders”. This work is being implemented at the request of upcoming Polish Presidency of the Council of the EU (first semester of 2025) which has identified this topic as one of priorities for the future of territorial cohesion and Cohesion Policy after 2027. The new evidence responds to the policy considerations described in the ESPON 2030 Thematic Action Plan: Living, working and travelling across borders.

The study aims at developing and showcasing a methodological and empirical approximation of territorial exaptive resilience. It shall encompass border regions, notably those along the eastern external border¹ of the EU and the Norwegian Troms og Finnmark county bordering Russia (i.e. the minimum set of countries concerned is **Norway, Finland, Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary and Romania**). The evidence gathered through this service contract will serve as an input for the Polish Presidency of the Council of the European Union² in steering discussions, for instance, during the meetings of the Territorial Agenda 2030 Working Group (TAWG), the Network of Territorial Cohesion Contact Points (NTCCP) and Directors-General responsible for Territorial Cohesion (DGTC), Directors-General responsible for cohesion policy (DGCP).

1.1 Context

Cohesion in border regions remains a substantial political challenge, raising questions about resilience^{3,4}

Recent geopolitical tensions triggered by the war in Ukraine compound the challenges for Eastern external border regions, transforming former operational cross-border territories into, now, bordering regions.

¹ Eurostat identifies border regions in the EU as those regions with a land border, or those regions where more than half of the population lives within 25 km of such a border. [See here](#)

² Presidency held by Poland from 1st January until 30 June 2025

³ European Commission, Directorate-General for Regional and Urban Policy, *Forging a sustainable future together – Cohesion for a competitive and inclusive Europe – Report of the High-Level Group on the Future of Cohesion Policy, February 2024*, Publications Office of the European Union, 2024, <https://data.europa.eu/doi/10.2776/974536>

⁴ 9th Cohesion Report: https://ec.europa.eu/regional_policy/information-sources/cohesion-report_en

In response to these challenges, efforts are underway to enhance the resilience of border regions. When addressing the concept of resilience, there is no single conventionalised definition and depends on the field of application ([ESPON TERRES, 2024](#)):

- In spatial planning: resilience is the capacity to develop novel models for analyzing territorial dynamics, enabling the implementation of innovative strategies in response to ongoing global processes;
- In engineering: resilience is the ability of systems to anticipate and adapt to the potential for surprise and failure (Hollnagel et al., 2006). An organisation's ability to bounce back and to survive and potentially even thrive, in times of crisis (Seville, 2008).
- In ecology: resilience is a measure of the persistence of systems and their ability to absorb change and disturbance while maintaining the same relationships between populations or state variables (Holling, 1996). The capacity of a system to absorb disturbance and reorganize while changing to essentially retain the same function, structure, identity, and feedback (Walker et al. 2004).
- In socio-ecological systems: resilience is the ability of a system and its networks to adapt and quickly recover from disturbance, as well as transform when needed and across temporal and spatial scales. (Carpenter, 2005; Folke, 2016). Two phases are recognized in the scholarly debate: the first based on the notion of balance/equilibrium and the other based on the imbalance/non-equilibrium meaning of the system.

This study refrains from a wide methodological exploration but focusses on **exaptive resilience**, a concept borrowed from evolutionary biology. Exaptation refers to the process by which existing traits, structures, or functionalities evolve to serve new purposes or functions that were not originally intended or selected. **In the context of territorial exaptive resilience, the focus is on how regions leverage pre-existing assets in novel ways to enhance their resilience in the face of challenges or disruptions.**

The concept of territorial exaptive resilience offers a novel framework for understanding and enhancing resilience in regions along the external borders of the EU. By repurposing existing material and immaterial resources in innovative ways, these regions can adapt and thrive in the face of dynamic and unpredictable challenges.

The following considerations can be taken into account when approaching territorial exaptive resilience⁵:

⁵ Based on:

- Kollár, Dávid & Kollár, József. (2020). The Art of Shipwrecking: The Information Society and the Rise of Exaptive Resilience. *Dialogue and Universalism*. 30. 67-84. 10.5840/du20203015;
- Sedita, S.R., Blasi, S. and Ganzaroli, A. (2022), "Exaptive innovation in constraint-based environments: lessons from COVID-19 crisis", *European Journal of Innovation Management*, Vol. 25 No. 6, pp. 549-566. <https://doi.org/10.1108/EJIM-07-2021-0348>;
- Ivan De Noni, Andrea Ganzaroli, Luciano Pilotti, Spawning exaptive opportunities in European regions: The missing link in the smart specialization framework, *Research Policy*, Volume 50, Issue 6, 2021, 104265, ISSN 0048-7333, <https://doi.org/10.1016/j.respol.2021.104265>.

