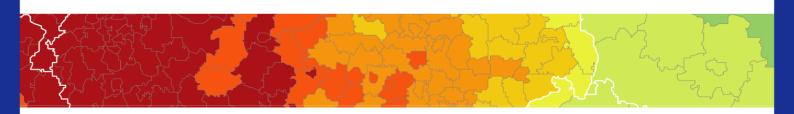


Inspire policy making by territorial evidence



Cross-border Public Services (CPS)

Targeted Analysis

Final Report

Scientific Report – Annex XII

Case study report – Euregio Bayerischer WaldBöhmerwald-Unterer Inn



Version 16/11/2018

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Cross-border Public Services (CPS)

Final Report

Scientific Report – Annex XII

Case study report – Euregio Bayerischer

Wald-Böhmerwald-Unterer Inn

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Abbreviations

AEBR Association of European Border Regions

CESCI Central European Service for Cross-Border Initiatives

CJEU Court of Justice of the European Union CoR European Committee of the Regions

CPS Cross-border public services

CPSP Cross-border public service provision

EC European Commission
EEA European Economic Area
EEC European Economic Community
EFTA European Free Trade Association

EGTC European Grouping of Territorial Cooperation
ESPON European Territorial Observatory Network

EU European Union

EURES European Employment Services

HEMS Helicopter emergency medical services MOT Mission Opérationnelle Transfrontalière

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1 Summary

As all other case studies of the ESPON 2020 Targeted Analysis project on "Cross-border Public Services", **the case study** "Euregio Bayerischer Wald-Böhmerwald-Mühlviertel" **pursues three main objectives.** (1) Inventorying existing cross-border public services (CPS) in the case study region and analysing in-depth the practical functioning of some CPS that are of particular interest for the concerned stakeholders. (2) Assessing potentials for a further development of CPS with a view to assist regional stakeholders in launching new initiatives that may be implemented in a medium-term perspective. (3) Contributing to the establishment of an EU-wide knowledge base on CPS based upon a coherent conceptual and analytical framework.

The "Euregio Bayerischer Wald-Böhmerwald-Mühlviertel" (hereinafter: "Euregio") was founded shortly after the fall of the Iron Curtain in 1993. Within the CPS project, the Euregio is at the exception of the Pomurje Region (AT-HR-HU-SI) the only case study including territories from more than two countries. The trilateral Euregio covers predominantly rural areas, most of which are expanding around a densely woodened medium mountain range called Bavarian Forest (Bayerischer Wald) and Bohemian Forest (Böhmerwald) on the German and Austrian sides and Šumava on the Czech side.

Since the Euregio covered for a long time also external EU borders (DE-CZ; AT-CZ), cross-border public service provision (CPSP) has started to intensify only after the Czech Republic's accession to the European Union in 2004. The Euregio hosts today a total of 18 CPS, most of which concentrate on public local transport (8 CPS). The other services exist in policy fields such as healthcare (1), emergency medical care (2 CPS), labour market and employment (1 service), fire-fighting, civil protection and flood management (3 CPS), police cooperation (2 CPS) and nature park cooperation (1 CPS).

Nearly all of the above-mentioned services in the Euregio are bilateral CPS, as there is only one CPS involving partners from all three sides (i.e. trilateral forest fire-fighting). For the 16 bilateral CPS within the Euregio, it can be observed that most CPS are established between Bavarian and Czech partners (12 CPS) and that CPS between Bavarian and Upper Austrian partners are fewer in number (4 CPS). Consequently, there exists not yet a bilateral CPS involving Czech and Upper Austrian partners.

Due this strong thematic and geographical clustering of CPSP, Euregio stakeholders have decided to focus the analysis of currently existing and future CPS (chapters 4 and 5) on the two policy areas "public local transport" and "emergency medical care". Both policy areas have high relevance for currently ongoing cross-border activities within the Euregio. With a view to ensuring a balanced representation of all three sides, it was also agreed that the indepth analysis of existing CPS (chapter 4) includes one example involving Bavarian and Upper Austrian partners as well as one example including Bavarian and Czech partners.

This case study can be particularly interesting for readers who want to get deeper insights into CPS that involve a high infrastructure and technical component as well as public service provision through private profit-making or non-profit-making organisation cooperating with other private or public actors.

2 Methodology

The research process for this case study was very demanding, as a comprehensive analysis of CPS in the Euregio did not yet exist for policy areas other than public local transport.

In order to present a complete and lively picture of CPSP, an extensive on-line research had to be realised because relevant information was scattered across a wide range of different sources (e.g. articles in local newspapers, press announcements, websites of stakeholder organisations etc.). Also several phone interviews with persons directly involved the development of CPS were realised. Moreover, a half-day stakeholder workshop on cross-border public local transport was organised in June 2018 at the head-office of the Euregio in Freyung (Bavaria) with the aim to explore Bavaria-internal perspectives for initiating further CPS. The workshop was attended by a larger number of practitioners coming from the different counties covered by the Euregio.

This broad information base was used for analysing the current state-of-play and also future perspectives of CPSP in the EuRegio. The analysis addresses a number of core elements of CPSP that were introduced by the "conceptual framework" elaborated in the Inception Report for this study project. These are (1) the cross-border needs / opportunities motivating a set-up of CPS, (2) the legal framework conditions for CPS, (3) the production base for a provision of CPS, (4) the tasks and intervention approaches of CPS for addressing identified needs and lastly (5) the organisational structures and processes for delivering CPS.

