



EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
INVESTING IN YOUR FUTURE!



GOVERNMENT OF ROMANIA



GOVERNMENT OF BULGARIA



TERRITORIAL ANALYSIS

for the **ROMANIA - BULGARIA**
CROSS - BORDER REGION

SUMMARY

0 50 100 200 km



Interreg



Interreg Romania-Bulgaria
Programme 2021-2027

CONTENTS

01. Programme Area (2)

02. Smarter (3)

03. Greener (9)

04. Connected (15)

05. Social (21)

06. Governance (28)

07. Diagnosis (33)

08. Key Pointers (35)

09. Programme Vision (37)

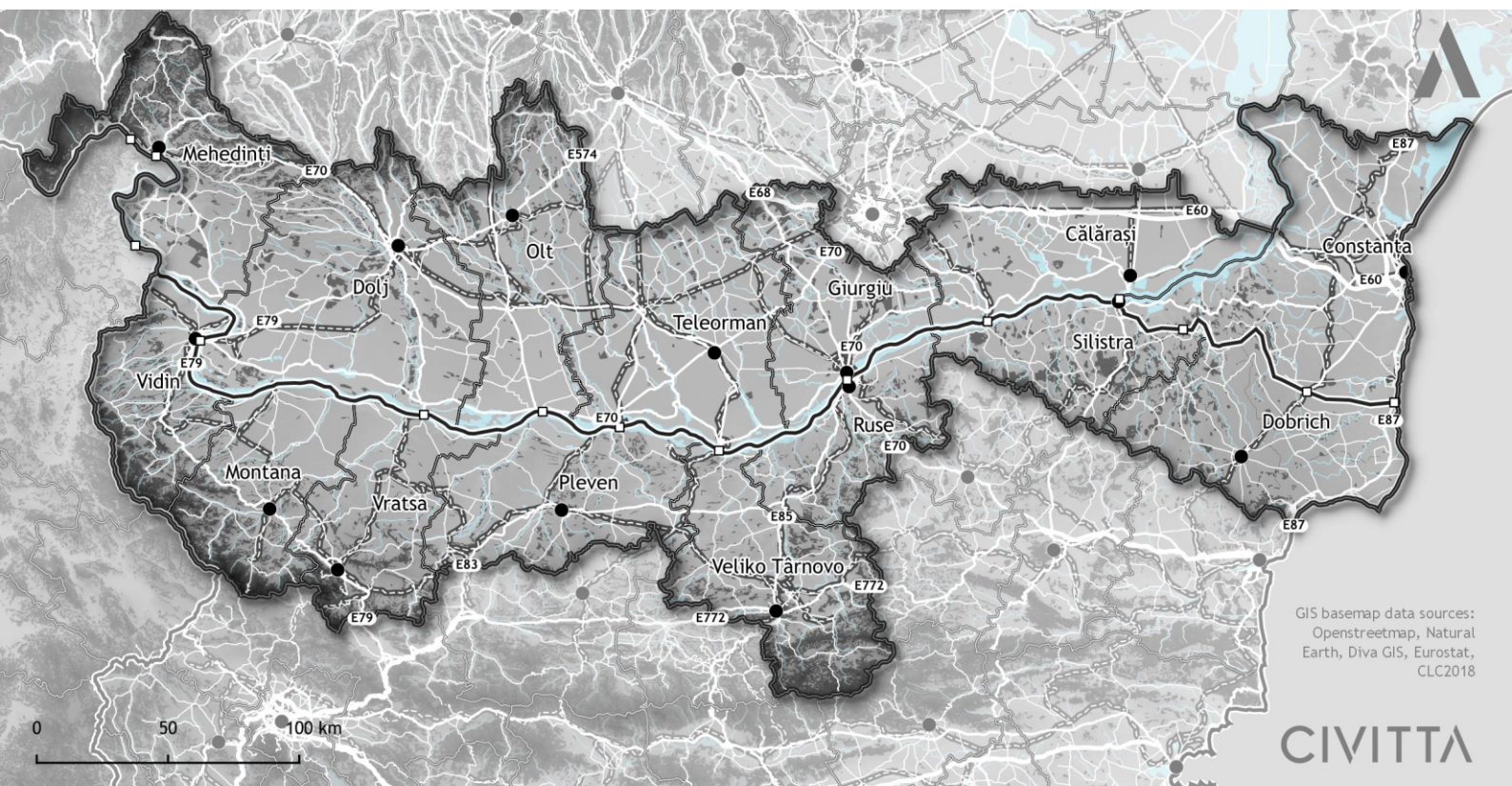
01. Programme Area

The territorial coverage of the analysis includes the 15 counties and districts that are currently part of the eligible area of Interreg V-A Romania-Bulgaria Programme (2014-2020), namely:

- **Romania:** Mehedinți, Dolj, Olt, Teleorman, Giurgiu, Călărași and Constanța;
- **Bulgaria:** Vidin, Vratsa, Montana, Veliko Tarnovo, Pleven, Ruse, Dobrich and Silistra.

The programme area has a total surface of 69,285 km², with 2/3 located in Romania and 1/3 in Bulgaria (based on the current geography of the cross-border cooperation Programme). It area covers 19.8 % of the total area of the two countries and counts more than 4 million inhabitants.

The border between Romania and Bulgaria accounts for over 630 km, and for its largest part (470 km) it unfolds along the Danube River. Only one district in Bulgaria (Dobrich) and one in Romania (Constanța) are connected by land, the rest being separated by the Danube. The cross-border area is predominantly rural, and large areas of land are used for agriculture. There are also significant surfaces covered by forests and water bodies. The cross-border area also encompasses many natural sites on both sides of the border, with a rich biodiversity (many Natura 2000 and Ramsar sites).



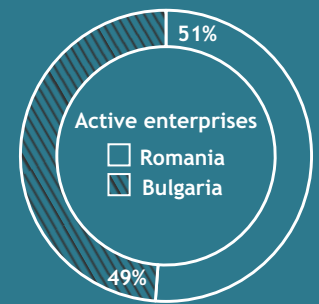
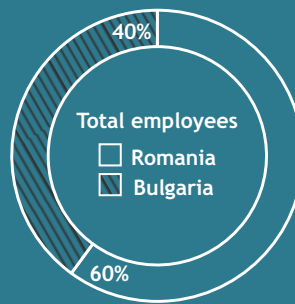
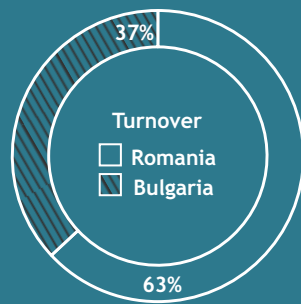
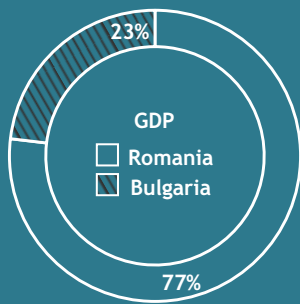
- | | | |
|---------------------|------------------------|-------------------------|
| Country boundary | Forest | Motorway |
| Study area boundary | Main cities | National roads |
| NUTS 3 boundary | Border crossing points | County / district roads |
| Water | | Railroads |



02.

SMARTER

General information



28,135.7 MIL. EUR in the cross-border area (2017)



42.5 BN. EUR in the cross-border area (2018)

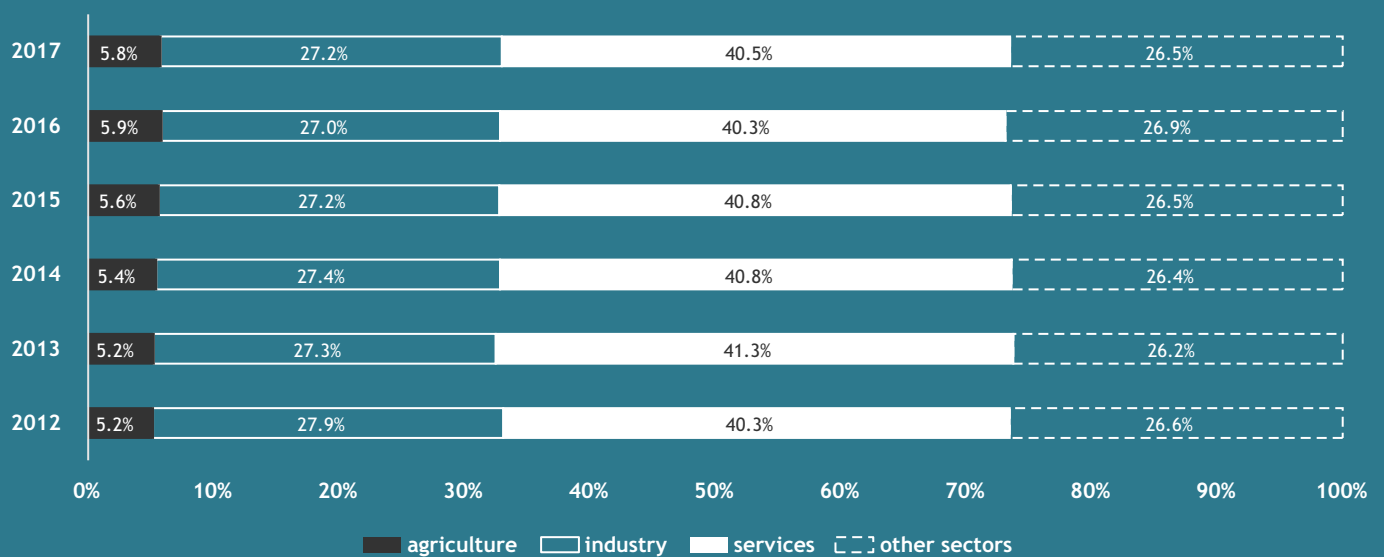


959,000 employees in the cross-border area (2017)



120,400 active enterprises in the cross-border area (2017)

Employment structure



Main economic sectors

Agriculture



Mehedinți, Olt, Călărași
Vidin, Montana, Vratsa

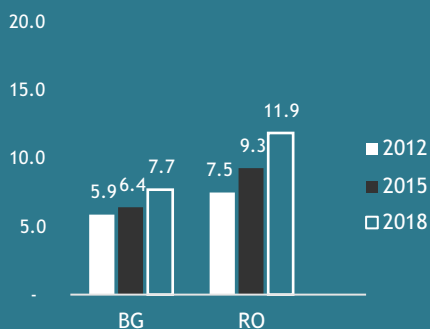
Manufacturing



Mehedinți, Olt, Giurgiu
Vratsa

Productivity

GVA/HOUR - EUR



Competitiveness

Global Competitive Index 4.0

Bulgaria

49/
141

✓ ICT adoption, Macro-economic stability
X Health, Financial system

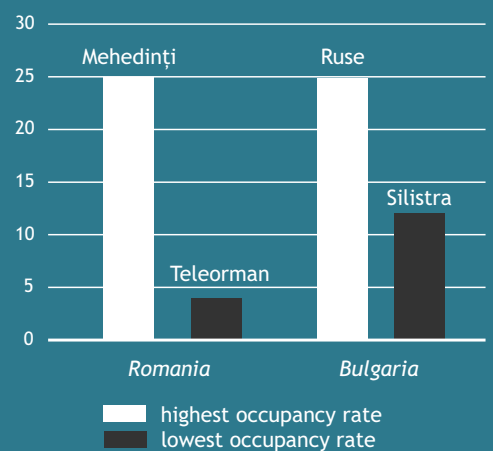
Romania

51/
141

✓ ICT adoption, Market size
X Health, Financial system

Tourism

All year round occupancy rate (%)



Tourism services



Constanța
125 beds/1000 inhabitants
Dobrich
175 beds/1000 inhabitants

02. Smarter

Main challenge regarding economic development: *Unbalanced and lagging economic landscape, determined by weak labour market conditions (high and growing disparities, outmigration, low employee mobility, high unemployment, high level of informal economic activities and low productivity), while having as main impact the low capital endowment (modest flows of information and knowledge, low level of collaboration between researchers and companies, low R&D expenditure, limited critical mass of researchers and innovators, high share of SMEs and microenterprises, declining manufacturing and low level of entrepreneurship).*

In spite of the positive economic evolution, the Romania-Bulgaria cross-border area still ranks among the least developed territories in the EU, with four out of the six regions covering the cross-border area in the top ten poorest at EU level.

Between 2012 and 2017, both sides of the Danube experienced a positive trend in terms of economic growth, with an average 33.7% increase in GDP. Nonetheless, the cross-border area contribution to their respective national GDPs remains low (only about 12% for both Bulgaria and Romania), especially considering the weight of the population and surface in the national total (about one third of each country's population and territory). In nominal terms, the combined GDP of the Romanian counties is almost three times that of the Bulgarian districts (21.6 bn euros, compared to 6.5 bn euros, in 2017).

At the same time, the area is confronted with significant social and economic disparities, manifested on two dimensions: between the Northern and Southern sides of the Danube and between the various counties and districts. The Northern half of the territory, located in Romania, is more developed than the Southern one, located in Bulgaria. Recent development trends were also uneven, with Romanian counties experiencing an increase in GDP almost double than that of the Bulgarian districts (39.3% and 18%, respectively). In general, Bulgarian districts had a slower development, except for Ruse and Montana (24% and 27%

respective increase in GDP over 2012-2017), while Romanian counties experienced higher growth rates, with GDP even doubling in some cases, such as Giurgiu. Wealth is mainly concentrated in two main centres, on each side of the border: Constanța and Dolj in Romania and Ruse and Veliko Tarnovo in Bulgaria. Pockets of poverty are still present, as some of the least developed NUTS3 counties and districts in the EU are also located in the cross-border area.

Similar patterns of disparity are shown by the evolution of the GDP per inhabitant (PPS). The value of GDP per capita amounted to an average of 6.61 th. EUR in 2017, 40.7% higher than in 2012. Within the cross-border area, GDP per inhabitant in Romanian counties has experienced higher levels of growth (45.4%), compared to the Bulgarian districts (26.3%). In 2017, the GDP per inhabitant in the Bulgarian cross-border territory was reaching 4.69 th. EUR, while the Romanian cross-border territory had a 7.54 th. EUR GDP in the same year. At county and district level, the GDP per inhabitant displays increasing disparities, as well. Constanta, which is currently the most developed county in the entire cross-border area, reaches a value almost four times higher than Silistra, the least developed district (11.8 th. EUR compared to 3.4 th. EUR, in 2017). At the same time, Constanta also maintains a considerable difference compared to Dolj (7.2 th. EUR), the second most developed county in the programme area and to Dobrich (4.6 th. EUR), the neighbouring district located on the

coastal area. In addition, Ruse and Giurgiu, the two counties/districts where there are the most numerous commercial relations, display similar values of GDP/capita, around 5.7-6.2 th. EUR, as do Olt and Vratsa, with 5.8-6.0 th. EUR in 2017, even though economic ties are not strong between the latter two.

The economic activity in the cross-border area has a limited contribution to the national Gross Value Added (GVA), with only about 11% in 2017. Agriculture is better represented in the cross-border area compared to this sector's contribution to each of the two national economies, reaching an average of 12% in Romania and 13% in Bulgaria, compared to approximately 4.6-4.7% at national level. Industrial activities (except constructions) contribute with about 26% to the national GVA, both for Bulgaria and Romania, comparable with the national average (2017 data). The “wholesale and retail trade, transport, accommodation and food service activities” sector contributes with 16.6% -18.4% to the national GVA (Bulgaria and Romania, respectively), which is below the national average for both countries.

Notable differences can be observed in the economic profile at county and district level, on both sides of the border.

The county of Călărași in Romania and the district of Silistra in Bulgaria have a strong

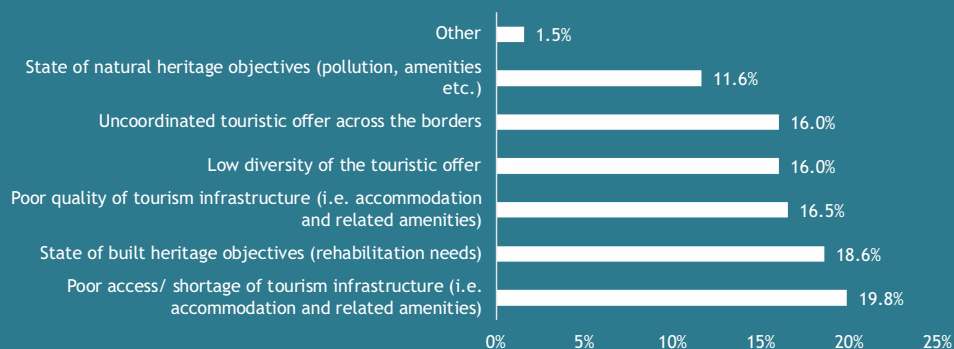
agricultural profile, with over 20% of the local GVA stemming from this sector. On the other hand, the industrial sector is predominant in Constanța and Olt counties, as well as in Montana, Vratsa and Ruse districts, with over 30% of the local GVA. Trade activities are predictably more developed in Ruse, Veliko Tarnovo and Constanța, with over 20% contribution to the local GVA.