- exaptive resilience involves the **capacity of a system to adapt and respond to changing conditions** by repurposing or reconfiguring existing components or traits in innovative ways. This adaptive capacity allows the system to maintain functionality and stability even in the presence of disturbances.
- systems exhibiting exaptive resilience often **have redundancy in terms of functions or traits**. This redundancy ensures that even if certain components or functionalities are compromised or lost, alternative pathways or mechanisms can be activated or repurposed to maintain system integrity and functionality.
- exaptive resilience is often associated with **diversity and heterogeneity within a system**. This diversity provides a reservoir of potential traits or components that can be exapted or repurposed when needed, enhancing the system's ability to respond to unforeseen challenges or opportunities.
- exaptive resilience is characterized by **nonlinear dynamics**, where small changes or disruptions can lead to disproportionate or emergent responses within the system. These nonlinear responses can sometimes result in the exaptation of existing traits or structures to address new challenges or exploit new opportunities.
- **feedback loops** play a crucial role in exaptive resilience by enabling the system to learn from past experiences and adjust its strategies or behaviours accordingly. Positive feedback loops can facilitate the amplification and spread of exaptations that enhance resilience, while negative feedback loops can help regulate and stabilize the system.

With regard to geographical scope, the project will cover 9 countries: **Poland, Finland, Estonia, Latvia, Lithuania, Slovakia, Hungary, Romania and Norway**, and allow for a territorial analysis at NUTS 3 level for regions along or very close to eastern EU land borders (as identified by Eurostat⁶). Through empirical evidence, this research will address the following policy questions aimed at understanding and enhancing the exaptive capacity of the said regions:

- How can exaptive resilience be translated to the situation of the eastern EU external border? Is it possible to find a new development path for territory / region as opposed to path dependency?
- How to develop and harness the exaptive capacity of regions along external EU borders?
- How to measure the exaptive resilience of these regions? Which factors / drivers contribute to it? Which are the new paths for capitalising and reutilising the local resources (local competitive advantages) to enhance resilience in the long term?
- How can existing governance structures be adapted or reconfigured to facilitate exaptive resilience in regions along the eastern EU external borders? What multi-level policy mechanisms can promote resilience? Are new standards for coordination needed, in order to help ensure more consistency, clarity and coherence between top-down decision-making and bottom-up stakeholder actions?

⁶ [Map 1 provides an overview of the final classification for the border typology showing the different classes described above.](#)

- How can the new cohesion policy and other mechanisms (after 2027) more efficiently support border regions and ensure their development in the face of ever more rapidly changing socio-economic conditions and challenges? Do these need new / special tools (e.g. areas of specific intervention, special strategies)? What kind of support would be most effective (financial, legal changes)?

1.2 Objective

The EU's eastern border regions and the Norwegian Troms og Finnmark county can serve as a laboratory for the development of new functions and services tailored to the specific needs of external border regions. By exploring their exaptive ability, these regions could help create territorial development models that can be scaled and replicated in other parts of Europe facing the challenges of marginalisation, e.g. but not limited to Southern external border regions. The circumstances will be different depending on the type of border between the EU and non-EU countries which can greatly impact the flow of goods, services and people and therefore influence the development strategies for the border regions. Different kinds of borders, such as fully closed borders, partially open borders or fully open borders, present varying opportunities and challenges for economic, social and environmental development.

The study shall deliver a methodological and empirical approximation of territorial exaptive resilience with a specific focus on the EU's external borders and Norwegian Troms og Finnmark county. It is composed of a qualitative (Task 1) and quantitative analysis (Task 2). The qualitative analysis consists of **min. four case studies**, and the quantitative of **min. 2 hypotheses** to be tested.

The results of the study will feed the discussions on the "renewed" cohesion policy after 2027 and the prominent role of cohesion policy in ensuring the coherent development of all EU regions in the face of ever more rapidly changing socio-economic conditions and territorial development challenges.

1.3 Description of tasks

The technical offer should include an elaborated methodological approach and empirical strategy, as well as organisation and planning (i.e. how the necessary resources will be broken down between the tasks). **Given the short timeframe for the study implementation, Task 1 is limited to four case studies and Task 2 relies on available secondary data (e.g. Cohesion Open Data, Cordis, KEEP, Eurostat, etc.). It is advisable that tenderers consider the most efficient methods for Task 1 and work with available secondary data for Task 2.**

The territorial units of analysis of the below tasks is NUTS-3 or a more fine-grained territorial level. The tasks described below can run in parallel and be empirically independent from each other. It is suggested that the tasks are not viewed in a linear way, but one feeding the other, being implemented in parallel and allowing for an interactive process and improving the final results.