The entire analysis devotes particular attention to unveil the complex interplay between border-related or country-specific contextual factors and CPSP, and also takes a closer look at the different types of actors that are directly involved in delivering the CPS. Only this way it is possible to fully understand why and how the CPS were established and in what way these services are provided on a day-to-day basis.

A good understanding of the interplay between contextual factors and CPS is also relevant for "Euregio-external" readers who seek finding good practices for addressing challenges faced in their own cross-border areas. It helps them judging on whether the chosen cross-border solutions and forms of service organisation / delivery include aspects that might fit with their own context conditions and needs.

3 The case study region at a glance

3.1 Context conditions for CPSP at the border covered by the EuRegio

3.1.1 Key features of the Euregio Bayerischer Wald-Böhmerwald-Unterer Inn

The trilateral Euregio Bayerischer Wald-Böhmerwald-Unterer Inn (hereinafter: "Euregio") was established in 1993 and consists of three sub-sections: (1) the Bavarian section "EUREGIO Bayerischer Wald-Böhmerwald-Unterer Inn e. V." with its office seat in Freyung, (2) the Austrian section "Euregio Bayerischer Wald-Böhmerwald / Regionalmanagement Mühlviertel" with its office seat in Freistadt and (3) the Czech section Euroregion Šumava-jihozápadní Čechy with its office seat in Klatovy. Across borders, these three sections form a working community with the trilateral "Euregio Assembly" as the supreme cooperation organ.

On the German, Austrian and Czech sides of the Euregio, the cooperation area includes different territorial administrative units (see: map 3-1). In Germany, within the federal free state of Bavaria (hereinafter: "Bavaria"), the Euregio covers the county of Cham in the government district Upper Palatinate (Regierungsbezirk Oberpfalz) and the counties of Regen, Freyung-Grafenau, Straubing-Bogen, Deggendorf, Passau and Rottal-Inn in the government district Lower Bavaria (Regierungsbezirk Niederbayern).

In Austria, within the federal state of Upper Austria, the Euregio covers the political districts of Perg, Freistadt, Rohrbach and Urfahr-Umgebung (i.e. the part called Mühlviertel is not a territorial administrative unit).

the Czech Republic, the Euregio covers the districts Domažlice and Klatovy in the Pilsen Region (Plzeňský kraj) and the districts Prachatice, Český Krumlov and Strakonice in the South Bohemian Region (Jihočeský kraj), with Strakonice not being adjacent to the state border.



These administrative units account for around 1.2 million inhabitants (end 2010), of which two thirds live on the Bavarian side (901,507 inhabitants) and the remainder third on the Czech and Austrian sides (Czech part: 262,598 inhabitants; Austrian part: 187,632 inhabitants)¹.

¹ Data as of 31.12.2010, see: Dokoupil J. et al (2014), p.64

An Euregio-specific strategy document that explicitly or implicitly mentions cross-border policy objectives for developing CPS does currently not exist.

However, a recently elaborated spatial analysis for the entire Bavarian-Czech border area clearly recommends that a maintenance and supply of reasonably accessible services of general interest to the population in the border areas should be done by cross-border municipal cooperation in order to better cope with the consequences linked to demographic change (i.e. population aging and declining population numbers). This cross-border municipal cooperation should coordinate the service offer on both sides of the border and open up the use of facilities for residents of the neighbouring country (e.g. hospitals, doctors, kindergartens, schools). This can also involve the conclusion of local-level cooperation agreements by which a shared use of sports facilities, swimming pools, theatres or libraries is agreed. In both cases, the goal is to avoid duplication of structures, to reduce costs and to offer the broadest possible service supply².

Encouaged by the conclusions of this analysis, the Euregio started to prepare an initiative "Future Region 2020+" (Zukunftsregion 2020+) that was publically announced in the first half of 2018. This initiative focuses on the interactive development of two concepts entitled "Lower Bavaria-Upper Austria 2020+" and "Bavarian Forest-Šumava 2020+". Both concepts aim at elaborating and implementing a number of pilot projects that also cover many CPS-relevant themes such as eGovernment, labour market, higher education and bilingualism, mobility and public transport services, cross-border healthcare and cross-border data portals or digital networks³.

3.1.2 Border-related effects with relevance for a development of CPS

The ESPON project "GEOSPECS" identified four dimensions that simultaneously characterise any border (i.e. political, physical / geographical, economic, socio-cultural) and generate various "closure effects" and "opening effects" for all kinds of cross-border exchange relations⁴.

Such effects also occur at the segments of the German (DE), Austrian (AT) and Czech (CZ) borders covered by the Euregio and strongly influence the ongoing provision of already existing CPS as well as the development of future CPS.

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² Bayerisches Staatsministerium der Finanzen, für Landesentwicklung und Heimat / Ministerium für Regionale Entwicklung der Tschechischen Republik (2015), p.48

³ Passauer Neue Presse (2018a)

⁴ ESPON (2012a)

Effects associated with the political dimension of the border

During the past four decades, the status of the politically defined borders within the trilateral Euregio has substantially changed⁵. From the pre-1990 status as an already open EEC-EFTA border (DE-AT) or as largely closed "Iron Curtain" borders that divided political and economic systems (DE-CZ, AT-CZ), they gradually evolved in the period 1994-2004 to "contact zone borders". This allowed in some parts of the Euregio a stronger cross-border integration due to EEA/EU and EU membership (DE-AT), while in other parts still important closure effects existed due to the presence of external EU-borders (DE-CZ, AT-CZ).