As regards tourism, the Romania-Bulgaria cross-border area is split between the Black Sea coast, with a more developed tourist activity, albeit seasonal, in Constanța and Dobrich, and the rest of the territory.

In the other counties and districts of the area, the tourist attractions are not valorised at their real potential and the touristic offer is fragmented. While the seaside counties are registering longer duration for tourist stays, the other counties/districts rely more on business or transit tourism, which implies shorter stays, with less overnights. Vidin and Silistra register very short stays, with an average of 1.46 nights/stay, as well as Teleorman on the Romanian side, with 1.76 nights/stay. The rather low average duration of the stay in the Romania-Bulgaria cross-border territory could also be caused by the weekend/ city-break type of tourism, favoured by the different touristic attractions in the territory and by the overall fragmented touristic offer, which offers few opportunities for longer stays.



RESULTS OF THE STAKEHOLDERS' SURVEY: Top problems in the field of tourism and heritage



The cross-border area accounts for about 120.4 thousand active companies, representing 11% of all active companies in Romania, and around 14.5% of the total in Bulgaria. Slightly more than half (51.2%) of these are located on the Romanian side of the border.

Since 2013, the number of enterprises has increased, by 9.1% in the Romanian and by 3.2% in the Bulgarian area of the programme. With only 28.2 enterprises / 1000 inhabitants in 2017, the cross-border area performs well below the EU average of 54 active enterprises per 1000 inhabitants (as of 2017). Microenterprises

account for the largest share of active enterprises in all counties and districts, similar to the national level situation. Although microenterprises can provide employment opportunities in a large variety of economic sectors and in different types of regions, they still indicate a reduced ability of regional economies to support the growth and development of these types of companies in order to become more competitive and resilient. At county/district level, enterprises tend to be located in the Eastern part of the area, especially on the Bulgarian side, or in

more developed counties, as it is the case of Dolj, which accommodates a large urban area and economic centre - Craiova. With the exception of Vidin, there has been a positive evolution in the number of enterprises in all counties and districts, most notably in the Romanian counties of Dolj, Olt and Giurgiu. Dobrich and Ruse are the only local units over 50 enterprises /1000 inhabitants, while Mehedinți, Olt, Teleorman, Giurgiu and Călărași all have below 20 enterprises/ 1000 inhabitants.

Against the overall low level of economic development, SMEs are faced with significant challenges, on both sides of the border.

The migration of the more qualified and productive workforce, the increasing cost of labour (by 65.9% in Romania and 58.8% in Bulgaria, between 2012-2017), the low physical accessibility and connectivity, because of poor infrastructure and low levels of support for innovation and entrepreneurship, are among the most important. This leads to low levels of productivity, specialisation on low-technology and low knowledge intensity activities, as well as an overall low economic competitiveness.

There were almost one million employees in the cross-border area in 2017.

The services sector employs about 40% of the workforce, while other economic sectors, such as retail and construction, make up around 26-27% on both sides of the Danube. Although still relatively low, the share of agriculture in total employment has increased slightly, from 5.2% in 2012, to 5.8% in 2017. Employment in Industry is closely related to electricity production and distribution in both Romania and Bulgaria cross-border area, as it is the case in Dolj and Ruse, or petroleum and chemical industry, in Constanta, Ruse and Olt. In most counties and districts, employment in the industry sector has declined.

The more economically developed counties and districts usually ensure the largest number of jobs.

Constanta and Dolj employ the largest number of persons, followed at a relatively large distance by Ruse and Veliko Tarnovo. The lowest number of employees is found in Vidin and Silistra, on the Bulgarian side and Giurgiu on the Romanian side. The total number of employees has registered a slight increase compared to 2012 in Romania (6.6%), while on the Bulgarian side, the number of employees decreased constantly (by 5.2%). This issue can point towards (un)attractiveness and increasing polarization in terms of workforce availability, but at the same time, it can be a supporting fact for the encouragement of employee mobility and for the existing human resource capital to be better exploited by improving skills and competences. In this way, people could better use the knowledge-intensive products and services in those sectors and specific areas where complementarities are identified.

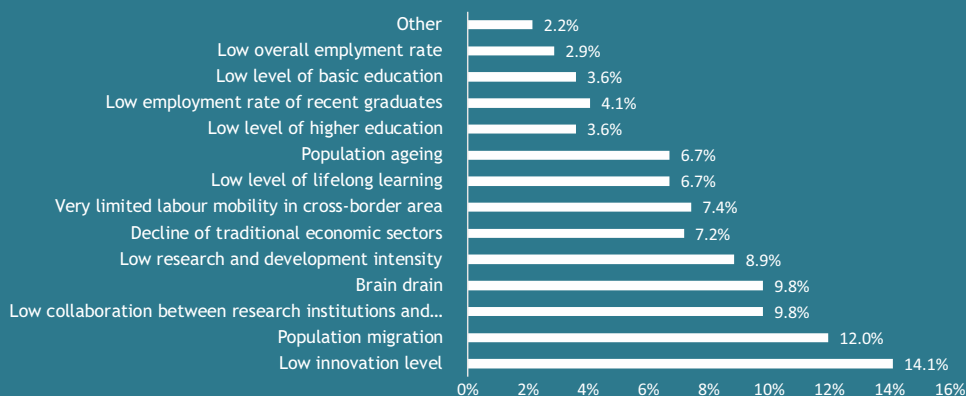
The modest flow of information and knowledge between the two regions of the cross-border area is enlarging the differences in research and innovation activities.

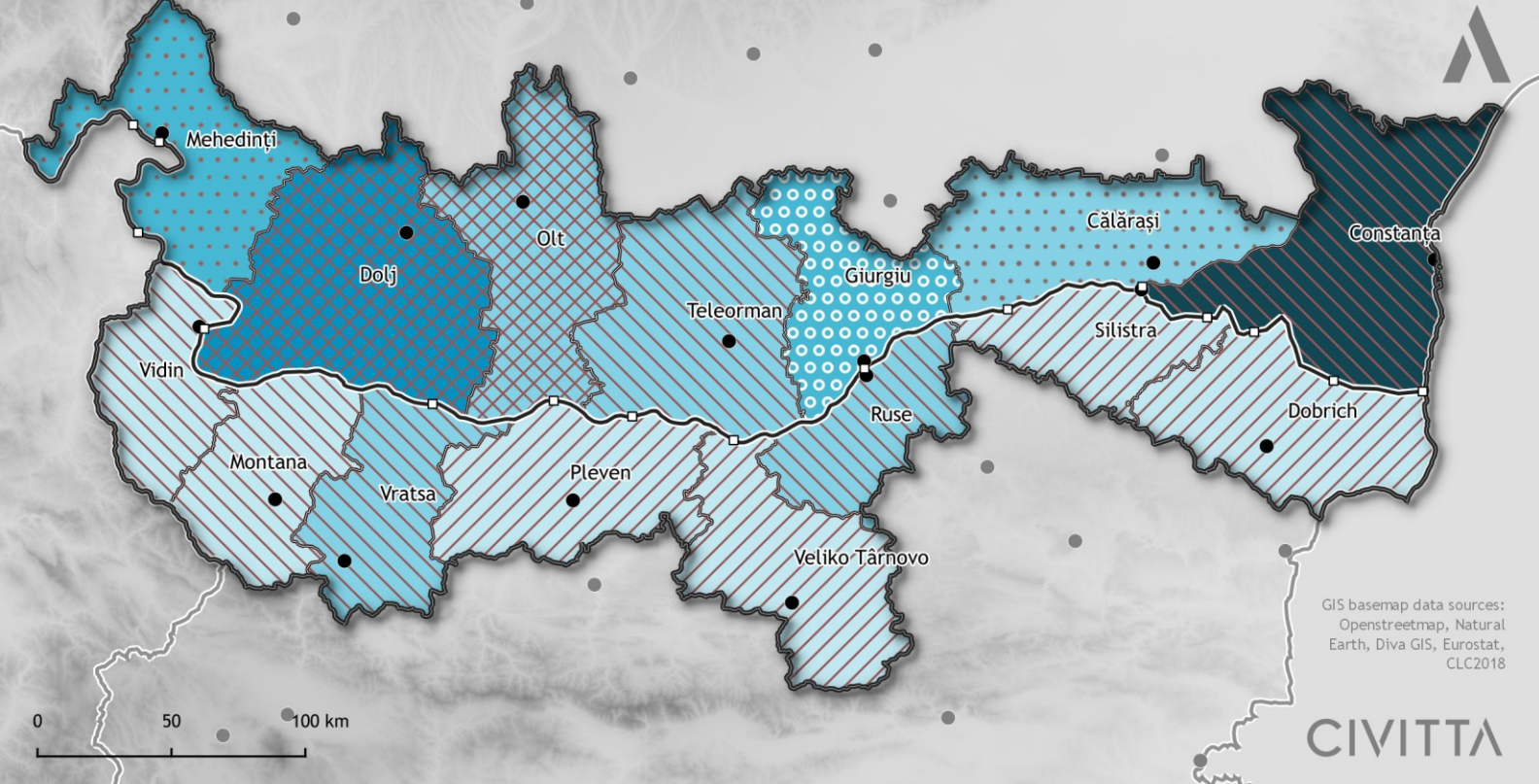
Therefore, efforts should be made to create functional and efficient communication channels. The increased flow of knowledge and information through transnational channels may generate positive results in terms of strengthening the institutional cooperation and of elaborating governance instruments in order to foster these activities. This is added to the need to develop skills and competences in order to make possible the generation and use of the results of research and innovation activities, and their transfer into economy to tackle societal challenges.



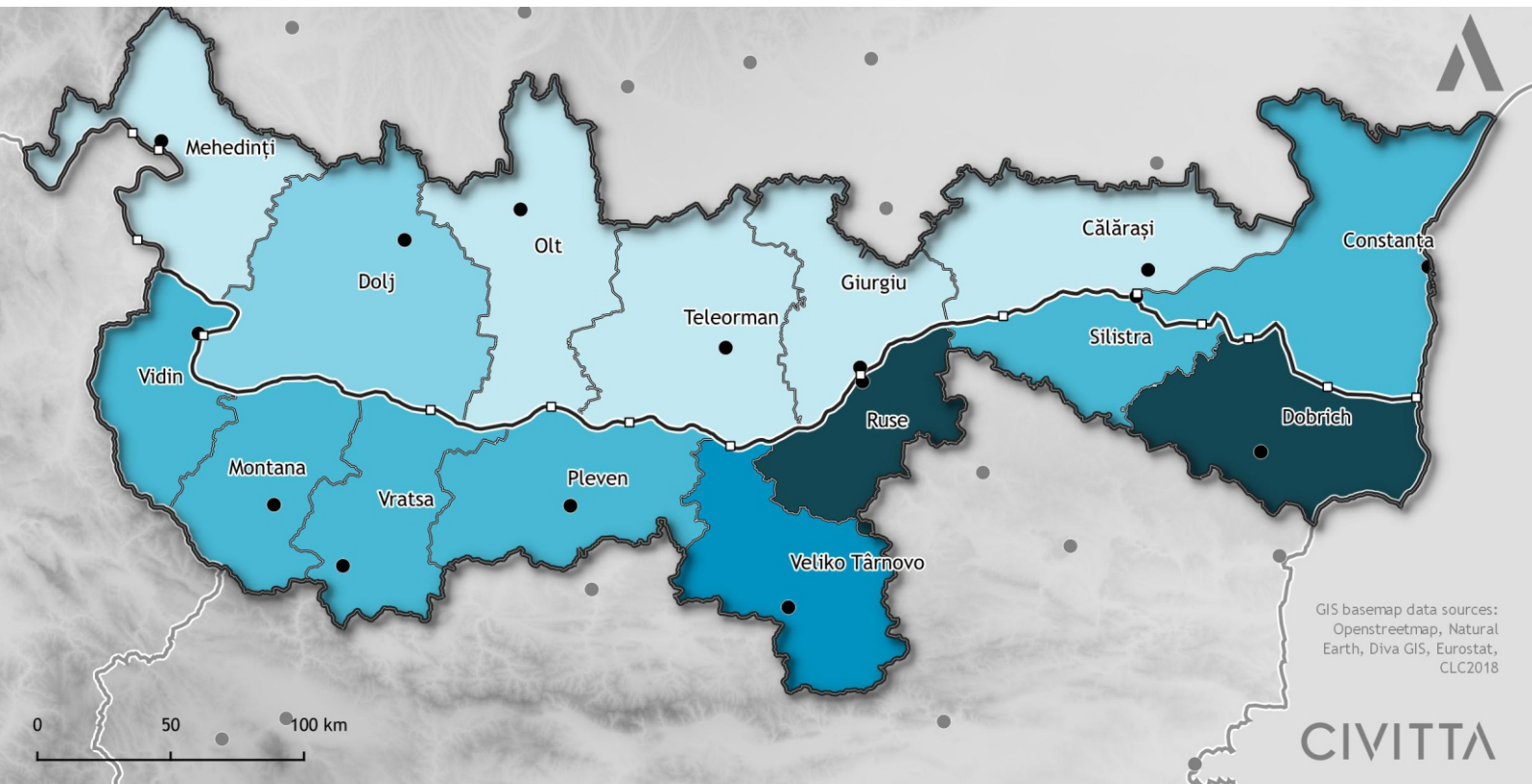
RESULTS OF THE STAKEHOLDERS' SURVEY:

Top problems in the field of innovation, enterprises and human capital





GDP per capita in 2017 and its evolution since 2012



No. of enterprises / 1000 inhabitants in 2017



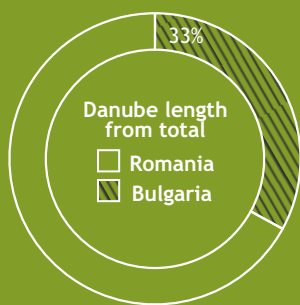
Photo source: Facebook Областен управител Veliko Tarnovo



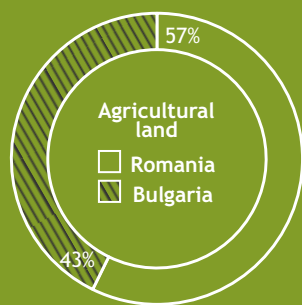
03.

GREENER

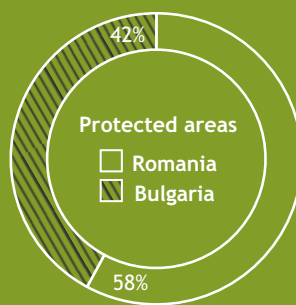
General information



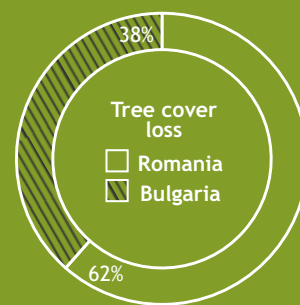
940 KM of the Danube on RO/BG territory



5362.561 HA of agricultural land in the cross-border area



38 protected areas in the cross-border area



32143 ha of tree cover loss in the cross-border area



low* NO₂, SO₂ and CO emissions compared to other EU regions

**emissions don't exceed the admitted limit*

low degree of recycling (2017)
no recycling in Vidin, Silistra, Călărași, Giurgiu

Natural and technological risks

floods all settlements located in the floodplain of the Danube
Mehedinti - the most affected

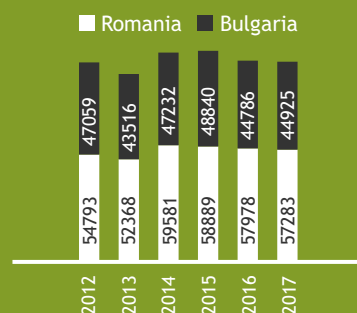
earth-quakes Vrancea epicentre and Dobrogea seismogenic area
high seismic risk

landslides **high risk:** Dolj, Constanța, Plevan and Dobrich

technological Kzolduy Nuclear Power Plant and Cernavodă Nuclear Power Plant
affected: Dolj, Olt, Giurgiu, Constanța, Călărași, Ruse and Silistra

Energy

Production (GWH)



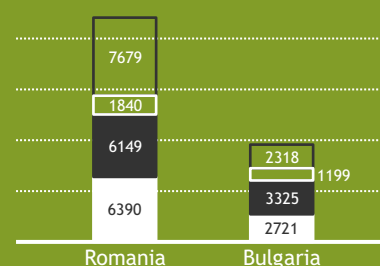
20% out of total national production



35% out of country's national production



Energy Consumption (2017)



■ Industry ■ Transport □ Households □ Commercial and public services

33,7% of the population could not warm their home in Bulgaria in 2018

9,6% of the population could not warm their home in Romania in 2018

Climate change

hotspot for GHG emissions due to the agriculture sector
Percentage of national GHG emissions caused by the agriculture sector (2018)

| | |
|----------|-------|
| Romania | 30.6% |
| Bulgaria | 21.2% |

Mitigation measures



GREEN CORRIDOR DANUBE

Lower Danube Green Corridor Agreement Bulgaria, Romania, Ukraine and Moldova

134736.12 ha exposed to coastal erosion due to rising sea water level



extreme weather conditions
tornadoes in SE Romania



+3.6°C increase of the average annual temperature on both banks of the Danube

03. Greener

Main challenge regarding the environment: *Insufficient environmental management, determined by industrial risks, intense pollution, inefficient waste management and Pm10 and PM2,5 pollution in large urban areas, while having as main impacts the population exposure to technological risks, water pollution, as well as air pollution.*

Main challenge regarding climate change: *Global warming, affected by low adaptive capacity, intense pollution and low mitigation capacity, while having as main impacts the elevation of sea level, higher precipitation deficit and higher temperatures*

The main element in the region, shaping the entire territory's economic and social profile, is the river Danube, separating the Romania-Bulgaria cross-border area into two distinctive parts.