1.3.1. Task 1: Case studies

The service provider is expected to conduct **minimum four case studies** answering policy questions, revolving around what exaptive resilience means for the EU's eastern external border regions and the Norwegian Troms og Finnmark county, in particular:

- What does exaptive resilience mean in a regional/territorial context? What exactly would exaptive resilience be in the specific context of a given region, taking into account its specific characteristics, among others, those related to its location at the EU's external border?
- What practices exist in reutilizing local resources and competitive advantage, demonstrating exaptive resilience?
- Is there an exaptive potential that helps to identify new development paths and overcome path dependency?
- What are the drivers for exaptive practices and potential (local policies, strategies, networks, culture, industrial structure, education, etc.)?
- How to develop and harness the exaptive capacity of these regions considering the geopolitical paradigm shift and their new functions?
- Can existing governance mechanisms serve as exaptive resilience?
- How can the new cohesion policy and other mechanisms post 2027 more efficiently support territorial exaptive resilience? What kind of policies and support instruments (financial, legislative) are expected to be most effective to enhance exaptive resilience?

The prospective service provider is welcome to resort to interviews of key stakeholders and desk research. The minimum of four case studies will secure a minimum degree of replicability, investigating own research assumptions, i.e. differences in exaptive resilience practices and/or potential in, for instance, regions with similar and dissimilar spatial characteristics. Tenderers are invited to propose a geographical coverage of the case studies taking into account the objectives and specific focus of the study, whilst **at least one of the case studies shall be a Polish external border region.**

The technical offer shall present the case study approach towards the policy questions and research assumptions justified by initial desk research. Moreover, tenderers are advised to propose the initial list of interviewees, which are expected to be pivotal in delivering new pieces of information and evidence not available via desk research. The ESPON EGTC along with the Polish Presidency team can assist the prospective service provider in accessing governance networks if necessary.

1.3.2. Task 2: Exaptive resilience index, estimation model and hypotheses testing

The task is expected to propose a measure for **territorial exaptive resilience and explain territorial differences in this measure, answering, in particular, the following research questions:**

- What are adequate indicators to approximate territorial exaptive resilience?
- What regional differences in exaptive resilience exist in border regions?

- Are there significant differences in exaptive resilience between border types; i.e. internal vs. external; Eastern vs. Mediterranean and Western; land border with Ukraine vs. not bordering Ukraine; land border with Belarus or Russia vs. not bordering Belarus or Russia; Polish external border regions vs. other external border regions.
- What explains the differences in territorial exaptive resilience?

The service provider is expected to propose and test **minimum two hypotheses** answering the last research question.

The task builds on the notion that territorial capital (industrial structure, GVA, population, density, etc.) does not change rapidly, and consequently territorial development investment follows a regional path dependency, based on needs (e.g. Cohesion Policy) and assets, (e.g. RIS3 strategies). Changing this path requires colossal adaptive resources (e.g. the Just Transition Fund and the Recovery and Resilience Facility). Exaptive ability, on the contrary, will be the recognition of new opportunities without massive structural change (i.e. labour and industrial stock, public services and infrastructure, etc.). This ability can be best traced for instance in bottom-up initiatives by regional beneficiaries across a certain period of time.

To proceed with the above, the service provider shall identify a key event, enabling a before-after comparison (e.g. the public announcement of the suspension of the cross-border and transnational cooperation with Russia and Belarus or the actual disruption at the border, i.e. an event that heralds in the territorial ripple effects of the war in Ukraine, with the front border regions being the most affected).

The exact approximation of exaptive behaviour shall be proposed by the service provider. Given the short implementation period, it is **advisable to apply a simplistic**⁷ exaptation index, easily constructible based on available data (among others Cohesion Open Data, Cordis, KEEP, Eurostat).

Exaptation indexation has been used in the context of smart specialisation strategies in the past⁸, however, in this study, the prospective service provider is expected to propose such index based on available secondary data, other than patents.

The unit of analysis are NUTS-3 border regions as classified by Eurostat, considering different border types as raised in the policy questions. **To ensure a statistically adequate number of degrees of freedom, the prospective service provider may consider running estimations on a dataset of all NUTS-3 border regions of the EU and EFTA, having dummies for the subsets of interest**

The prospective service provider shall, furthermore, introduce an econometric model aimed at explaining differences in regional performance on the exaptation index, e.g. by spatial characteristics, by GVA, population and population density, industrial structure (e.g. share of manufacturing, share of

⁷ Example: the amount of regional development investments committed by beneficiaries aggregated at NUTS-3 level in domains in which there was no investment 2 years before a key event divided by the total regional development investments committed since the key event, yielding a number between 0 and 1; the closer a NUTS-3 region being to 1, the more exaptive behaviour it demonstrates. NB. This example is by no means the desired proxy for exaptive resilience. Tenderers are invited to propose suitable alternatives.