The current borders of the Euregio are all internal EU borders, either between old EU Member States (DE-AT) or between old and new Member States (DE-CZ, AT-CZ), with all three countries being members of the Schengen area. Since the lifting of last mobility restrictions for Czech citizens in 2011, the borders facilitate in principle all sorts of cross-border exchange relations. However, a "currency border" still separates Eurozone Members (DE, AT) from a non-Eurozone Member (CZ).

Nevertheless, the political borders between the three countries continue to be "meeting points" of different national governance systems and of diverging legal provisions or administrative proceedings. These differences may lead to obstacles that adversely affect all kinds of cross-border interactions. Due to the complex trilateral border context within the Euregio, adequate legal framework conditions for cross-border cooperation have to be in place so that an ongoing provision of existing CPS or the development of new CPS is facilitated.

However, the three countries concerned by the Euregio have not concluded bilateral interstate agreements on general decentralised cross-border cooperation that apply the Council of Europe's Madrid Outline Convention of 1980. This meant for a long time that the scope of themes and practices by which local or regional authorities are allowed to act across borders as well as the legal tools they may use for formalising cooperation have mostly derived from different country-specific constitutional provisions and other domestic secondary laws on territorial authorities.

In 2006, however, Regulation (EC) 1082/2006 introduced the "European Grouping of Territorial Cooperation (EGTC) as a new EU-wide legal instrument that also regional and local authorities from the Euregio can use to formalise their cooperation. For the period 2014-2020, the amended Regulation (EU) 1302/2013 was adopted. New domestic legal implementing provisions were adopted already in 2015 by the Czech Republic, but only in 2017 also by Upper Austria and Bavaria⁶.

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⁵ See on this process in further detail: Dokoupil J. et al (2014)

⁶ CoR (2018), p.7

CPS may also be initiated and further developed on ground of theme-specific interstate agreements or that provide for cross-border cooperation in particular policy areas. The area of the trilateral Euregio is covered by a number of theme-specific agreements concluded between the national governments or between neighbouring regions, which often also allow CPS to be developed or further deepened. Some agreements exist already since a while (i.e. police cooperation; mutual assistance in the event of disasters or serious accidents), while others were concluded more recently with a view to put already existing but largely informal cooperation on a more solid legal ground (i.e. rescue services; fire-fighting services).

- (1) The German-Czech interstate agreement on cooperation between police and border authorities was signed already in 2000⁷, on ground of which cooperation between police and border control authorities of both countries is taking place since 2002. Just before the Czech Republic's joining to the Schengen Area, a "Joint Centre of German-Czech Police and Customs Cooperation" in Petrovice (CZ) / Schwandorf (DE) was established in 2007 (i.e. located outside the Euregio area). This Joint Centre also coordinates police cooperation in the German-Czech border zone covered by the Euregio.
- (2) The Austrian-German treaty on cross-border police security and criminal law cooperation was signed in 2003 and entered into force on 1 December 2005⁸. In the event of cross-border operations, for example, this agreement makes it possible that Bavarian police officers are subordinated to Austrian security authorities for the performance of police enforcement tasks, including sovereign powers, which in practice puts them legally on an equal footing with their Austrian colleagues⁹.

Bilateral police cooperation has developed further between 2015 and 2017, first in form of a common reaction to growing flows of migrants from countries of the Middle-East that had as their destination Austria and Germany. In November 2015, the ministries of the interior of Germany, Bavaria and Austria had set up a provisional Joint Centre for (border) police cooperation in Passau. The centre had worked well and made an important contribution to police cooperation, even beyond the then special situation. Therefore, in March 2017, the Ministers of the Interior of Germany and Austria signed an agreement on the permanent establishment of the Joint Centre in Passau. Officials of the German Federal Police, the Bavarian State Police and the Austrian police will work closely together to support police cooperation in the border area¹⁰.

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⁷ Regierung der Bundesrepublik Deutschland (2002)

⁸ Republik Österreich, Bundesministerium für Inneres (2018b)

⁹ Bayerisches Staatsministerium des Innern und für Integration (2018a)

¹⁰ Bundesministerium des Innern, für Bau und Heimat (2017), Wochenblatt (2017)

- (3) Interstate agreements on mutual assistance in the event of disasters or serious accidents were concluded between Germany and Austria (in force since 1992¹¹), between Austria and the Czech Republic (in force since 2000¹²) and also between Germany and the Czech Republic (in force since 2003¹³). These agreements cover also the area of the Euregio and usually regulate various technical/procedural and financial matters linked to voluntary assistance missions in the neighbouring countries¹⁴. However, these agreements do not explicitly provide for cross-border cooperation between regional- or local-level authorities in this matter.
- (4) A framework agreement on cross-border cooperation between rescue services was signed in 2013 between the Federal Republic of Germany and the Czech Republic, which entered into force in July 2014¹⁵. This agreement sets a legal framework for expanding the already existing informal cross-border cooperation along the borders of the German federal states of Saxony and Bavaria with the Czech Republic. It enables the deployment of German and Czech rescue teams in the border area of the other country and significantly improves the provision of emergency medical care on both sides of the border. The rescue service closest to the place of accident can now provide help across the respective border. Injured people are thus helped more quickly and reliably, because ambulance services can bring patients to the nearest and most appropriate health care facility.