Between Gura Văii (North of Drobeta Turnu Severin) and Călărași, covering a 566 km long area (the border between Romania and Bulgaria has 470 km in length), the Danube is collecting tributary streams from Bulgaria (Timok, Ogosta, Iskăr, Vit, Iantra) and Romania (Jiu, Olt, Argeș). These tributary streams contribute to the increase of the river flow by approximately 600 m³/s between Defileul Dunării and Oltenița. There are also three important Bulgarian islands in this area: Belene (41.1 km²), Kozlodui (6.1 km²) and Vardim (5.0 km²). The Călărași-Pătlăgeanca Danube segment has a length of 374 km where both riverbanks belong to Romania. Along this section, the Dobrogea Plateau is situated between the Danube valley in the west and the Black Sea in the North and East.

While nearly all landscape forms are present in the cross-border territory, the scenery is dominated by the Romanian Plain in the Northern part and by the Danubian Plain, in the South.

The area comprises several natural parks and protected areas along with three national biosphere reserves: the Southern part of the Danube Delta Biosphere Reserve - marine area (located in the eligible area), with a total area of 32.5 hectares in Romania, and the Biosphere

Reserves of Chuprene and Srebena (Ramsar site) in Bulgaria, covering a total area of 2.3 ha. Natura 2000 areas cover a surface of 2.21 million ha, out of which 46.70% in Romania and 53.29% in Bulgaria. Constanța is by far the county with most of the Natura 2000 sites in the area (50), especially due to the large biodiversity in the proximity of the Danube Delta and in the coastal area. The counties/districts with the least number of Natura 2000 sites are Giurgiu (11), Ruse (14) and Dolj (14).

The main natural risks in the cross-border area are floods, earthquakes and landslides. All the localities in the floodplain of the Danube are exposed to the incidence of floods.

Outside the Danube floodplain, the largest areas affected by flood risk in Romania are located in Mehedinți County, followed by several areas in Giurgiu and Constanta. In Bulgaria, the flooding risk is present in the river basins of Ogosia and Tsibritsa in Montana and in the river basin of Vit in Pleven. Veliko Tarnovo district includes areas of the Yantra river basin, with its affluent Rositsa. In addition, the Vrancea epicentric area has a predominant influence over the Romanian sector and it also has impact over the north of the Bulgarian sector (Dobrogea, Veliko Tarnovo and Shabla-Kaliakra Cape). The Black Sea coast (near Cape Kaliakra) and the Veliko Tarnovo province constitute areas with relatively intense seismic activity. Lastly, the counties of Dolj, Constanța, Pleven și Dobrich experience the highest risk of landslides.

The entire Romania-Bulgaria cross-border area is facing significant challenges in relation to maintaining and protecting the quality of its environment and mitigating the negative effects of human activities.

As the agricultural activities are the primary economic sector and the main food source within this area, the entire area is a major contributor to the overall Greenhouse gas (GHG) emissions in both countries. In 2018, agricultural activities were responsible for 30.6% of Romania's total GHG emission, and the hotspot region for agricultural activities is the southern part of the country. For the same year, in Bulgaria, agricultural activities generated around 21.2% of the country's total GHG emissions, most of the crops being also located in the proximity of the Danube.

Protected areas, including Natura 2000 sites, are exposed to great risks because of illegal logging, tourism, constructions and illegal hunting.

These problems are aggravated by administrative issues, such as the lack of management plans. Specific efforts should be directed towards Natura 2000 sites and the existing conflicts in the areas, especially on designating more Natura 2000 sites, on implementing viable management plans and on finding the best way of stopping the logging and destruction phenomena.

All Romanian counties and Bulgarian districts in the cross-border area are considered to have a high degree of vulnerability to climate change. The Romania-Bulgaria cross-border region displays an increase of the average annual temperature by more than 3.6oC on both banks of the Danube. Also, the region encountered various extreme weather events, mostly tornados, sever winds, large hail and heavy rains, atypical meteorological phenomena for this area. The Romanian side is more exposed, especially Constanța County in the case of

tornados. Furthermore, erosion, together with storm events and rivers draining in low-lying coastal areas, are and will be furthermore the main factors triggering coastal flood-risk. Coastal erosion also represents a threat not only to households or economic activities, but also to the biodiversity conservation policy promoted at EU level.

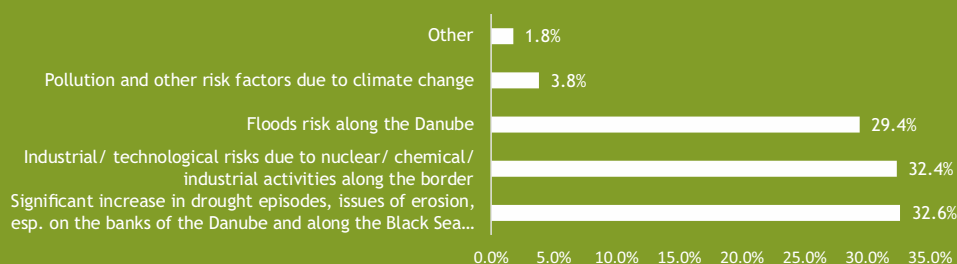
For both countries, droughts represent an important issue.

Romania reported a higher number of droughts than Bulgaria in territories from the cross-border area. The droughts will have serious consequences in the agricultural sector, not just for the current period, but also for the next decades. This phenomenon will not have singular effects, but it will also result in a desertification process, with significant impact on the south-western part of Romania and the district of Dobrich in Bulgaria.

The programme area also has a number of sites exposed to technology risks, which put a significant pressure on the control of the floods and of the protection measures that need to be taken in order to avoid major accidents with serious consequences on the urbanised areas. These sites are located in Craiova-Slatina, Giurgiu-Ruse, Silistra-Călărași-Tămădău Mare and Mangalia-Constanța-Năvodari and are either related to harbour activities or are developed on former communist industrial sites and use the proximity of the water resource as an asset for their activity. A special situation is represented by the location of establishments in settlements from areas at risk of floods, such as: Bâcu village in Giurgiu county, Isalnița and Podari communes in Dolj County, Kozloduy from Vratsa district or Svishtov locality from Veliko Tarnovo district. Two major industrial infrastructures in the area present a high level of risk - Kzloduy Nuclear Power Plant and Cernavoda Nuclear Power Plant.



RESULTS OF THE STAKEHOLDERS' SURVEY: Top problems in the field of environment and risk



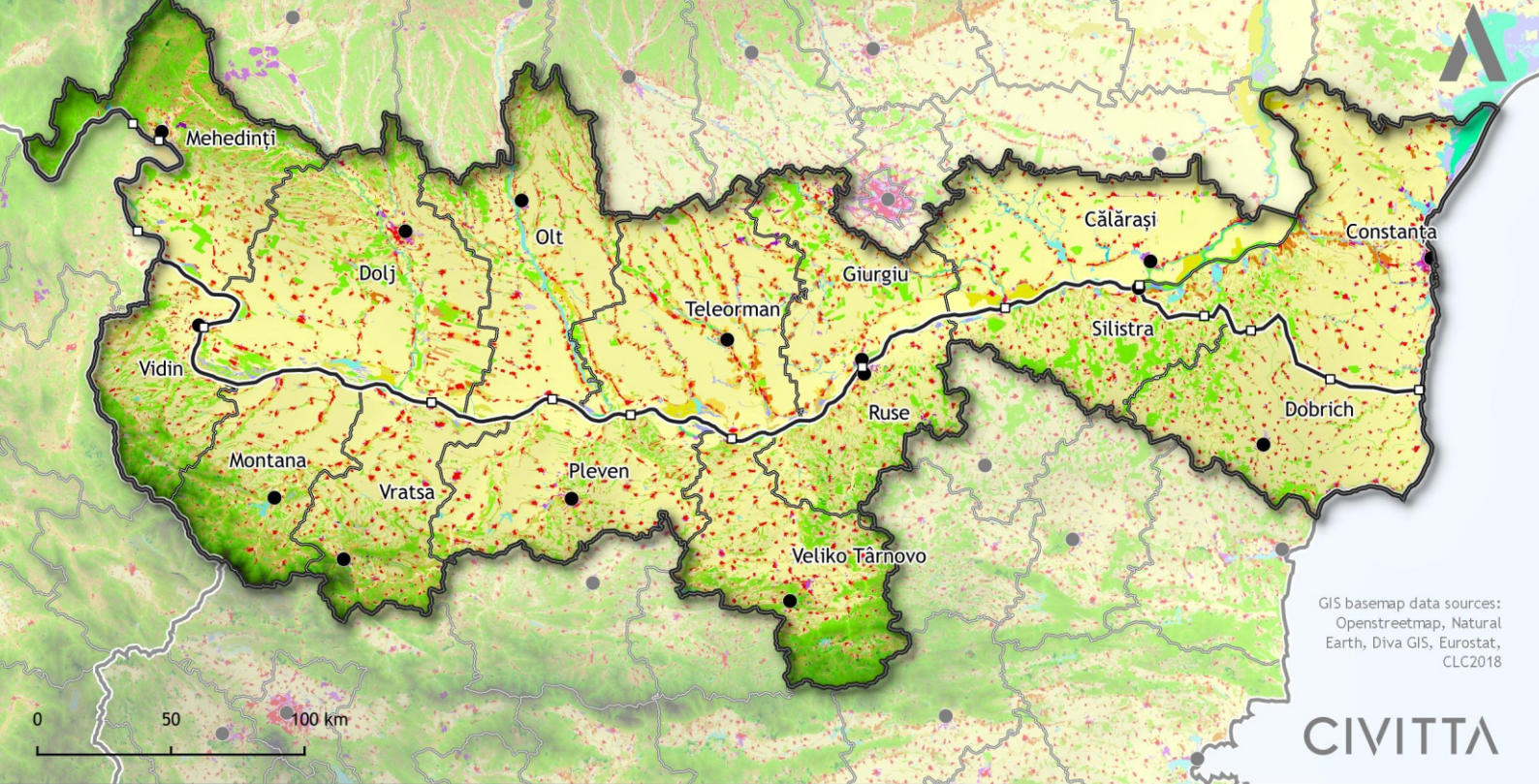
Waste management is one of the most important issues in the cross-border area, as well as a major challenge for both countries, despite formal progress due to the adoption of the national waste management plans.

The counties with the largest waste production in 2017 are Constanța, Ruse and Dolj, having also the lowest recycling rate (under 3%) while the highest recycling rate was registered in Olt county (13.79%), which is still low considering the European target of 50%. Another issue that can be observed is linked to the fact that many counties/districts do not report any recycling activity (e.g. Vidin, Silistra, Călărași, and Giurgiu). In this context, circular economy is severely underdeveloped.

The Romania-Bulgaria cross-border area is important for the production of electricity. Each country has one nuclear power plant located along the Danube. In Romania, the Cernavodă (Constanța County) nuclear power plant, with its two active reactors, produces approximately 20% of the country's electricity, while in Bulgaria, the Kozloduy (Vratsa district)

nuclear power plant generates about 35% of Bulgaria's electricity. Further extensions of Cernavodă nuclear power plant are planned and it is estimated that by using nuclear power, Romania will be able to reduce its greenhouse gas emissions by over 10 million tonnes each year. Nevertheless, the presence of the nuclear plants implies significant technological risks.

There are also major energy production sites using renewable energy sources in the vicinity of the Romania-Bulgaria cross-border region. The main hydroelectric power station (Iron Gate I and II) along the Danube is located in the cross-border region on the Serbian-Romanian border. While other sources of renewable energy are currently used on a limited basis, the Romania- Bulgaria cross-border area can offer a great potential for renewable sources of energy, given its micro-climate and environmental features. This is applicable especially for the solar energy and biomass, considering the highly agricultural development of the region. Hydro power seems to have, as well, a great potential.



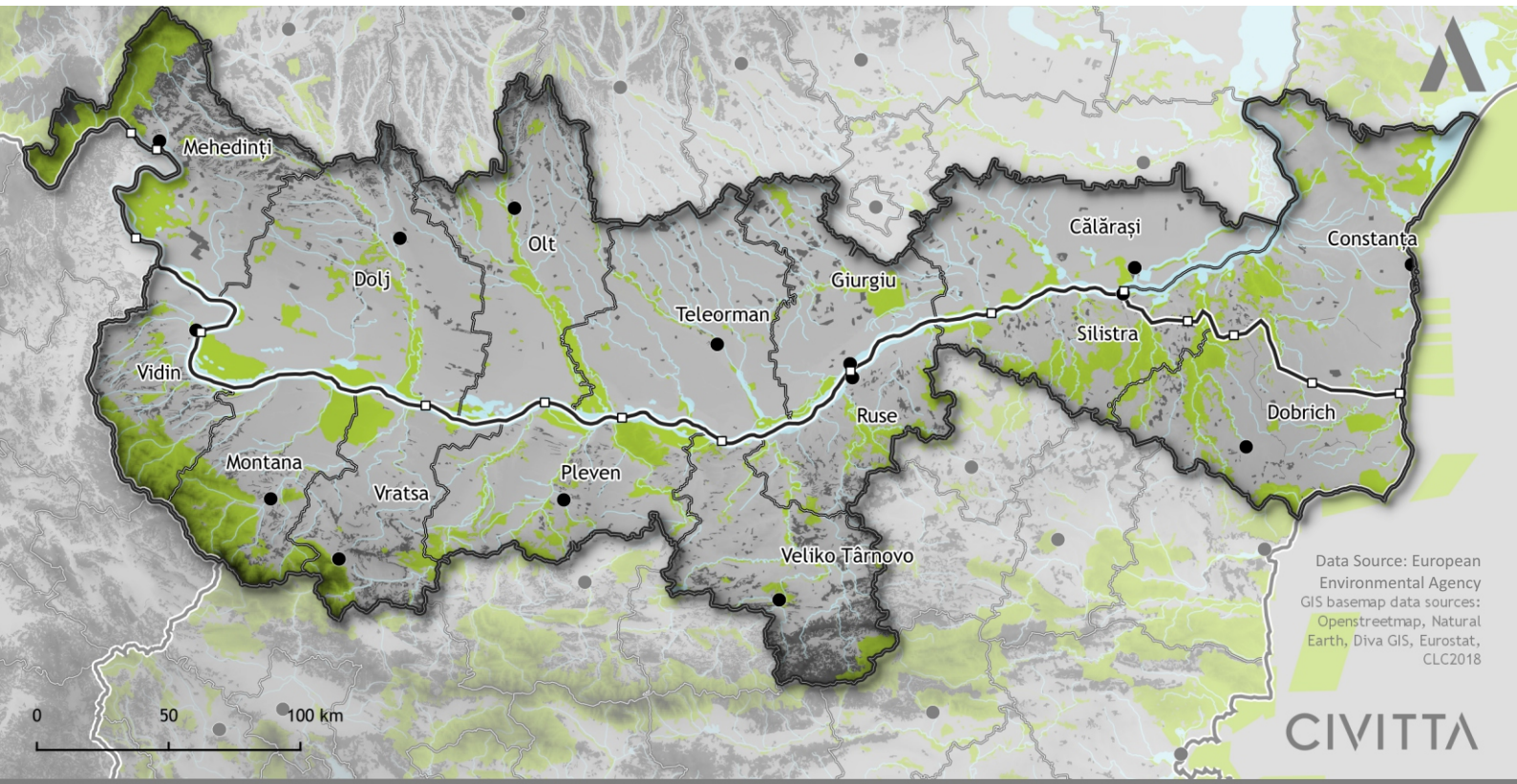
CIVITTA

- Country boundary
- Study area boundary
- NUTS 3 boundary
- Main cities
- Border crossing points

- Landuse (CLC 2018)**
- Continuous urban fabric
 - Discontinuous urban fabric
 - Industrial or commercial units
 - Road and rail networks
 - Port areas
 - Airports
 - Mineral extraction sites
 - Dump sites
 - Construction sites
 - Green urban areas
 - Sport and leisure facilities
 - Non-irrigated arable land
 - Permanently irrigated land
 - Rice fields
 - Vineyards

- Fruit trees and berry plantations
- Olive groves
- Pastures
- Annual crops associated with permanent crops
- Complex cultivation patterns
- Land principally occupied by agriculture with significant areas of natural vegetation
- Agro-forestry areas
- Broad-leaved forest
- Coniferous forest
- Mixed forest
- Natural grasslands
- Moors and heathland
- Sclerophyllous vegetation
- Transitional woodland-shrub
- Beaches - dunes - sands
- Bare rocks

- Beaches - dunes - sands
- Bare rocks
- Sparsely vegetated areas
- Burnt areas
- Glaciers and perpetual snow
- Inland marshes
- Peat bogs
- Salt marshes
- Salines
- Intertidal flats
- Water courses
- Water bodies
- Coastal lagoons
- Estuaries
- Sea and ocean
- NODATA



CIVITTA

- Country boundary
- Study area boundary
- NUTS 3 boundary

- Water
- Forest
- Main cities

- Border crossing points
- Natura 2000 area limits

Photo source: ruse-bg.eu



04.