⁸ De Noni, I., Ganzaroli, A. and Pilotti, L., 2021. Spawning exaptive opportunities in European regions: The missing link in the smart specialization framework. *Research Policy*, 50(6), p.104265.

agriculture), business demography, education, unemployment, NEET (if available for the years of interest), networks with other regions (R&D, cooperation networks), etc. The service provider is invited to propose other explanatory proxies, forming hypotheses beyond the traditional Eurostat data.

1.4 Expected outputs and deliveries

The following outputs and deliveries shall be provided covering the tasks of the requested service as specified above in section 1.3.

1.4.1 Expected deliverables

The study is expected to produce the following deliverables:

- 1) Deliverable 1 (D1)**
 - Refined case study interview scope and list of interviewees.
 - Refined hypotheses (min. 2), estimation model and technique (with justification) as well as description of variables.
- 2) Deliverable 2 (D2)**
 - Summary paper: The outputs of the case study analysis and estimations / hypotheses tests shall be summarised in a paper with the length of 10,000 – 12,000 words (ca. 24 pages including maps and graphs). The paper shall summarise all conclusions on exaptive territorial policy and include maps of the proposed index and the key explanatory variables from the Task 2 model; including the results of the territorial and interviews analysis. The paper should present research conclusions and proposals for policy discussion.
 - Annex 1: case study observations including raw qualitative data.
 - Annex 2: Produced maps and visuals: at least three maps, i.e. the index and 2 key explanatory variables.
 - Annex 3: Conventionalised reports from the econometric estimations and hypotheses tests. Explanation of the variables, the model and a Justification of the estimation method.
 - Annex 4: Raw quantitative data collected from different available sources including statistical data (e.g. Stata data files and do files).
 - Presentation of the results accessible to a wider audience including maps used in the analysis.

1.4.2 Common requirements for all deliveries

The deliverables must be available in English language and delivered in electronic format after a language check, preferably by an English native speaker. The service provider shall receive feedback from ESPON

EGTC on the deliverables. This process will be assisted by feedback received from the Polish EU Presidency representatives. Requested amendments to the deliveries shall be carried out by the service provider on the basis of the comments and remarks made by the ESPON EGTC.

Secondary data shall be gathered according to the ESPON metadata template and integrated in the ESPON database, in cooperation with the ESPON EGTC. Source files for estimations (e.g. Stata data and do files), maps (shapefiles) and figures (vector files) shall be provided to the ESPON EGTC.

1.5 Project management

1.5.1 Online meetings

The prospective service provider is expected to attend at least:

- An online kick-off meeting. The exact deadlines for the deliverables as well as indicative time schedule for meetings will be agreed during this kick-off meeting. The minutes of the kick-off meeting containing a record of the agreed dates will be signed by the representatives of both the service provider and ESPON EGTC.
- Up to 5 online coordination meetings.

1.5.2 Indicative time schedule

The table below presents the indicative time schedule for the predefined deliverables and kick-off and steering committee meetings.

The exact deadlines for the predefined deliverables as well as indicative time schedule for all other intermediary deliverables and for coordination and steering committee meetings will be agreed during the kick-off meeting.

The minutes of the kick-off meeting, containing a record of the agreed dates, will be signed by the representatives of both, the service provider and the ESPON EGTC, and will be subject to article 4 - "Performance of the contract and subcontracting" of the service contract.

Deliverables	Calendar
Kick-off (T)*	(T0) as soon as possible (and normally within 2 weeks) after the award of the contract
D1*	T + 3 weeks
D2 (draft)*	T + approx. 5 months [fixed for November 2024]
D2 (final)*	T + 6 months [fixed for December 2024]
*after each delivery the ESPON EGTC might propose coordination meetings to discuss the feedback and how to integrate it in the revised deliveries.	

1.6 Competences and skills required

The service provider must have proven research experience at European / international scale and expertise relevant to contract matter in order to ensure a successful implementation of the service. The competence and experience of the service provider within the fields outlined below shall be clearly demonstrated and documented.

- Academic background and proven experience in empirical work in the field of territorial development, preferably in the European cross-border context.
- At least one team member should have experience in the field of territorial analyses in the Polish socioeconomic development context.
- In-depth knowledge in qualitative and quantitative research methods, including econometric estimation techniques, hypotheses testing and a good command of statistical packages (e.g. Stata).
- Experience with GIS and data visualisation.
- The proposed team members shall demonstrate a very good linguistic ability to draft and communicate research findings in English.
- As at least one of the case studies shall feature a Polish external border region, consequently, at least one team member shall demonstrate a good command of Polish language.
- Other languages are not mandatory, but it is advisable to take into account the proposed case study structure, method and coverage, which may necessitate a good command of up to three languages other than English and Polish. Tenderers are invited to present in the offer their approach towards language competencies needed to perform the case studies.

(...)

End of extract