This framework agreement needs to be implemented by additional "cooperation agreements" (Article 4) that are concluded between the competent administrations or the concerned territorial authorities in Saxony, Bavaria and the Czech Republic. The framework agreement therefore specifies what should be regulated in such cooperation agreements (i.e. organisation of the ambulance service, requirements for carrying out an assignment, definition of quality and safety criteria, details of liability insurance or communication methods etc.).

For implementing this framework agreement, a regional agreement on cross-border cooperation of rescue services was signed between Bavaria and representatives of the Czech regions of Karlovy Vary, Pilsen and South Bohemia in October 2016. The agreement sets out guidelines for the coordination of cross-border rescue service operations, for instance on the alerting of emergency services or the carrying out of operations and on the admission to a suitable medical care facility. Responsibilities for its practical implementation are on the Bavarian side with the public "local purpose associations for rescue service and

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¹¹ Bundesamt für Bevölkerungsschutz und Katastrophenhilfe (2018a)

¹² Republik Österreich, Bundesministerium für Inneres (2018a)

¹³ Bundesamt für Bevölkerungsschutz und Katastrophenhilfe (2018b)

¹⁴ e.g. cooperation procedures for preventing and combating disasters, the setting up of contact points, rules for facilitating border crossings of disaster relief teams and the import / export of relief goods or equipment; questions of operational management, reimbursement of costs, claims for damages or the performance of joint exercises etc.

¹⁵ Regierung der Bundesrepublik Deutschland (2015); Bundesministerium für Gesundheit (2013)

fire alarm" operating the integrated dispatch centres Hochfranken (Hof), North Upper Palatinate (Weiden), Amberg, Regensburg, Straubing and Passau¹⁶.

This regional agreement will help to further develop the already long-standing and good day-to-day cross-border cooperation between ground-based rescue services from Bavaria and the Czech Republic¹⁷. Some practical implementation question still need to be resolved. Options for this are, among other aspects, currently explored by the cross-border project "Competence and coordination concept cross-border rescue service" that is supported under the programme Interreg V-A Bavaria-Czech Republic and will be terminated in 2019¹⁸.

(5) In January 2016, the **Austrian-Czech framework agreement on cross-border cooperation between rescue services** was signed¹⁹. This agreement stipulates that in the neighbouring regions of Lower Austria and Upper Austria as well as in the border regions of the Czech Republic, it will now be possible to provide quick and un-bureaucratic mutual medical assistance in case of emergencies. The emergency service closest to the casualty is coordinated by the dispatch centres of the involved regions implementing the mission.

On ground of the framework agreement, detailed provisions on cross-border cooperation are laid down in **regional implementing agreements** that **were concluded in autumn of 2016** between the Austrian Länder Lower Austria and Upper Austria with their neighbouring regions in the Czech Republic²⁰. The Land Upper Austria and the Region South Bohemia signed a rescue agreement in České Budějovice and thereby paved the way for closer cooperation in field of emergency rescue²¹. Lower Austria concluded a cross-border rescue agreement with the regions South Bohemia and South Moravia (Jihomoravský kraj), which was also extended to the Highlands Region (Vysočina kraj) that has no direct border with Lower Austria²².

(6) In May 2017, a cross-border agreement on assistance and cooperation in fire protection was signed between the Bavarian country of Cham and the Czech region of Pilsen. Cross-border contacts and cooperation between fire brigades of the Bavarian and Czech border towns / municipalities are already very good, but they have initiated the conclusion of this agreement to put their cooperation on a legally secure basis. The agreement provides for a clear definition of assistance demand procedures, contact persons and operational sequence, but also includes requirements for the coordination of cross-border firefighting missions (e.g. alerting of emergency services; implementation of assistance

¹⁶ Bayerisches Staatsministerium des Innern und für Integration (2016)

¹⁷ BASt (2006), pp.43,77,97

¹⁸ Bayerwald Echo (2017); Da Hog'n (2017a)

¹⁹ Republik Österreich, Parlament (2016)

²⁰ Guten Tag Österreich (2016)

²¹ meinbezirk.at (2016)

²² Amt der Niederösterreichischen Landesregierung (2018)

missions) as well as for regular joint training and exercises to overcome existing language barriers²³.

Effects associated with the physical / geographical dimension of the border

The main physical-geographical and natural feature that characterises the trilateral Euregio area is a medium mountain range called Bavarian Forest (Bayerischer Wald) and Bohemian Forest (Böhmerwald) on the German and Austrian sides and Šumava on the Czech side (see: map 3-2).

The presence of this densely wooded mountain range gives rise to a number of shared problems / potentials in the present time and also to challenges / opportunities in the future (i.e. partly reduced accessibility; limitations for transport infrastructure development; lacing integration of cross-border public transport offers; forest fire risks; cooperation in the field of tourism etc.).



Map 3–2 Physical map of the Euregio area

Source: EUREGIO Bayerischer Wald-Böhmerwald-Unterer Inn (2018)

The **barrier effect** associated with this medium mountain range leads to variable levels of (cross-border) accessibility, as the endowment with and quality of road and rail transport infrastructure strongly depends on the location of specific areas / municipalities within the Euregio. Along the main roads and railway lines in the south-western part of the Euregio (DE-AT), both infrastructure quality and accessibility are very high. Low quality of road and railway networks and also low accessibility are found on the Czech side of the border, especially in higher elevated areas of the mountain range. Here, only a network of inferior local roads (2nd

²³ Chamer Zeitung (2017)

and 3rd class) exists and also the public transport service offer is reduced. Also existing regional rail lines are threatened, mostly due to financial reasons. Overall, the mountain zone of the Bavarian Forest / Bohemian Forest / Šumava is little permeable via road and rail transport especially in a north-south direction (i.e. from the Czech side to Bavaria and Austria). Moreover, the development of new transport infrastructures across the border is difficult given the fact that along the so-called "green border" very valuable landscapes and ecosystems have survived, which are currently among the most strictly protected areas²⁴.