CONNECTED

General information

2 TEN-T
Corridors

Rhine-Danube
Orient East-Med



2 international airports
(Craiova and Constanța)



12 crossing points
along the border

2 EuroVelo
Routes

EuroVelo 6
Euro Velo 13



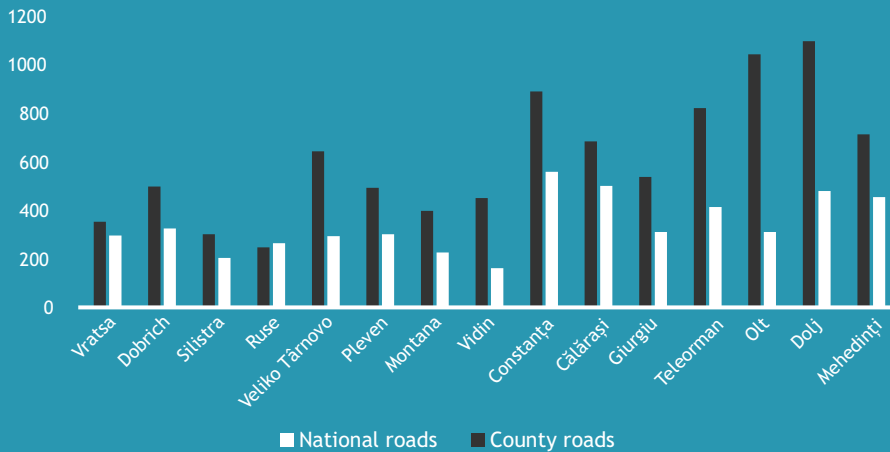
12 ports along the
Danube



max. 60 min reach
to any crossing
point

Road transport

Road length by type of road

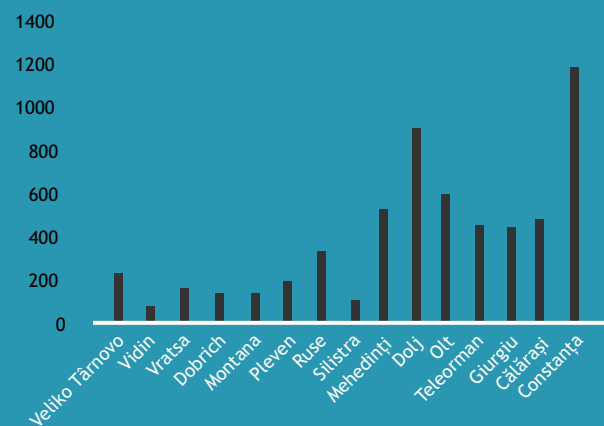


General good quality
of roads on both sides



Several cities lack a beltway (Silistra,
Giurgiu, Slatina, Turnu Măgurele)

Number of road accidents (2018)



Romania

96 road fatalities/1 mil. inhabitants

Bulgaria

88 road fatalities/1 mil. inhabitants

EU average

49 road fatalities/1 mil. inhabitants

Cross-border area

12.9% decrease between 2012-2018

■ Trains* □ Passenger cars
▣ Motor coaches, buses and trolley buses
**trains follow the road routes, but imply longer travelling times*

only few cross-border trains because of
poor infrastructure



Craiova - Sofia
around 9 hours
Bucharest - Sofia
around 9 hours



Craiova - Sofia
5 hours
Bucharest - Sofia
5 hours 30 min.

Digital connectivity

Fixed broadband access (2018)



access for 80% of
the total population



access for 92% of
the total population

Ultrafast broadband access (2018)



access for 45% of
the total population



access for 10% of
the total population

NGA (Next Generation Access)
coverage (2018)



75% coverage for
both countries

rural Romania
only 40%

rural Bulgaria
only 30%

04. Connected

Main challenge regarding physical and digital connectivity: Reduced connectivity (physical and digital) - especially north-south / cross-border, determined by reduced road safety, degraded rail network, low broadband coverage (especially in rural areas) and reduced performance of the Danube as a transport corridor, while having as main impacts the low economic potential, the unsustainable travel patterns and the reduced quality of living.

Both sides of the Danube borders are characterized by a strong East - West direction of flows and development of settlements.

During the last years, North-South links lost their priority status as investments focused in completing the road and rail segments of the Rhine Danube and Orient East Med corridors. The cross-border territory is therefore still disconnected from the main transport networks of the European Union and the Danube remains the only strong and continuous link to Central Europe.

Most of the Eurovelo 6 route is completed or at least signalled, just the part between Romania and Bulgaria is not developed yet.

Therefore, further developing the Eurovelo 6 route within the cross-border region would ensure a complete cycling route of 3,653 km linking important tourist attractions within Europe. This could greatly boost tourist activity, strengthen the local economy, while also providing a sustainable transport corridor between settlements along the Danube. Nevertheless, it is important to mention that the development of the Eurovelo 6 route in Romania and Bulgaria needs important investments, taking into consideration its very low level of development, which the Programme cannot support entirely, because of its low budget. Another important aspect to take into consideration is related to the lack of the legal

framework in both countries as regards the signposting of the routes, which is the pre-requisite condition for any financing granting decision.

The transport of goods and passengers on the Danube has increased and the trend is expected to continue.

The amount of freight carried on various sections of the Danube is 10 times lower than on Europe's most performant inland waterways. The main issues that reduce the performance of the Danube in terms of waterborne transport are related to the river depth and the capacity of ports (including their hinterland connections). Most critical points in terms of river depth are on the Romania-Bulgaria border, especially in the sections between Turnu Măgurele and Călărași. In these places, during the drought periods, the height of the Danube goes beyond the 2.5m mark. In addition, ports on both sides lack performant transport infrastructure to serve a larger hinterland. Ports Silistra or Lom lack a road belt which makes it difficult for freight to reach or leave the ports. None of the ports along the Danube in the cross-border areas is served by a motorway (except Constanța) and although they may be linked to railways, most of them are degraded. The most developed Danube ports in terms of freight handles are still on the Romanian part. They are linked to larger cities within the regions.

Within the cross-border territory, the quality of roads has greatly increased in the last years (especially on the Bulgarian side), but the motorway network is far from being completed. The only motorway segment in the cross-border area is the A2 motorway between Constanța and Bucharest. North South links are still served by national, county or even local roads. However, road infrastructure is still better performing than rail in the cross-border territory. The only high-speed rail (up to 160 km/h) is in Romania, between Constanța and Bucharest. The Bulgarian side is missing high-speed rails but has most of the rail infrastructure electrified. Unfortunately, this is not the case for the Romanian railways, where most lines going towards the Danube are end of lines and not electrified. The most important bottlenecks in the cross-border rail network are the Craiova - Calafat 912 line and the Bucharest-Giurgiu 902 line which is unusable because of a collapsed bridge at Grădiștea. Rail and road infrastructure need to be improved to ensure a better cross-border flow of passengers and to provide strong links to the major east-west transport corridors which are still under development.

The “hard border” between the two countries (non-Schengen) and the low amount of border crossings reduce the cooperation possibilities between the two countries.

This is valid for long distance freight and passenger transport, but also in the case of twin cities such as Giurgiu-Ruse, Calafat-Vidin or Călărași-Silistra where cross-border commuting remains difficult. The most important border crossing for freight remains the Giurgiu-Ruse Bridge, while the Vidin-Calafat Bridge and Vama Veche-Durankulak crossing are secondary links. The network of border crossings ensures a maximum of 60 minutes to reach a given crossing anywhere along the Danube. The best conditions in terms of cross-border connectivity can be seen in the Eastern part of the regions

where the border is land based. The territory between Călărași / Silistra and Giurgiu / Ruse (including Oltenița) has the poorest access to border crossings. Various national transport corridors are rerouted to the few border crossings available at the moment as there are just two bridges crossing the Danube within a distance of 470 km (one at the Giurgiu - Ruse border point and one at the Calafat - Vidin border point). *There are various proposals for the construction of additional bridges.*

Currently, there is no concrete, functional intermodal transport system in the Romanian–Bulgarian border region.

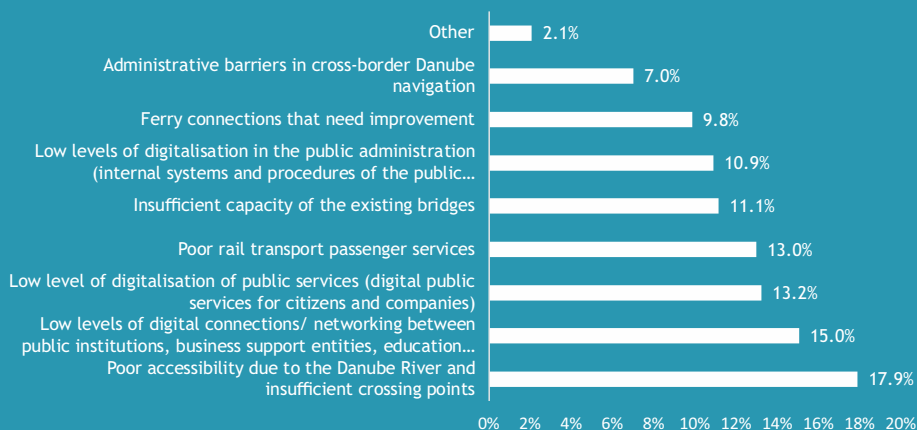
The only identifiable multimodal facility is the one located in the Port of Constanța, Romania. One of the main impediments for having *intermodality* in the region is the fact that the rail infrastructure associated to the ports is either inoperable or lacks direct connections to the water-based transport infrastructure. This calls for a better optimization of the existing infrastructure to ensure stronger hinterland connections for the ports in the study area. First steps in improving intermodal and multimodal transport have been made through the development of a strategy targeting the consolidation of the TEN-T network by improving the intermodal capacity of transport nodes in the cross-border region financed by Interreg V-A Romania-Bulgaria Programme.

Due to the lack of connectivity and a less dense network of settlements, the territory along the Danube within the cross-border area has poor access to services of general interest.

This is why most counties and districts in the analysed territory are considered “inner peripheries” in terms of accessibility, territories that face specific challenges. The only exception is the cross-border urban system of Giurgiu and Ruse, together with the Black Sea coast.



RESULTS OF THE STAKEHOLDERS’ SURVEY: Top problems in the field of connectivity



Unfortunately, there is still a great gap between urban and rural areas regarding internet speed and coverage.

Progress has been made in the last years in terms of digital connectivity in both Romanian and Bulgarian parts of the cross-border region. While fixed broadband coverage is still slightly below the 2020 targets, ultrafast broadband, mostly accessible in major cities, is advancing fast. Unfortunately, rural areas, with a low density of population, still face issues in terms of broadband coverage. Investments in better, more reliable and faster connectivity would help to attract higher value-added businesses

and are a prerequisite for improving the level of digitisation. Both countries are preparing for the launch of 5G.

In terms of digital connectivity, none of the two countries managed to reach the target of 100% coverage with broadband.

Silistra is the only district which managed to reach this target, while other districts still remain between 70 and 75% coverage. On the other hand, Romania is between the few countries that has over 45% of households with a subscription to ultrafast broadband (over 100Mbps).



Data Source: Own representation based on NIS /INS population data
GIS basemap data sources: Openstreetmap, Natural Earth, Diva GIS, Eurostat, CLC2018, NIS and INS

CIVITTA

- Country boundary
- Study area boundary
- NUTS 3 boundary
- Water
- Forest
- Main cities
- Border crossing points
- Motorways
- National roads
- County / district roads
- International airports
- Railroads
- Population of cities_2018
- 936 - 5000
- 5000 - 30000
- 30000 - 100000
- 100000 - 314936