Regular cross-border local public transport is not yet strongly developed along the entire Bavarian-Czech border within the Euregio²⁵. There are only two reguar cross-border bus services in the northwestern part of the Euregio. They are operated by Regional Bus Ostbayern GmbH (line RBO 6074 / 519 "Cham-Domažlice-Pilsen") and by the Czech company PROBO BUS a.s in Domažlice (fast bus service on the line 7710 "Zelezna Ruda-Bayerisch Eisenstein-Regen-Tittling-Passau"). In addition, a regular direct cross-border train service to the Czech side is ensured by the Bavarian "alex-trains north" (alex nord) and partly by the Oberpfalzbahn (OPB 3) on the railway line KBS 875 "Schwandorf-Cham-Furth im Wald-Domazlice-Plzen". In addition, also some seasonally operated cross-border public transport services for tourism do exist (see below).

This shows that substantial needs for developing new cross-border public transport services and also for better integrating already existing cross-border public transport offers exist within the Euregio (see: section 5.2).

Since a while already, relevant needs are clearly identified by various local actors from all three sides: the preservation and attractiveness-oriented expansion of all railway lines in the trilateral Euregio leading to the borders²⁶, the introduction of a cycle service from the railway stations České Budějovice (CZ), Volary (CZ), Linz (AT) and Passau (DE) to the respective route endpoints in the border zone, the establishment of connecting bus services between railway lines leading into the trilateral cross-border area and finally a better coordination / integration of timetables as well as an attractive combination of tickets for cross-border journeys in the entire Bavarian Forest-Bohemian Forest-Šumava region²⁷. This would provide alternative and environment-friendly mobility options to the resident population in border areas, on which especially young people without a car and the projected increasing older population groups are strongly depending.

The trilateral border area covered by the Bavarian Forest / Bohemian Forest / Šumava is an important destination for domestic and international all-seasons tourism (e.g. spa tourism,

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²⁴ Dokoupil J. et al (2014), pp.81-83

²⁵ Bayerwald-Ticket (2018b), Regionalbus Ostbayern (2018a), Landkreis Cham (2018a), Landkreis Cham (2018b), Interview (county of Cham)

²⁶ in Austia: Mühlkreisbahn "Linz-Rohrbach-Berg-Aigen-Schlägl"; in Bavaria: Ilztalbahn "Passau-Waldkirchen-Frevung"

²⁷ meinbezirk.at (2015)

hiking and cycling tourism in summer, ski tourism in winter etc.), especially in the zones covered by the Czech Šumava national park (ŠNP) and the Bavarian Forest National Park (BFNP). At the same time, the Czech ŠNP and the BFNP also constitute the nucleus of the largest cross-border protected area network in Central Europe and form the largest terrestrial Natura 2000 sites in both countries. Cross-border nature conservation and also the development of sustainable tourism that respects these important natural assets in the cross-border area are therefore important needs.

These needs are in parts already addressed by CPS in the trilateral Euregio. One example is the long-standing and close cooperation between the national park authorities of the ŠNP and the BFNP²⁸. Another example is the introduction of several seasonal crossborder public local transport offers for tourists in the Bavarian Forest and Šumava area. There are currently three cross-border hiking or ski / summer busses operating between Bavaria and the Czech Republic²⁹, but also the integrated seasonal cross-border rail / bus service for tourists that was developed around the Bavarian-sided leisure train Iztalbahn operating on the re-opened railway line "Passau-Waldkirchen-Freyung" (see: section 4.2).

The forested mountain range also bears a major risk potential that emerges from the high amount of deadwood especially on the Czech side, which was caused by the beetle infestation after the storm Kyrill. Large gaps were created in the closed forest cover, which let the forest floor dry out more quickly and lead especially in the summer months to a greatly increased cross-border forest fire risk. Also this challenge is starting to be addressed by CPS, as demonstrates the close cooperation between fire-fighting services and the recently organised "Austrian-Bavarian-Czech Forest Fire Drill 2017" 30.

Effects associated with the economic dimension of the border

The current economic situation of the Euregio is in general very heterogeneous. While there are some economically strong urban regions that are mainly located on the Danube axis (e.g. Regensburg, Straubing, Passau), economic performance of the northern and eastern parts of the Euregio are still below the EU average values. In particular with regard to regional / local unemployment rates, there are significant differences between the Czech part of the Euregio, on the one hand, and the Lower Austrian-Bavarian parts on the other hand. This unevenness arises from the different historical development of these sub-regions, but also from their geographical location and the respective socio-economic potentials. Today, however, the position of the Euregio as a "transit location" between the western-developed European countries and the countries of Central and Eastern Europe is very attractive and also creates good prospects and conditions for economic development³¹.

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²⁸ Bundesamt für Naturschutz (2015); IUCN (2011)

²⁹ Bayerwald-Ticket (2018b), Regionalbus Ostbayern (2018a), Interview (county of Cham)

³⁰ ABCFFD 2017(2017a), ABCFFD 2017(2017b)

³¹ Dokoupil J. et al (2014), pp.76-81

The Czech side of the Euregio benefits economically from cooperation with their Bavarian neighbours, while the Bavarian side benefits from the in-commuting Czech workforce. Recent figures on **cross-border commuting** (2014) suggest that the labour market between the Bavarian and Czech parts of the Euregio is starting to develop, albeit in a rather unbalanced way. Cross-border workers coming from the Czech Republic account in the border-close county Cham for around 4.4% of all employees (approx. 2,000 employees) and the shares are at around 2% in the counties of Freyung-Grafenau (450 employees) and Passau (1,100 employees). All other Bavarian member counties of the Euregio have only marginal commuter shares. Figures on commuting in the opposite direction (i.e. from Bavaria to the Czech Republic) are not available, but Bavarian cross-border workers are assumed to be very small in number because of the pronounced wage differences between both sides³². Also information and precise figures on commuting between Bavaria and Upper Austria as well as between the Czech side and Upper Austria are not available.

Nevertheless, long-term economic integration of the Euregio requires the cross-border availability of skilled workers, for which a permeable labour market and also a certain level of harmonisation of the neighbouring systems for **vocational education and training (VET)** are important prerequisites. As regards the latter aspect, however, the situation is highly diverse within the trilateral Euregio.

Along the Bavarian-Czech border, the current VET systems are very different. This is because the Czech system foresees that the phase of school-based qualification precedes the qualification time within a company, while the dual system of Bavaria foresees that training takes place in parallel within vocational schools and companies. For the concerned apprentices, this leads to different degrees of closeness (and experience) between education and business³³. This situation also tends to prevail along the Czech-Austrian border within the Euregio, as Lower Austria uses a dual VET-system that is similar to that of Bavaria. Due to this similarity and common tradition of VET-systems between Bavaria and Lower Austria, needs for intense cross-border cooperation tend to be rather limited along the German-Austrian border within the Euregio. This is also due to the already long-standing practice of a mutual recognition of diploma and professional certificates, which was established by specific Austrian-German interstate agreements in this field³⁴.

For addressing information needs of cross-border workers, jobseekers, employers or trainees, the "EURES-T partnership Bavaria-Bohemia" was established in November 2006 as the first partnership between "old" and "new" EU Member States. Support for this EURES-T

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³² Bayerisches Staatsministerium der Finanzen, für Landesentwicklung und Heimat / Ministerium für Regionale Entwicklung der Tschechischen Republik (2015), p.7

³³ Bayerisches Staatsministerium der Finanzen, für Landesentwicklung und Heimat / Ministerium für Regionale Entwicklung der Tschechischen Republik (2015), p.33

³⁴ i.e. the "German-Austrian Agreement on Cooperation in Vocational Education and the Mutual Recognition of the Equivalence of Vocational Certificates" of 1989 and the "Joint Declaration on Vocational Education and Training on the Comparability of Vocational Qualifications" of 2005.

scheme expired at the end of 2014, but advice for cross-border workers is continued and provided through the regional / local EURES advisors in Bavaria and the Czech Republic. On the Bavarian side of the Euregio, EURES advisors are currently located in Cham, Selb, Passau and Deggendorf. In the South Bohemian Region (Jihočeský kraj) and the Pilsen Region (Plzeňský kraj), EURES advisors are working at the regional offices of the Czech Labour Office in České Budějovice and Plzeň³⁵. An Austrian-Czech EURES-T partnership does not exist in the Euregio, wherefore Czech cross-border workers can only get information on Austrian context conditions from the central-level EURES information point operated by the Austrian Public Employment Service AMS in Vienna³⁶.

Economic differences between the Czech part, on the one hand, and the Lower Austrian-Bavarian parts, on the other hand, are also an important reason why cross-border healthcare is not yet significantly taking place in the trilateral Euregio. Especially the difference of national cost levels for hospital treatments are important factors hindering a stronger cross-border use of healthcare services on ground of the two EU-wide regimes established by Regulation (EC) No 883/2004 and Directive 2011/24/EU³⁷. Different cost levels can cause additional costs for national or regional public health funds insuring patients who are treated in a hospital on the other side of the border, but may also lead to financial risks for patients following a treatment on the other side that they first have to pre-finance in full.

Concrete implications of these effects were already examined by a study for another part of the Bavarian-Czech border: it concluded that especially Bavarian-sided hospital treatments of persons insured in the Czech Republic are not expected to occur at a large scale, as additional costs for the Czech health insurance funds are too high³⁸. This specific conclusion also tends to be valid for the Austrian-Czech part of the border, but potentials may indeed exist for the inverse constellation due to lower treatment cost (i.e. Bavarian and Upper Austrian patients treated in Czech-sided hospitals).

A cross-border use of healthcare services seems to take place between the Bavarian and Upper Austrian part of the Euregio, because an information and consultation service for patients is jointly operated by the public health insurance funds Upper Austria (Oberösterreichische Gebietskrankenkasse, GKK) and Bavaria's largest public health insurance funds (Allgemeine Ortskrankenkasse Bayern, AOK Bayern)³⁹.

Effects associated with the socio-cultural dimension of the border

³⁵ See on this development: DGB Bildungswerk (2011), onetz (2014), Bundesagentur für Arbeit (2018), Ministerstva práce a sociálních věcí (2018)

³⁶ AMS (2018), AMS (2017)

³⁷ Regulation (EC) No 883/2004 of the European Parliament and of the Council of 29 April 2004 on the coordination of social security systems. Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare.