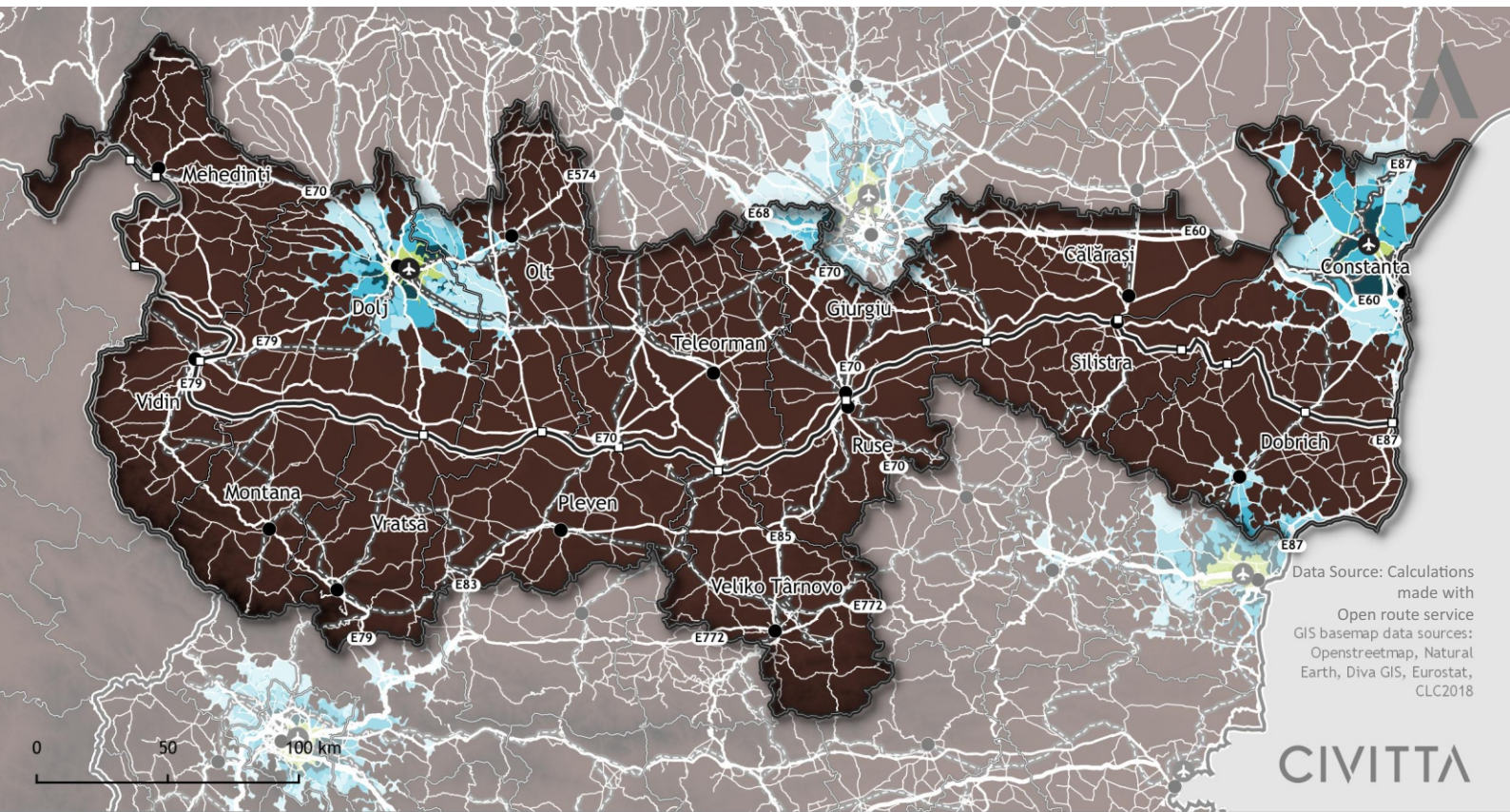
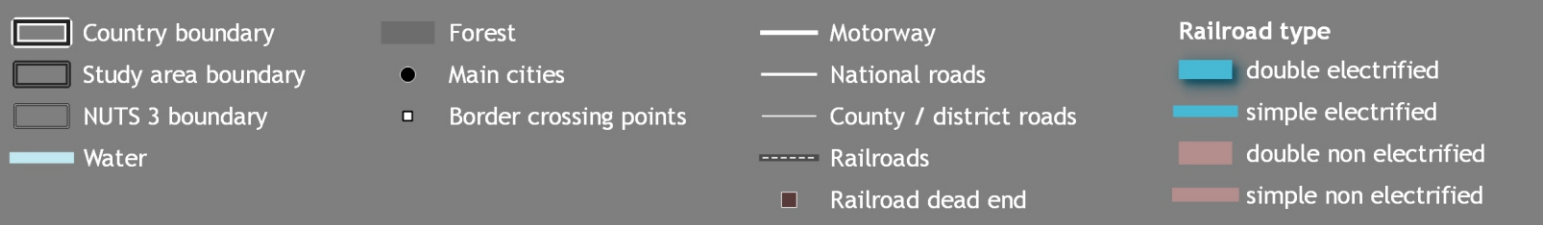
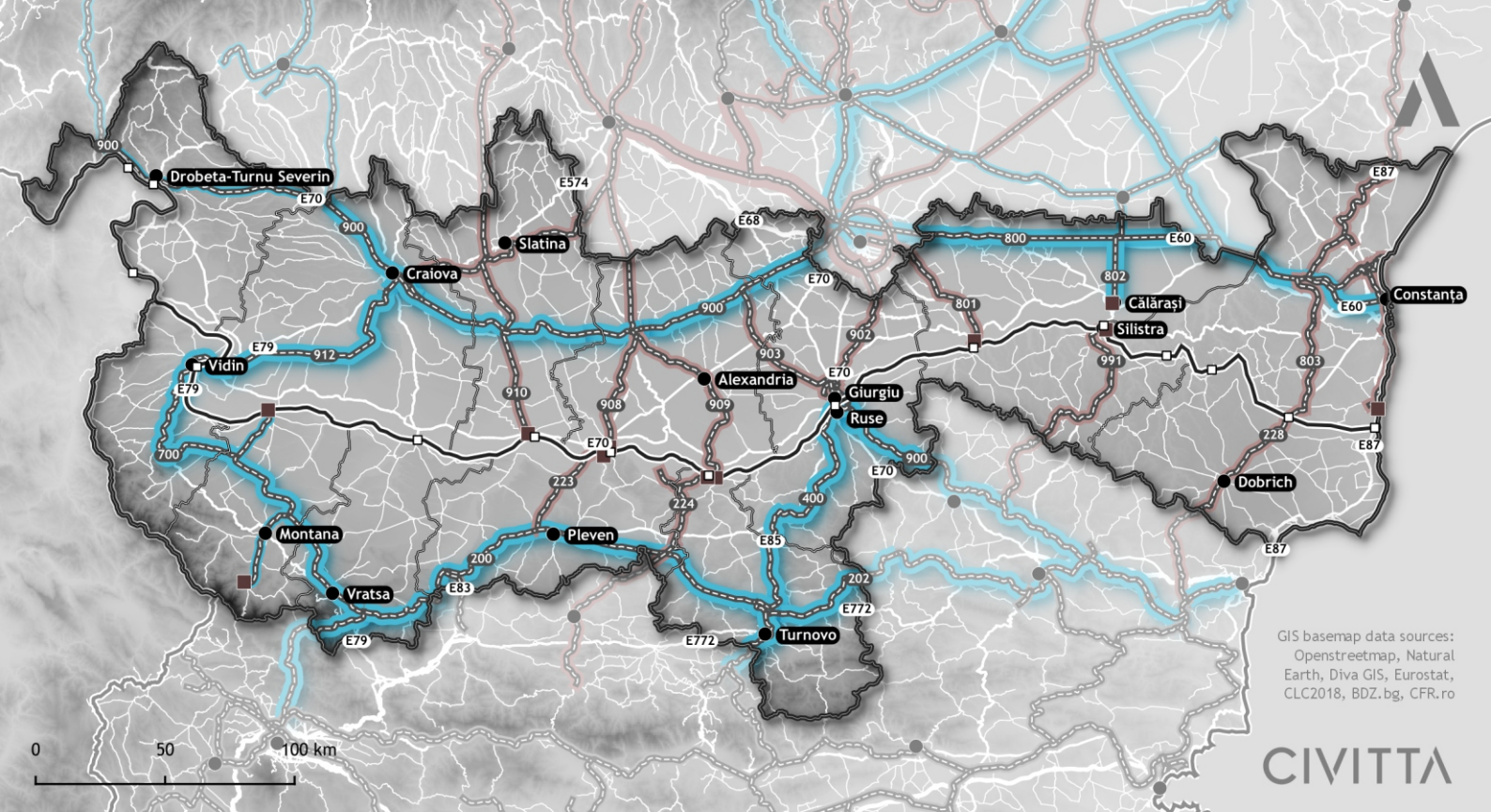


Photo source: Facebook Constanta Cityhall

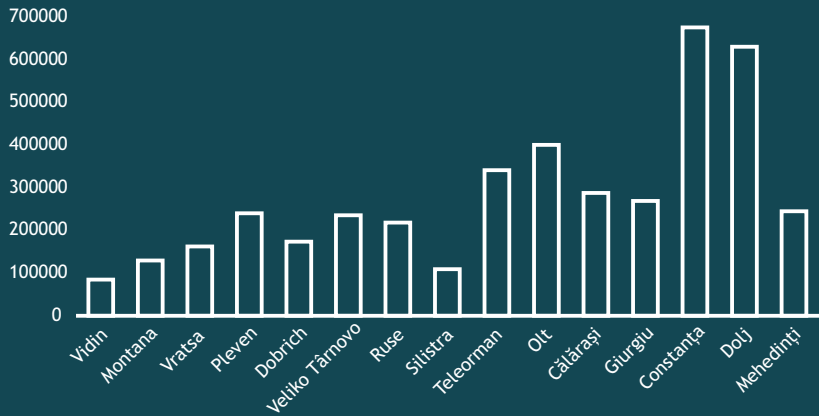


05.

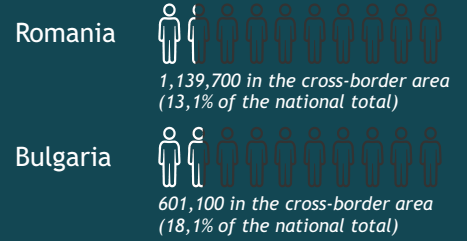
SOCIAL

General information

Total population by county (2018)



Active population (2018)



Employment rate (2018)



25 universities and/or university branches in the cross-border area



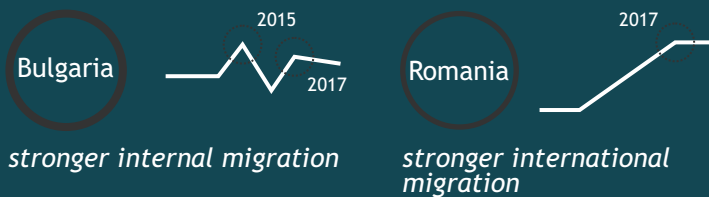
120 hospitals in the cross-border area



Floor space available
21,09 m²/inhabitant
Romanian side
35,16 m²/inhabitant
Bulgarian side

Migration

Emigration



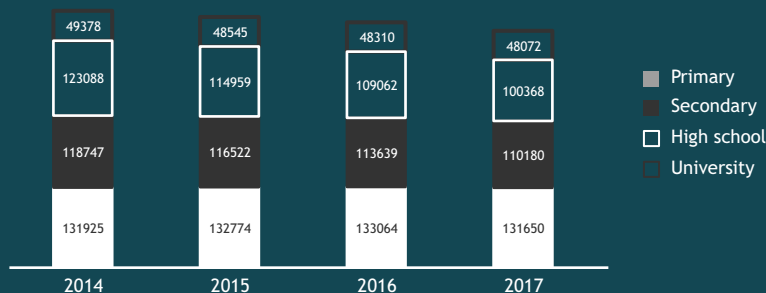
Immigration



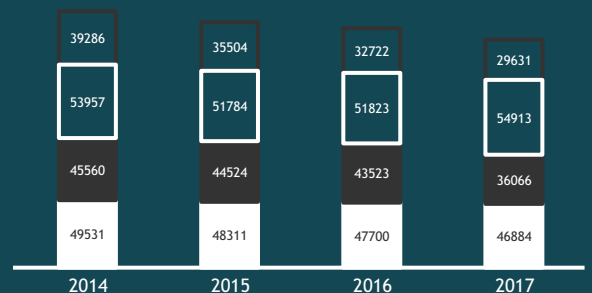
Human capital and community development

Population enrolled in education (2014-2017)

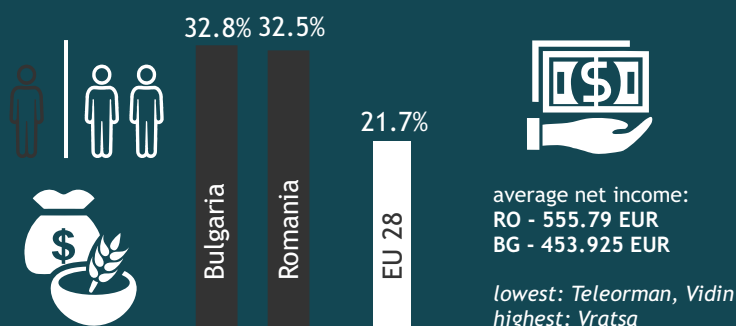
Romania - cross-border area



Bulgaria - cross-border area



People at risk of poverty or social exclusion (2018)



Access to utilities

| | | Highest | Lowest | General |
|-----------------------|----|------------------------|-----------|---------|
| public sewage | RO | Constanța | Teleorman | ☹ |
| | BG | Pleven, Ruse, Silistra | Montana | ☺ |
| waste-water treatment | RO | Constanța | Teleorman | ☹ |
| | BG | Ruse | Vidin | ☹ |
| drinking water | RO | Constanța | Teleorman | ☹ |
| | BG | Ruse | Silistra | ☹ |

05. SOCIAL

Main challenge regarding demographic change: Population decline, determined by the negative net migration and the ageing population, while having as main impacts the labour force shortage, the brain drain and the rise in dependency ratio.

Main challenge regarding human capital and community development: Unattractiveness for living, determined by high poverty rates, social exclusion, minimal development of local universities and low development of public services, while having as main impacts the untapped potential of human capital and the population decrease.

The Romania-Bulgaria cross-border area counts 4,2 million people (1,35 millions in Bulgaria and 2,85 millions in Romania) and includes 13,6% young people aged below 24, 64% aged between 25-64 and 22,4% people aged over 65.

In Romania, the most populated counties are Constanța and Dolj and the least populated are Mehedinți, Giurgiu and Teleorman. On the Bulgarian side, the most populated districts are Pleven, Veliko Tarnovo and Ruse and the least populated is Vidin. Romanian counties are generally more densely populated than the ones on the Bulgarian side, mostly Constanța (95.63 inh/km²) and Dolj (85.12 inh/km²), both having important major cities (Constanța and Craiova), growth poles that attract people and represent development engines from an educational, social and economic point of view. On the Bulgarian side, the maximum density is registered in Ruse (77.96 inh/km²) and the minimum in Vidin (27.98 inh/km²), approximately half of the lowest value registered on the Romanian border, in the county of Mehedinți).

Outward migration, population ageing and low fertility rates have led to a constant population decrease, especially along the Danube River. The most affected district between 2012-2018 has been Vidin, with a rate of -13.01%, followed by Montana, with a rate of -10.48%. These two areas have registered some of the highest

values for population decline in Europe, with many areas that are turning into so-called “ghost-towns”. The “best” performing district on the Bulgarian side is the district of Ruse, with a value of -5.62%. On the Romanian side, the county with the highest rate of depopulation is Teleorman (-9.68%) and the lowest is Constanța (-1.12%).

Rural depopulation is registering alarming levels in all the Bulgarian districts, with a maximum of -15.19% in Vidin.

On the Romanian side, the values are lower, but still significantly high. The county of Constanța, however, has registered a slight increase in the rural population, by 2.81%. The fact can be explained especially by the population that moves from the major cities to rural bordering areas but continues to commute daily to the urban areas in the county, especially the municipalities of Constanța and of Mangalia. On the Bulgarian side, the major cities do not manage to attract enough people to stop the depopulation of the area.

The most serious issue of the Romania-Bulgaria cross-border territory in terms of population evolution remains migration.

There is a significant population migration either to the more developed urban areas in the country or abroad (with specific differences for the two countries, Bulgaria mostly internal

migration and Romania mostly international migration, both qualified and unqualified workforce emigration to western EU countries). The trend of migration from rural to urban areas is also present in most of the cross-border area. In this context, counties with low levels of negative net migration, such as Giurgiu (-0.79‰), Dolj (-1.03‰), Constanța (-1.15‰) and Ruse (-2.89‰) show better perspectives for improving their attractiveness for future residents.

Beside population decline, the cross-border area is also affected by population ageing and negative natural growth rate.

In Bulgaria, the highest rates are in Vidin with more than 245 old people for 100 young ones, while in Romania the highest rate is in Teleorman, with more than 195 old people for 100 young ones. At the same time, life expectancy is generally under the EU average. Ruse (74.52 years), Veliko Tarnovo (74.20 years) and Pleven (73.47 years) recorded life expectancy levels that were close or even above the national values, but under the European average. For the Romanian counties, Constanța (75.29 years) Mehedinți (74.95 years), Dolj (74.84 years) and Teleorman (74.58 years) reached the highest values, but are still under the EU average values.

Negative demographic trends have led to a decrease of the labour resources in all counties and districts in the programme area.

The most severe decline rates are registered on the Romanian side of the border, in Mehedinți (-19.2%), Teleorman (-17.9%), and Olt (-16.9%). In the Bulgarian districts the decrease was lower than in the Romanian counties - in Montana, the district with the highest decline, the rate was -9.3%, and for Vratsa -8.7%, while Ruse was the only district in the cross-border area where the labour resources increased (by 2.5% between 2013 and 2018). The highest number of labour resources are found in the Romanian counties of Constanța and Dolj, despite the general decline (around 10-11% decrease).

Poor participation in the labour market affects both the Romanian and the Bulgarian area, but the phenomenon is more pronounced on the Romanian side.

The active population is highest in Constanța and Dolj, the counties with the largest cities in the area. The most abrupt decline of the active population in Romania took place in Teleorman (-17%), Călărași (-15.6%), and Giurgiu (-13.2%), between 2013 and 2018. On the Bulgarian side, the decrease rates are more stable, ranging between -3% to -13%. Two districts had a positive evolution of the active population - Silistra (0.8%) and Ruse (1.7%).

Employment rates reach an average of about 52-54% of the active population, well below the EU average of 73.1%.

At the county/district level, the employment rate incurs high differences, with Teleorman, Constanța and Mehedinți maintaining their values over 60%, while Montana has the lowest employment rate, of 37.6% in 2018. Six out of the fifteen NUTS3 areas covered by the programme area have an employment rate below 50%.

Despite the continuous decline, the cross-border area still holds important shares of unemployed persons.

Each of the two sides of the cross-border area hold over 21% (in the case of Romania) and over 30% (in the case of Bulgaria) of the total unemployed population in the respective country. The highest unemployment rate was found in Vidin, where the unemployed accounted for 19.7% of the active population. At the opposite end, Constanța has the lowest unemployment rate, of 2.3%, which has decreased over time. Overall, the cross-border area has an unemployment rate of 6.7% in 2018, lower than 10.4% in 2013. However, this values are expected to increase as a result of the economic effects of the COVID-19 pandemic and additional measures will be needed for the reintegration and training in new fields of the new unemployed population.

Based on the low level of economic development, more than a third of the population in the programme area is at risk of poverty or social exclusion.

The situation is particularly concerning in respect to in-work at-risk of poverty, manifested widely, given the low salaries in the region, up to five times smaller than the EU average and well below the national averages.

The education level of the population in the area is low.

The illiteracy rate is worrying, especially in the Romanian area of the cross-border region. According to the 2011 National Population and Household Census, the 1st, 2nd and 4th counties in term of highest rate of illiteracy in Romania are located in the cross-border region (Călărași - 3.61% of the total population, Giurgiu - 3.19% and Teleorman - 2.43%, compared to a national illiteracy rate of 1,36%). In Bulgaria, two of the districts (Dobrich and Silistra) are above the national percentage of illiterate population (1.17%).