³⁸ Exceptions are Czech persons with a particular cross-border status (i.e. commuters and retired or students living abroad). See on this: INWISO (2011), pp.74,75,84

³⁹ AOK Bayern (2018)

The Bavarian-Austrian-Czech border area covered by the Euregio has a long common history and also close cultural relations. However, the language barrier that exists between the German-speaking part of the Euregio (Bavaria, Upper Austria) and the Czech side still influences the sense of belonging together in this border region and also a variety of cross-border interactions.

While German has for long been a frequently used language on the Czech side due to the common history, German language skills are nowadays rapidly dropping as a result of generational change. On the German (and Austrian) side, however, the proportion of those who speak Czech is traditionally low⁴⁰. In order to reverse this development, it is necessary to stimulate learning of the language of the neighbouring country already at an early stage, which in turn requires that related incentives are increased in schools on all three sides. Since February 2017, the Euregio has started a new Interreg-funded project ("Center for Language Competence German - Czech") with the goal to reduce the language barrier in the German-Czech border area and to permanently strengthen the contact, exchange and cooperation of neighbouring regions⁴¹. This valuable project ends in January 2020 and is therefore not yet considered a CPS, although potentials do exist if the centre should become permanent after the end of funding.

The language barrier not only represents a hurdle for interpersonal contacts, cross-border economic exchanges and the development of a cross-border labour market within the Euregio, but also considerably influences on the ongoing provision of existing CPS. This is important, as most of the existing CPS are implemented between Bavarian and Czech partners (see: section 3.2). Communication barriers are especially relevant if CPS involve tasks with a high technical content or complex procedural aspects. Related difficulties are observed along all border segments of the Euregio, but particularly in case of CPS in the fields of civil protection and medical emergency care or fire-fighting.

3.2 Summary overview on CPS currently provided in the EuRegio

Table 3-1 and map 3-1 show the 18 CPS that already exist in the Euregio. They cover policy areas such as public local transport by rail and road (8 CPS), health-care and emergency medical care (3 CPS), labour market and employment (1 CPS), fire-fighting, civil protection and flood management (3 CPS), police cooperation (2 CPS) and nature park cooperation (1 CPS).

Nearly all identified services in the Euregio are bilateral CPS, as there is only one CPS involving partners from all three sides (i.e. trilateral forest fire-fighting). For the 16 bilateral CPS within the Euregio, it can be observed that most CPS are established between Bavarian and Czech partners (12 CPS) and that CPS between Bavarian and Upper Austrian partners

⁴⁰ Bayerisches Staatsministerium der Finanzen, für Landesentwicklung und Heimat / Ministerium für Regionale Entwicklung der Tschechischen Republik (2015), pp.32, 35

⁴¹ EUREGIO (2018)

are fewer in number (4 CPS). Consequently, there exists not yet a bilateral CPS involving Czech and Upper Austrian partners. Two bilateral CPS are examined in more detail under the stock-taking analysis (chapter 4): these are the integrated seasonal cross-border rail / bus tourism service developed around the Ilztalbahn and the first truly cross-border helicopter emergency medical service "Christophorus Europa 3".

Map 3-3 shows the concentration of CPSP along different border segments of the trilateral Euregio. The total number of CPS in the map is higher than 17, which is due to the fact that some service areas are overlapping and thus covering various border segments.

The highest concentration of CPSP is found at the border between the Bavarian counties of Cham and Regen with the neighbouring Czech districts of Domažlice and Klatovy in the Pilsen Region. The next highest concentration of CPSP is found at the border between the Bavarian county of Freyung-Grafenau and the neighbouring Czech district of Prachatice in the South Bohemian Region. At the remainder border segments of the Euregio between Upper Austria and Bavaria as well as between Upper Austria and the district Český Krumlov, however, CPSP concentrations are clearly lower.