The development of faculties/universities seems to have stopped in recent years. Constanta, Dolj, Plevan, Ruse and Veliko Tarnovo as regional urban centres, still concentrate higher education infrastructure. The proximity of capital cities - Bucharest and Sofia - is also a strong factor that discourages the development of local higher education structures. Nevertheless, their presence is an indication of the local demand. Because only Constanta, Craiova (Dolj), Plevan, Ruse and Veliko Tarnovo have self-standing universities that have their seat there, it is obvious that the most common answer to the demand is that universities based outside the area open local subsidiaries/faculties in the other cross-border counties in order to be closer to the students and to tap additional student resources.

In the Romania-Bulgaria cross-border area, only 2.11% of the population was enrolled in tertiary education, compared to 38.5% average in the EU (2017 data).

While some cities have developed as university centres, their student community is not an important part of the county population as youth prefer to study in capital cities which are close to the cross-border areas and have a wider range of specialisation as well as higher performance rates. Most students were registered in Constanța, Dolj and Veliko Tarnovo. However, when calculating the percentage of students out of the total number of inhabitants, the highest value was registered in Veliko Tarnovo (7%), while Constanța, Dolj and Ruse all register around 3%. Giurgiu, Montana and Dobrich do not benefit from such infrastructure and therefore have no enrolled students.

The school population and the number of students have been decreasing in the 2012 - 2018 period.

The academic enrolled population in the Romanian cross-border area dropped by 10.6% between 2012 and 2018, thus continuing the decrease tendency from the 2008 - 2012 period. Per NUTS 3 level, the highest decrease of school population - between 17% and 19% - was

registered in the western part of the Romanian cross-border area, namely in Teleorman, Mehedinți and Olt. In the Bulgarian cross-border area, in the 2018 - 2019 academic year, there were 207,372 pupils, 5.43% fewer than in 2012 - 2013. Per NUTS 3 level, higher decrease rates - between 7% and 8.5% were registered in Vratsa, Montana and Silistra.

The availability of medical services differs in terms of territorial distribution or available facilities.

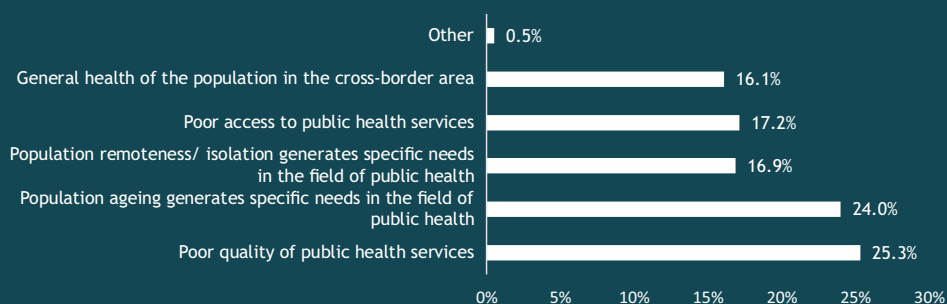
In terms of hospital accessibility, the Romanian territory is better equipped due to the fact that the health institutions have a wider distribution throughout the territory, and more dwellings are situated within a 60 minutes range of a hospital. On the other hand, the infrastructure and the personnel are crowded when analysed "in per population" ratios. In Bulgaria, the health infrastructure is concentrated in several urban centres, therefore it is less accessible in a 60 minutes timeframe. However, there are more hospital beds available per 1000 inhabitants, while physicians have less patients on their portfolio. Despite these challenges, both health systems have also been affected by the COVID-19 pandemic which emphasized the reduced level of development and equipment of the medical infrastructure and services both in Romania and Bulgaria. In this context, significant efforts are required in the foreseeable future and in the long term in order for the public health systems to be able to cope with such medical crises.

Emergency medical services are facing multiple challenges.

In both Romania and Bulgaria the emergency medical care is confronted on one hand with infrastructure problems such an insufficiency of such establishments, a shortage of equipment and medical staff because of low wages and hard working conditions especially in remote areas, and, on the other hand, with overcrowding due to the lack of information that citizens possess as to when the emergency health system should be used.



RESULTS OF THE STAKEHOLDERS' SURVEY: Top problems in the field of health



Living conditions are also a factor that contributes negatively to the attractiveness of the cross-border area, as here citizens have a smaller housing space available per person (35 m² in the Bulgarian cross-border area and 21 m² in the Romanian cross-border area) compared to the EU 28 average (42.56 m²). The evolution of the housing surface (m²) available per inhabitant shows a deepening gap between the more urbanized counties (Dolj, Constanța, Olt, Plevne and Veliko Tarnovo) and the more rural ones (Giurgiu, Călărași, Mehedinți). Even though housing surfaces varies between the counties, in the more rural ones, the distribution of the population on housing units is less dense, the availability of housing space for population being more important in the urban counties.

The urban utilities' infrastructure in the cross-border area, both in Romania and in Bulgaria, is precarious and needs to be developed in order to meet European standards.

In Romania, the situation regarding access to utilities is most concerning, being below the EU and Bulgarian average. There are similarities between the two cross-border areas in ensuring drinking water for population, in Romania the rate of population connected to the central drinking water systems is approximately 70%, while in the Bulgarian area the rate is approximately 75%. In terms of population connected to the public sewage system, the situation of the two sides of the cross-border area is different: the Romanian area reports lower percentages than the Bulgarian area, the difference being in some cases around 50%. There is also a significant difference between

the two cross-border areas in terms of population connected to the public wastewater treatment plants: the Romanian area reports lower percentages, with some exception (Mehedinți and Constanța), than the Bulgarian area. The differences in access to utilities can also be determined by the different reporting methodologies in the two countries.

The emergency response capacity in the cross-border area benefits from being part of well-structured national systems. However, continuous financing and expansion is necessary in order to face the multiple challenges present in the area.

In both countries, an integrated approach was the main guideline for the planning and operationalisation of the national emergency response. The fundamental objective of the national emergency response system strategies is to consolidate the capacity of specialized agencies and local governments for national prevention of emergency situations and for their management. The main factors that will mark emergency management in the next 10 years and will have a strong impact on the territory are in relation to: the risk of Danube floods; an increased regularity of emergency situations arising from natural causes; aging and demographic decline; community service requirement on the increase; concentration of population in urban hubs; decrease in collective solidarity; emergence of new technologies that lead to a potential risk of producing large-scale emergencies of higher intensity and complexity, as well as other risks referring to medical or industrial hazards etc.

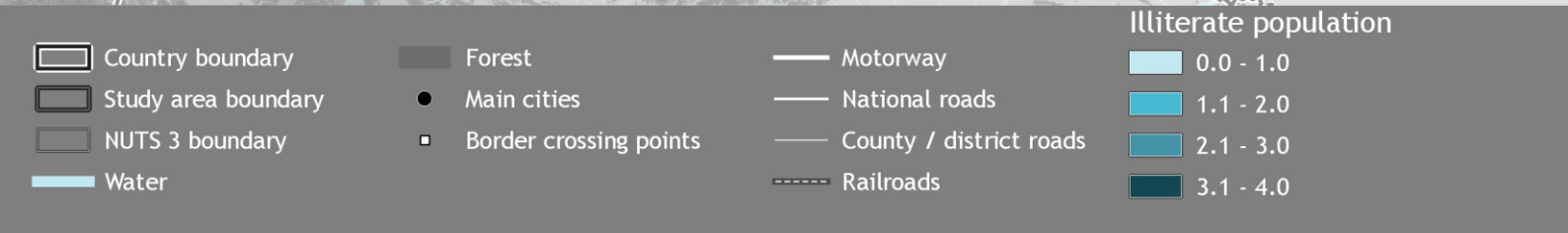
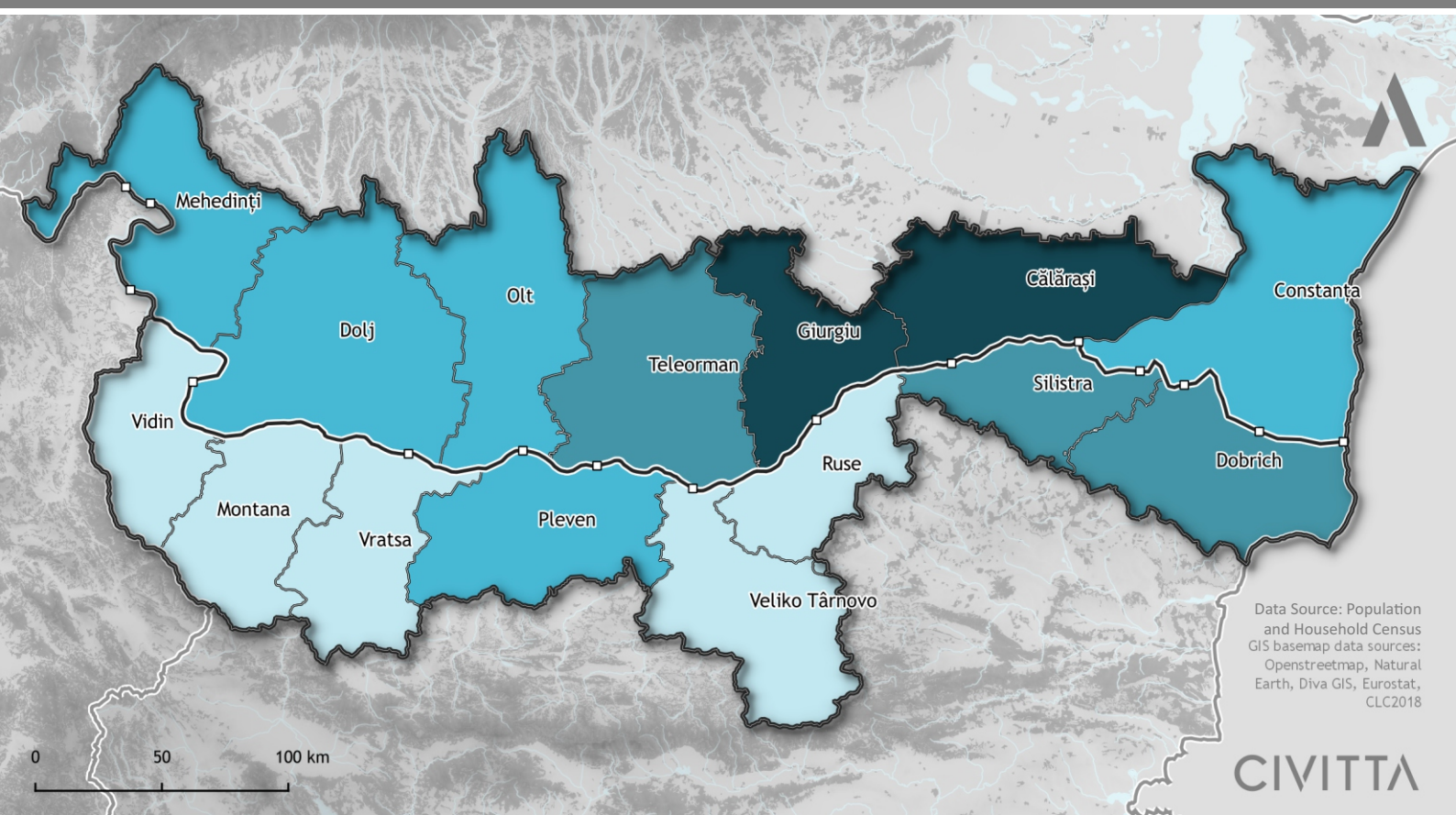
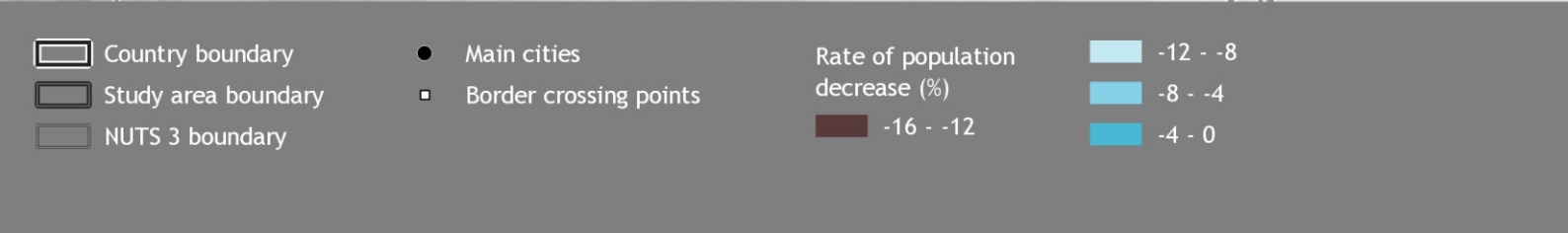
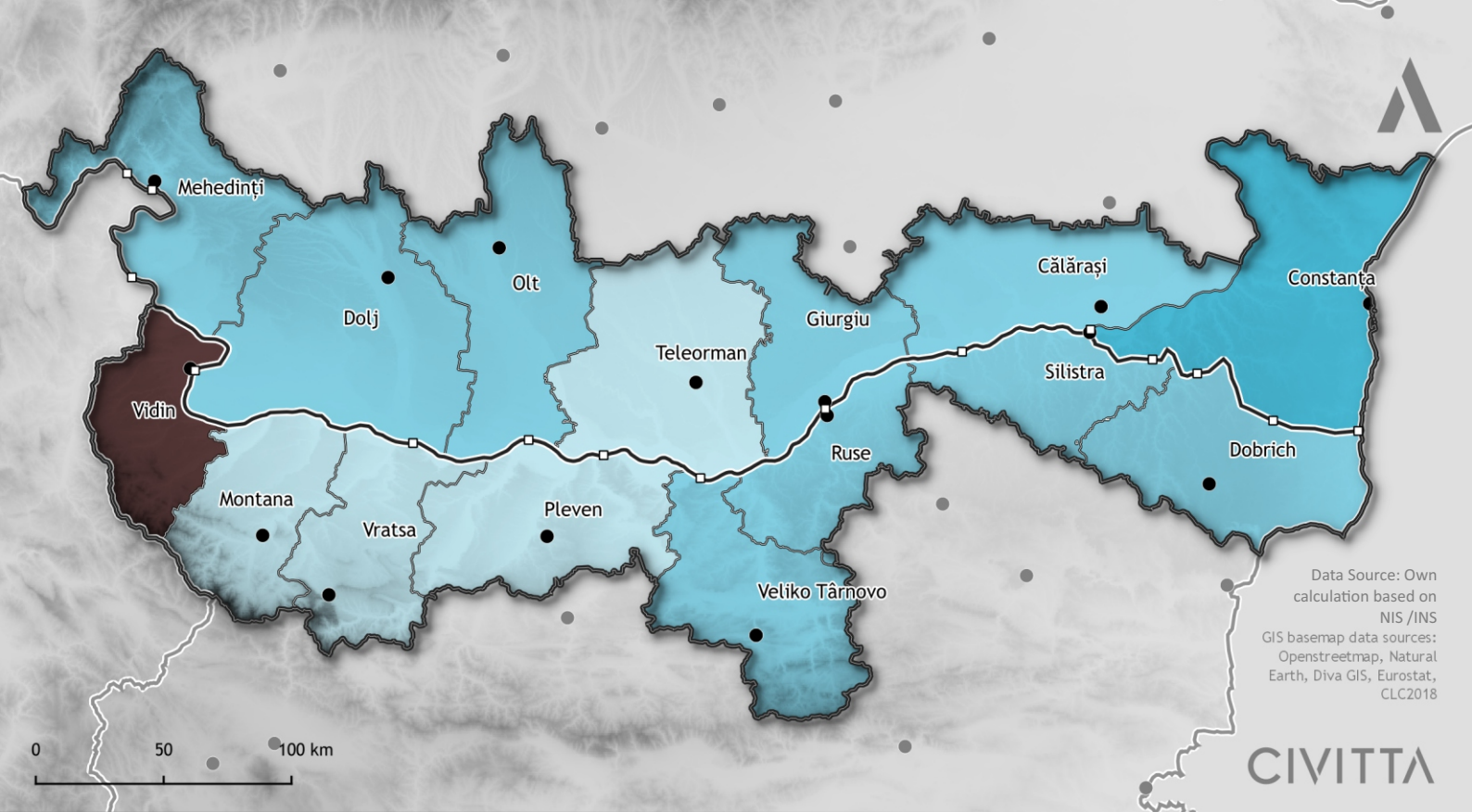


Photo source: Facebook Constanta Cityhall

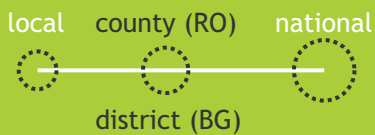


06.

GOVERNANCE

General information

Administrative structure



6 NUTS 2 regions*
15 NUTS 3 regions

*not fully included in the programme area

highly centralised, differences in structure - harder on cooperation

FUNCTIONAL AREA (potential for policentricity)

Connected to four major urban centres:

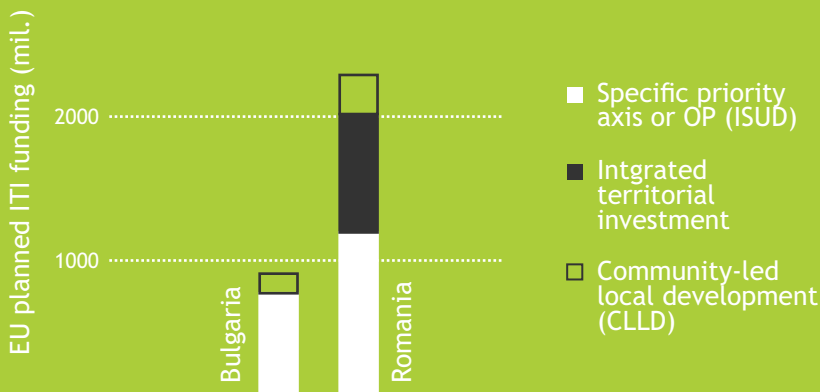
BUCHAREST, SOFIA, BELGRADE, ISTANBUL

| | | | |
|---------|-------------------|--------------------------------|--------------------|
| regions | South - West | Mehedinți, Dolj, Olt | counties/districts |
| | South - Muntenia | Teleorman, Giurgiu, Călărași | |
| | South - East | Constanța | |
| | Severozapaden | Vidin, Montana, Vratsa, Pleven | |
| | Severn tsentralen | Veliko Târnovo, Ruse, Silistra | |
| | Severoiztochen | Dobrich | |



Territorial cooperation

Organizational models for inter-jurisdictional agreement



Quality of governance



low quality of governance*

* lower than the EU average; amongst the lowest in the EU based on the components of corruption, impartiality and quality

Government performance

Indicators of government performance (2016)

| Indicator | Eu28 rank | Romania | Bulgaria |
|----------------------------------|-----------|---------|----------|
| Access to government information | | 23 | 16 |
| Transparency of government | | 27 | 24 |
| Control of corruption | | 26 | 28 |
| Societal consultation | | 23 | 17 |
| Trust in government | | 19 | 19 |
| Government effectiveness | | 28 | 27 |

Digitalisation

Indicators of digitalisation (2015)



e-government users

Romania - 28th place (EU28)
Bulgaria - 9th place (EU28)



online services

Romania - 27th place (EU28)
Bulgaria - 24th place (EU28)

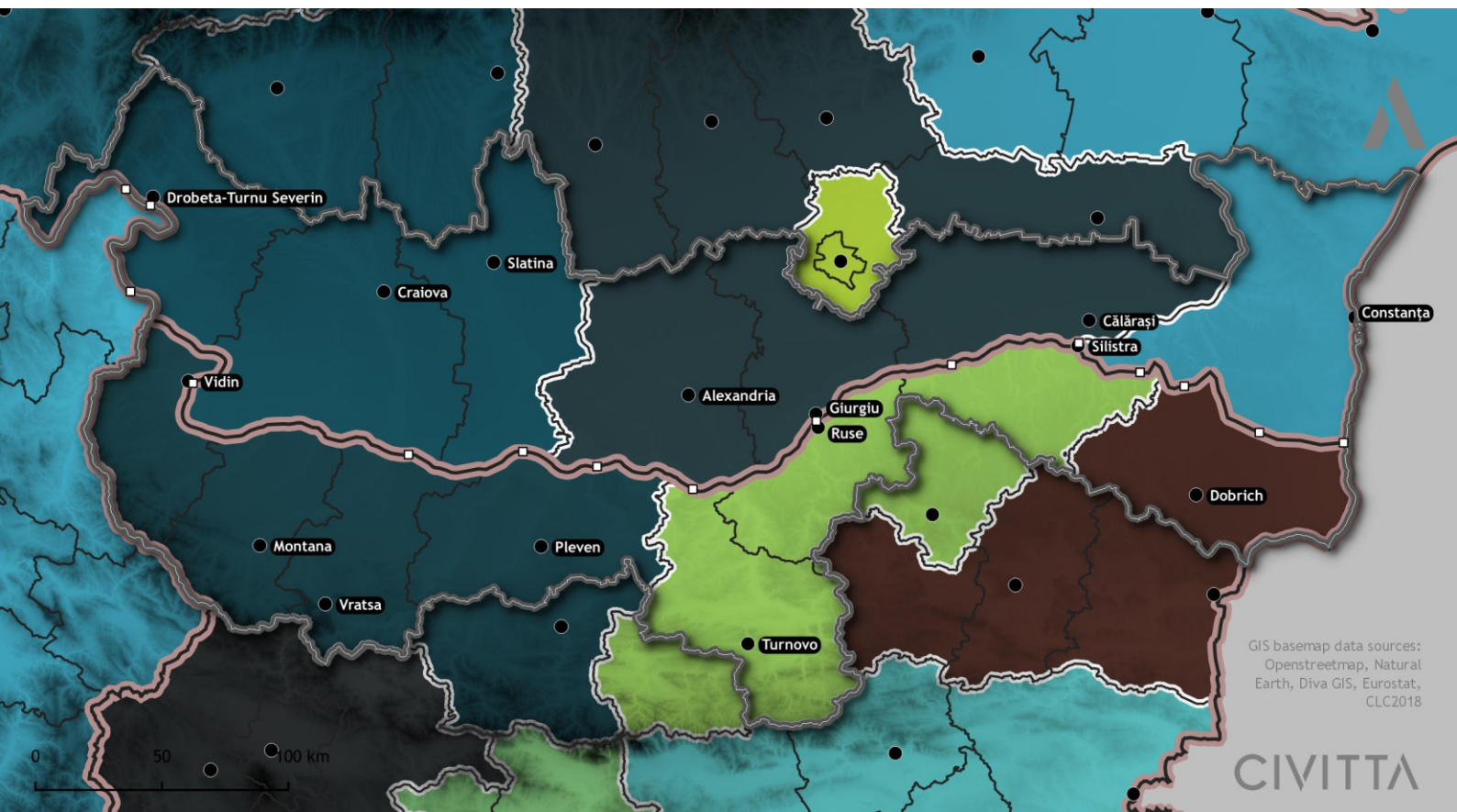


ease of doing business

Romania - 19th place (EU28)
Bulgaria - 20th place (EU28)

06. GOVERNANCE

Main challenge regarding governance: Reduced quality of governance, determined by reduced coverage of digital public services, relatively low level of stakeholders' involvement, reduced transparency of government, insufficient reliable and/or relevant statistical data, relatively weak intermunicipal cooperation, poor cross-sectoral cooperation, as well as still insufficient capacity for project preparation, implementation and evaluation, while having as main impacts the societal distrust in government, the loss of available funds, the insufficient capitalisation on previously implemented actions, the low impact of public policy on the development process, the difficulties in overcoming cooperation obstacles, as well as the reduced interaction between the government and community and businesses.



- Country boundary
- Study area boundary
- NUTS 3 boundary
- NUTS 2 boundary

- Main cities
- Border crossing points

Each NUTS 2 region has a different color in order to be distinguished easier.

Romania and Bulgaria and their development regions included in the cross-border area usually ranked among the last ones at European level regarding the quality of governance.

At regional level, the South-Muntenia region in Romania and Severn Tsentralen region in Bulgaria register slightly higher values regarding the overall quality of governance, the impartiality dimension, as well as the corruption dimension.

The Romania - Bulgaria cross-border area has a certain level of cohesion, based on the territorial interdependencies between the two countries and can therefore be considered and analysed as a functional area.

The main development engines of the territory are the major urban centres which have the capacity to attract socio-economic development, while also influencing their surrounding territories. However, synergies are not strong, both because of the limited number of connections between the two countries over the Danube, as well as the low density of major urban centres.

In order for this area to develop in an efficient manner, a series of territorial and administrative obstacles that hinder cooperation need to be overcome.

These barriers cover a wide range of fields such as the differences in the administrative structures of Romania and Bulgaria that impose difficulties to similar units in their cooperation since they can have different statutes. In addition, both countries are highly centralised countries, which determines numerous dependencies between the various administrative levels. This can be considered one of the causes or in direct relation with the reduced institutional capacity at local level which, combined with a relatively reduced level of stakeholder involvement and consultation, has in turn determined a low level of trust in the government. These factors can be considered obstacles both in the horizontal cooperation between relevant stakeholders at local and regional level, as well as in the vertical coordination and complementarity with other regional / national / European policies and programmes.

The opportunity of using tools for integrated territorial development, such as ITI and CLLD, can bring several advantages to the Romania-Bulgaria cross-border area, as they can provide a specific framework for cooperation, as well as a place-based and integrated approach to local challenges.

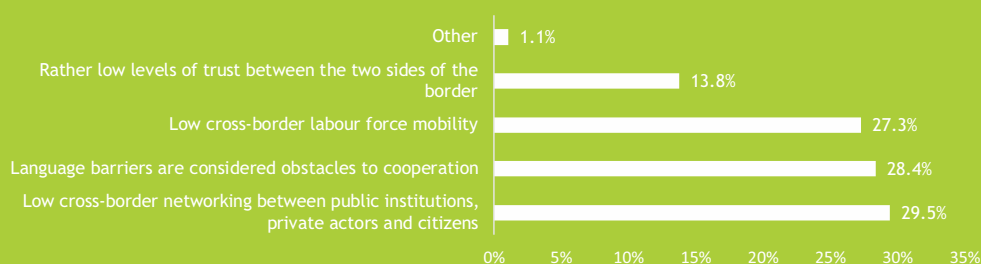
However, taking into consideration the insufficient experience at European level and the lack of examples in Romania and Bulgaria in applying these tools at cross-border level, their possible implementation can bring new challenges in adapting the European regulations both to the cross-border context, as well as to both national legal frameworks. The current Interreg V-A Romania-Bulgaria Programme together with the European Commission tried promoting the establishment of an ITI in the Ruse-Giurgiu area in 2018, in time for it to be integrated in the future Programme. While interest from the stakeholders was shown, no action was taken. At the moment, there is no EGTC in place in the cross-border region (prerequisite condition for an ITI/CLLD within a cross-border programme).

Even though both countries have taken significant steps in the implementation of the digital transformation process, they still occupy the last positions in the European rankings.

In the case of Romania, even though the ICT industry is growing at a very fast pace, the digital transformation process has severely fallen behind. This problem is caused on the one hand by the reluctance of public employees to re-think the process of governance, and on the other hand by the relatively high share of older population and of the population living in rural areas that do not have access to the internet. Bulgaria has been more preoccupied in recent years with introducing e-government services and progress in this area has been significantly more visible than in other sectors. This can be seen in the high percentage of e-government users, the extensive coverage of fixed broadband, including in districts in the cross-border area such as Silistra, Pleven, Ruse or Veliko Tarnovo, or in the overall percentage of e-government index at global level.



RESULTS OF THE STAKEHOLDERS' SURVEY: Top problems in the field of trust and cooperation



The Romania-Bulgaria cross-border area is also characterised by a series of territorial challenges that also play a crucial role in facilitating or preventing a fruitful cooperation between the two countries.

These challenges regard:

- A relatively reduced strength of the regional network of cities because of the barrier effect of the Danube river and the limited number of major urban centres
- Insufficient connections over the Danube river, especially in the areas of pairing cities of the two countries that could facilitate the link to the major national transport infrastructure;
- Insufficient development of small and medium sized cities that could influence the development of their surrounding territories
- The river Danube as one of the main obstacles in collaboration for all the stakeholders in the cross-border area
- The differences in the administrative structures of the two countries and the different statute of localities represent an

obstacle in shared practices of spatial development

- Externalities of the uncontrolled development of capital cities and their surrounding territories that could affect valuable resources in the cross-border area (for example, natural, cultural, historic etc.)

It is of utmost importance that Romania and Bulgaria would cooperate in order to develop a stronger and prosperous cross-border area.

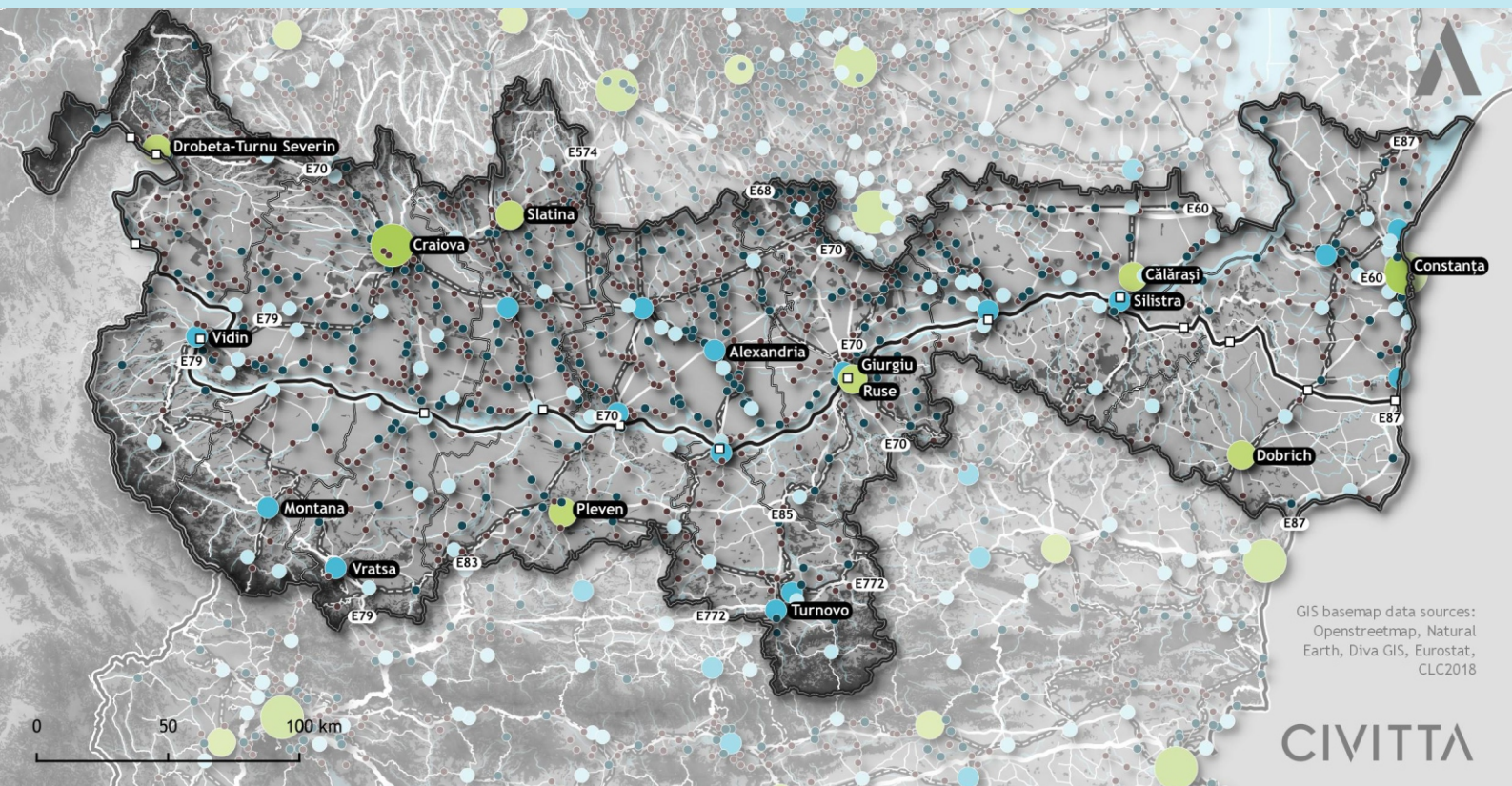
The advantages of further cooperation between the two countries are numerous and they can contribute to the development of a cohesive territory that can efficiently manage its resources and flows based on an extended critical mass and knowledge network, the reduction of inner and external peripheralities by means of an increased connectivity of the area, as well as to the increased socio-economic competitiveness of the territory through a stronger polycentric network of cities and related rural areas.

07. Territorial Diagnosis

Starting from the SPATIAL Project (Common Strategy for Sustainable Territorial Development of the cross-border area Romania-Bulgaria, funded by Romania-Bulgaria Cross-border Cooperation Programme 2007-2013) many issues highlighted in the territorial diagnosis remain valid. The main urban agglomerations outside the cross-border area, Bucharest and Sofia, continue to polarize the territory, attracting people from the surroundings. Secondary poles haven't grown enough in order to foster a more polycentric region. Unfortunately, the growth of Sofia and Bucharest happened mostly at the expense of secondary centres and surrounding rural territories. Main cities in the cross-border region did not manage to capitalize on resources provided by their surroundings and functional urban areas. The urban fringe is still affected by urban sprawl and is therefore characterized by unsustainable growth patterns.

Population decline, fuelled by aging and emigration, is one of the core problems of the

cross-border territory. Between 2012 and 2018 districts like Vidin and Montana lost more than 10% of their total population, Teleorman is also close to the 10% mark and most territories encounter heavy losses. Constanța is the only county with a slow decrease of populations (beyond 2%). However, population growth occurred mostly in metropolitan areas of larger cities like Constanța and Craiova, as a result of urban expansion/periurbanisation. Rural areas are mostly affected by depopulation, especially those on the Bulgarian side of the border. Even in an optimistic scenario, population might decline by approximately 33% in the cross-border region (even 52% in Vidin) by 2060. The Romania-Bulgaria cross-border region is losing population mostly due to migration towards larger cities in the surroundings (Bucharest and Sofia) or due to people moving abroad. Cities in the region are not attractive enough to retain the youth and the highly qualified professionals, which is reflected in the decrease of the number of students. As qualified workforce



GIS basemap data sources:
Openstreetmap, Natural Earth, Diva GIS, Eurostat, CLC2018

CIVITTA

| | | | | |
|---------------------|-----------------|-------------------------|--------------------------------|-----------------|
| Country boundary | Forest | Motorway | Population at LAU level | |
| Study area boundary | Border crossing | National roads | 459 - 2000 | 75000 - 150000 |
| NUTS 3 boundary | | County / district roads | 2000 - 5000 | 150000 - 313021 |
| Water | | Railroads | 5000 - 30000 | |
| | | | 30000 - 75000 | |

2018 for Bulgarian municipalities and 2019 for Romanian ones.

moves away, the districts and counties within the cross-border territory remain between the poorest in EU.

This accentuated socio-demographic decline endangers the future development of the Romania-Bulgaria cross-border area and calls for targeted interventions to maintain the current inhabitants (e.g. better public services provision, access to better-paid jobs, an improved quality of life etc.), to prevent outmigration and to attract diaspora and former inhabitants that left to larger cities (e.g. Bucharest, Sofia, Varna, etc.).

Even though the cross-border territory faces important socio-demographic challenges, the local economy grew at a fast rate over the last years. With a 40.7% growth of GDP / capita between 2012 and 2018, the cross-border region managed to grow faster than the EU28 average (12.7%). However, it is still lagging behind the other EU regions, and even behind the national averages and other regions in Romania and Bulgaria. Knowledge-intensive sectors are declining in terms of competitiveness, R&D&I levels and technological transfer are still reduced, and brain drain is limiting the economic development.

The Danube and the Black Sea remain the main assets of the Romania-Bulgaria cross-border territory, especially in terms of natural heritage. However, their potential is endangered by the landslides and high flood risk, especially on the Romanian bank of the Danube, soil erosion, particularly on the Black Sea Coast and various industrial risk factors along the Danube in Călărași and in the Giurgiu Ruse area.

The large diversity of touristic attractions in the Romania-Bulgaria cross-border area manages to attract an increasing number of tourists. By far the most attractive counties/ districts are Constanța and Dobrich, on the Black Sea coast. The seaside destinations are active mostly in the summer, with an average stay of 3.8 overnights in Constanța and 4.87 in Dobrich. The potential of the Danube as a tourist destination remains undercapitalized. The other counties and districts along the Danube account for only 17% of the total amount of overnight stays within the cross-border territory.

As regards the environment, the Romania-Bulgaria cross-border region continues to have low rates of waste recycling, in some cases equal to 0, and high quantities of generated waste. Also, air quality is worsening, especially in the urban areas where high levels of PM10 and PM2.5 remain a concern. On the other hand, both countries continue to capitalize on the natural resources of the region. The

relatively high potential in wind and solar power generation ensures a high share of renewable energy for heating and domestic hot water production of residential buildings. The cross-border region is also important for the production of electricity. Each country has one nuclear power plant located along the Danube. In Romania, the Cernavoda (Constanța county) nuclear power plant, produces approximately 20% of the country's electricity, while in Bulgaria, the Kozloduy (Vratsa district) nuclear power plant generates about 35% of Bulgaria's electricity. These also imply significant technological risks.

The Romania-Bulgaria cross-border regions remains disconnected from the Core of Europe in terms of major transport infrastructure. The two thematic TEN-T corridors (Rhine Danube and Orient East Med) are still not completed. The only exception is the link between Constanța and Bucharest (highspeed rail and motorway). The north-south (Pan European Corridor IX) lost its priority status at national level and railroad transport in Romania was rerouted due to a bridge collapsing in 2005, which hasn't been repaired by now. Except for the Constanța-Bucharest line, other railway lines are either degraded or not electrified. Only two railways cross the border, but they can't compete with road traffic in terms of time, mostly due to the fact that the Romanian sections are not electrified while those on the Bulgarian territory need to be modernized. Both Eurovelo corridors passing the cross-border territory are incomplete. Within Eurovelo 6, the Romania-Bulgaria border region is the last missing link. Navigation on the Danube slightly increased, but there are still sever issues due to periodic drought when several segments are not navigable. The quality of multimodal facilities, port capacity and hinterland accessibility remain important challenges for Danube ports in the cross-border region.

Romania-Bulgaria cross-border region remains a territory of contrasts: the population decline and slow progress on infrastructure and public services development are paralleled by a trend of economic growth, the quality of environmental factors is worsening, while the sustainable energy share and potential is high, a tradition of cross-border cooperation, paralleled by a lack of trust in the administration and language barriers. Moreover, counties in the cross-border area share similar economic development challenges but do not have the internal resources to address them. Being relatively peripheral in their own national contexts and dominated by traditional industries undergoing transformation, both sides of the cross-border area need support to overcome their peripherality and to catch up with the rest of Europe.

08. Key Pointers

-
- Improve the framework conditions required to strengthen economic development based on innovation, by increasing cooperation between companies, the research environment, administration and civil society;
 - Support the SME development and cooperation and the entrepreneurship as ways to create jobs and counteract migration and braindrain;
 - Invest in workers upskilling in connection to current market demands and with the regional priorities on smart specialization;
 - Support the economic transformation and modernisation of the area by encouraging the development and cooperation in promising sectors such as agri-food, circular economy, tourism etc. and through partnerships for manufacturing restructuring in declining areas;
 - Focus on a few common sectors of activities/ common interests regarding local and regional economic development and promote a cluster approach;
 - Define common cross-border products and services and support their access to the national and international markets;
 - Analyse the potential for interregional innovation projects for the development/ contribution to European value chains;
 - Take stock of existing digitalisation initiatives (especially in major cities) and promote a more systematic approach to digital public services, to benefit citizens and companies from both sides of the border.
-

Po1
A smarter Europe - innovative and smart economic transformation

Po2
A greener, low-carbon Europe

- Capitalize on and consolidate the current cooperation on risk prevention and rapid response management; increase the response capacity in case of floods, seismic events and other natural hazards;
 - Develop joint climate change adaptation and mitigation strategies and measures, with a strong focus on sustainable and eco-friendly measures (e.g. flood plains and reforestation);
 - Develop joint management and protection measures for the seacoast and the Danube banks;
 - Develop cooperative measures (e.g. joint planning, strategies, mapping) related to nature and landscape protection and promotion;
 - Counteract illegal activities affecting biodiversity, protected areas and environmental quality, such as illegal exploitations and poaching.
 - Increase awareness and promote recycling and a responsible attitude towards the environment;
 - Support learning and networking for sustainable local economic development activities capitalising on the local assets (agricultural land and tradition, biodiversity etc.) - e.g. in the fields of agri-food, sustainable tourism, circular economy
-

- Convert Danube from a barrier to a sustainable mobility and transport corridor, by improving navigability and water transport and connecting to the European routes - Eurovelo
 - Further strengthen cross-border links, especially by renewing and completing the existing railway infrastructure (missing railway cross-border links);
 - Improve road safety by joint measures and the further development of large infrastructure (bypasses, expressways/ highways)
 - Improve cross-border mobility between the twin cities along the Danube by linking local public transport routes in these cities (support green public transport routes if possible) and by improving intermodality on connections between the twin cities
 - Support in-land navigation and river management authorities, river users, investors and local authorities to better exploit Danube navigation (link to the EUSDR)
 - Increase the digitalisation level of the border region through a commonly agreed cross-border strategy and action plan focusing on improving general conditions for joint e-solutions (e.g. education, health care, business support, cultural cooperation) and by reducing urban-rural gaps through the improvement of broadband access in rural, sparsely populated and remote areas.
-

Po3
A more connected Europe - mobility and regional ICT connectivity

- Develop joint strategies to counteract emigration and braindrain;
- Improve cross-border labour mobility and education through cross-border traineeships or placements and student exchange programmes for young graduates and students;
- Improve cross-border education through joint education schemes and programmes, including digital tools and methods;
- Improve the insertion on labour market through supporting inter-regional partnerships between universities/ technical education units, the business environment and local authorities;
- Invest in workers upskilling in connection to current market demands and with the regional priorities on smart specialization;
- Develop entrepreneurial skills and an entrepreneurial culture through educational, networking and support activities;
- Increase multilingualism through more extensive and structured language-learning activities (including English learning) as a vector for building trust and an employment-boosting factor;
- Support healthcare systems in the area by tackling border obstacles to cross-border healthcare and developing joint investments and services (including e-health).

Po4
A more social Europe - implementing the European Pillar of Social Rights

Po5
Europe closer to citizens

- Improve cooperation and cross-border mobility and exchanges between twin cities based on joint integrated strategies;
- Develop and implement joint integrated strategies for specific types of territories/ regions in the cross-border area, capitalising on the local assets and specific (e.g. Dobrogea, the Black Sea Coast);
- Consider the development of joint strategies for the development of the lagging rural areas;
- Develop cooperative measures (e.g. joint planning, strategies, mapping) related to nature and landscape protection and promotion;
- Define common cross-border products and services (touristic, but not only) and support their access to the national and international markets;
- Connect tourism development efforts with European initiatives, touristic and cultural routes along the Danube in order to increase the opportunities to capitalise on the area's untapped touristic potential.

- Improve administrative and technical capacity for cooperation;
- Support the development of multi-stakeholder thematic networks/ partnerships in priority areas for the development of the cross-order territory (e.g. local economic development, tourism, heritage and culture, risk prevention and emergency response);
- Map and tackle border obstacles on the provision of cross-border public services and support the development of cross-border public services, including digital services;
- Test innovative approaches for cross-border governance and services that could overcome the legislative differences between the two countries;
- Improve governance and cooperation in the cross-border area through digitalisation (consider interoperability);
- Improve cross-border data collection - identify the sectors where important cross-border data is missing and support initiatives that would fill the gaps (e.g. in cooperation with national statistical offices, by supporting regional data portals etc.)

[Interreg specific]
A better Interreg governance

[Interreg specific]
A safer and more secure Europe

- Capitalize on and consolidate the current cooperation on risk prevention and rapid response management;
- Counteract illegal activities affecting environmental quality, such as illegal exploitations and poaching;
- Increase rapid response capacities and further develop joint intervention procedures/ schemes.

09. Programme Vision

The vision for Interreg Romania-Bulgaria 2014-2020 saw the Romania-Bulgaria cross-border region as the potential Eastern gateway of the EU, reinforcing economic and political cooperation between the countries of Central and Western Europe and Asia. The vision was based on the potential to develop combined river and sea transport (the Danube and the Black Sea) or sea and road/railroad transport of goods, which could have become an important sector for the economy of the region, thus increasing its attractiveness for businesses and for foreign investments, capitalizing on its strategic location and the high availability of transport infrastructure, such as Pan-European transport corridors, roads and railroads, an international port, and international airports in its vicinity. However, the analysis shows that there is still much to be done in order to ensure a reliable and sustainable transport system, while key structural issues related to socio-demographic decline, the loss of human capital, ensuring the accessibility and quality of public services and economic transition affect both sides of the border. Moreover, the natural risks and the effects of the climate change due to the specificities of the territory encompassing the banks of the Danube and the Black Sea Coast add more pressure on the communities and the local authorities.

In this context, the proposed programme vision focuses on the reinforcement of the socio-economic fabric of the Romania-Bulgaria cross-border territory, through developing and retaining human capital, creating opportunities for personal and professional development, providing an attractive, safe and sustainable living environment and supporting innovation and entrepreneurship.

Last but not least, the current COVID-19 pandemic revealed the poor current state of health systems in both countries. Moreover, such pandemics clearly hamper the economic development in any region. The future Programme should consider to contribute to the reinforced preparedness in a joint context so that future similar events can be better approached, with smaller losses in terms of both human lives and economic development in the border area.

The vision builds on the polycentric development concept, which was also part of the 2014-2020 Programme's vision, proposing a network of key urban hubs along the Danube, with enhanced institutional collaboration and economic synergies that could start articulating a common development strategy in order to mutually strengthen the secondary and peripheral cities. The network of small and medium-sized cities, such as the twin cities along the Danube, is already developed across the region, which is a plus in terms of services provided to the rural areas around them or to the potential for better service provision and jobs creation. Improving connections between urban and rural areas and transforming small cities into support centres that provide services to the neighbouring villages with an emphasis on public services is a direction to be considered, as is the provision of digital public services to remote or peripheral areas. The cross-border area is still facing a dual challenge: on the one hand, in rural and small urban peripheral areas, the challenge is one of generating and capturing employment opportunities by exploiting regional assets more effectively, and improving access to opportunities elsewhere through improved connectivity (both physical and digital); on the other hand, in the urban hubs, the challenge is of upgrading competitiveness in order to reduce the gap to the European level and to deliver the value added commensurate to support upward wage pressure.

The Interreg Romania-Bulgaria 2021-2027 should also keep pursuing the objective of the Romania-Bulgaria Cross-Border Cooperation Programme 2014-2020 to foster the transition towards a “Consolidated” territorial cooperation programme, by gathering the stakeholders’ commitments through a common vision of the area’s territorial development priorities in the framework of the so called “Smart Cooperation or cooperation of second generation” that boosts cross-border

services and transnational collaboration in areas such as health, transport, etc. along with strategic priorities such as growth, employment, research, innovation or sustainable development. A more strategic cooperation approach in the programme “maturation process” is necessary in order to compensate for the lack of critical mass that characterises many public and private activities within the Programme area.

THE CONSOLIDATED TERRITORIAL COOPERATION CHARACTERISTICS

| MOTIVATION | SCALE | TYPE OF BENEFICIARIES | GOVERNANCE STRUCTURES | MEASUREMENT | IMPACT |
|--|---|---|--|---|-------------------------|
| Continued reliance on external funding but emerging domestic commitments | A more strategic approach is emerging and attempts are made to coordinate efforts | Public authorities leading with some involvement from other sectors | Increasing levels of institutionalisation appointment of dedicated staff | Scope for using harder quantitative measures that focus outputs and results | Larger strategic impact |

Source: ESPON, 2012, TERCO - European Territorial Cooperation as a Factor of Growth, Jobs and Quality of Life

Complementary, the economic development vision for the area is geared towards the development of critical mass and an original combination of activities and competences for the development of innovative products and services. Counties in the cross-border area share similar economic development challenges but do not have the internal resources to address them. Being relatively peripheral in their own national contexts and dominated by traditional industries facing intense international competition and, in some cases, decline, as well as low added value agriculture and services, the two economies face the need to diversify into more knowledge-based activities and to build critical mass around these. Some emerging activities can be built on expertise developed in traditional industries through the creation of cross-border clusters or networks to foster learning and innovation synergies in different fields, particularly based on the regional/ national smart specialization strategies. Nevertheless, the economic transformation should take into account the opportunities provided by the Green Deal and the shift towards circular economy should be considered.

In terms of connectivity, there are still several bottlenecks in the cross-border network, both in terms of road and railway transport. The region would benefit in addressing these bottlenecks, if possible. The railway transport is a priority, as it is the more sustainable solution. The development of the Eurovelo 6 route,

connecting the cross-border territory to the rest of Europe along the Danube would also bring added value to the region.

From an environmental perspective, effective risk prevention mechanisms and actively fighting climate change would secure a resilient cross-border territory. Moreover, the natural and cultural heritage are to be promoted through sustainable tourism.

Last but not least, modern and effective public administration is necessary in order to capitalize on the benefits of digitalization and working together with businesses, universities, the research environment and the civil society in order to improve the life of their community and to foster territorial cooperation.

In conclusion, the Romania-Bulgaria Interreg Programme 2021-2027 should aim to boost the cooperation in order to ensure the socio-economic development of the region, lifting it from the last places in the European rankings, and transforming it into a sustainable and competitive community, by capitalising in a responsible manner on the territorial specificities and the resources offered by the presence of the Danube and the Black Sea Coast.