Table 3–1 CPS existing in the Euregio Bayerischer Wald-Böhmerwald-Unterer Inn

| CPS | Focus | | | | | |
|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| Public local transport services | | | | | | |
| 2 regular cross-border buslines between Bavaria and the Czech Republic | A fast bus service is operated by PROBO BUS a.s in Domažlice on the line 7710 "Zelezna Ruda-Bayerisch Eisenstein-Regen-Tittling-Passau". A regular bus service is operated by Regional Bus Ostbayern GmbH (RBO) on line RBO 6074 / VLC 519 "Cham-Domažlice-Pilsen". | | | | | |
| Regular cross-border local rail passenger transport between Bavaria and the Czech Republic | Regular direct cross-border train services operated by Bavarian "alex-trains north" (alex nord) and partly by Oberpfalzbahn (OPB 3) on the railway line KBS 875 "Schwandorf-Cham-Furth im Wald-Domazlice-Plzen". | | | | | |
| Integrated seasonal cross-border rail / bus service for tourists between Bavaria and the Czech Republic | The integrated cross-border rail / bus service for tourist consists of three main elements: (1) The leisure train Iztalbahn operated in Bavaria during the summer season on the line "Passau-Waldkirchen-Freyung". (2) The "Ilztalbahn connecting buses" linking the train to destinations in the Bavarian Forest National Park and to the next Czech train station at Nové Udolí. (3) The cross-border "Donau-Moldau fare association" (Donau-Moldau-Verbund) established between the operator of the leisure train Iztalbahn and different Czech railway operators (formerly ČD, now GW Train Regio), which allows realising cross-border trips by rail and bus with just one ticket (Donau-Moldau Ticket). | | | | | |
| 3 seasonal cross- border ski or hiking buses for tourists between Bavaria and | One "alternating" seasonal cross-border bus service is operated by the Regional Bus Ostbayern GmbH (RBO) on the line RBO 6081 "Zelezna Ruda-Bayerisch Eisenstein-Arber Bergbahn": as "ski bus" between end of December and early March and as "summer bus" between mid May to end of September. | | | | | |
| the Czech Republic. | 2 cross-border hiking bus services (Wanderbusse) are operated by RBO on the following lines from May to October: (1) the bus line RBO 6065 / VLC 618 "Drachselsried-Arnbruck-Eck-Arrach-Lam-Nyrsko-Hamry" and (2) the bus line VLC 520/115 "Furth i.WDomažlice-Waldmünchen-Klenci-Čerchov". | | | | | |
| Cross-border rail ticket (so-called "Moldau- Donau-Ticket+"), city triangle České | The ticket is an offer of the Czech Railways (ČD) and is intended for anyone who wants to take a trip to the border regions of Austria, especially tourists and cyclists. The ticket can be used on ČD trains of the category regional trains (Os) and various rapid or express trains (Sp, R, Ex) as well as on trains of the Austrian Federal | | | | | |

Budejovice-Linz-Passau⁴² Railways (ÖBB) of the categories REX, R and S. In Austria the standard "Moldau-Donau-Ticket" is valid on the following routes: Summerau-Linz (ÖBB) and Linz Urfahr - Aigen / Schlägl (ÖBB). The slightly more expensive version called "Moldau-Donau-Ticket+" also includes the railway line Linz-Passau. Most parts of the railway lines covered by the ticket are outside the Euregio territory, as only the Bavarian end-point Passau is included in the more expensive version. Moreover, the cross-border rail ticket cannot be purchased on the Bavarian or Austrian sides.

Healthcare, emergency medical care, long-term care and social inclusion

Information service for patients from Bavaria and Upper Austria on cross-border health care.

Public health insurances from Upper Austria (Oberösterreichische Gebietskrankenkasse, GKK) and Bavaria (Allgemeine Ortskrankenkasse, AOK) offer a joint information / consultation service on questions of cross-border healthcare. Experts from both sides together provide information about European social law to insured persons and other interested persons who work and / or live in both countries. Counselling appointments are free of charge and alternately offered in Bavaria (Simbach) and Upper Austria (Braunau)

Cross-border helicopter emergency medical service "Christophorus Europa 3" between Bavaria and Upper Austria.

In July 2002, the air rescue branches of the Austrian automobile club ÖAMTC (ÖAMTC Flight Rescue) and the German automobile club ADAC (ADAC Air Rescue) launched the first truly cross-border helicopter emergency medical service "Christophorus Europa 3". Half of the pilots comes from the ADAC Air Rescue and half from the ÖAMTC Flight Rescue, with the medical staff flying in mixed teams. Also the management of the site of operation in Suben (AT) is binational and cost for flight operations are shared between the service providers. "Christophorus Europa 3" is operating now for over 16 years and has since its commissioning realised more than 21,000 rescue flights that have saved lives on both sides of the border. The standard operational area of the helicopter is about 50 km and its flight rescue mission are coordinated by the dispatch centres in Passau (DE) and Ried im Innkreis (AT).

Good day-to-day crossborder cooperation between ground-based rescue services from Bavaria and the Czech Republic Cross-border cooperation between ground-based rescue services from Bavaria and the Czech Republic is good and exists already for more than a decade (i.e. cross-border airborne rescue is marginal). Cross-border rescue was carried out in parts of the DE-CZ border area (i.e. area of the dispatch centre Weiden, outside the Euregio) and the border crossing of German rescue forces to the Czech Republic was largely unproblematic. But in the area of the dispatch centres Passau and Straubing, patients were reloaded at the border in ambulance vehicles of the neighbouring country. In order to facilitate a smooth cooperation under conditions of the existing language barrier, a bilingual fax form was developed on the initiative of the Bavarian Red Cross for mutual request at the dispatch centre level, which has been in use since 2004. For a long time, however, a clear overall legal framework for this cooperation was missing. This changed with the German-Czech framework agreement on cross-border cooperation of July 2014 and the Bavarian-Czech regional implementing agreement signed in 2016.

Labour market and employment

EURES advice and information services for cross-border workers and trainees commuting across the Bavarian-Czech border

The EURES-T partnership "Bavaria-Bohemia" was established in November 2006 as the first partnership between "old" and "new" EU Member States. The service provided advice and information for cross-border workers and trainees in odrer to overcome day-to-day obstacles / hindrances these persons may face when commuting across the border. For jobseekers, also job placement assistance was offered. The service also provided advice to employers on a range of cross-border recruitment issues through seminars, publications and the team of EURES-advisers. Support for the EURES-T scheme expired at the end of 2014, but targeted advice for cross-border workers is continued and provided through regional / local EURES advisors in Bavaria and the Czech Republic.

Environmental protection, natural resources management and climate change action

Close cooperation between the Czech Šumava National Park (ŠNP) and the Bavarian Forest National Park (BFNP) The two national park authorities established practical, though informal collaboration already in 1991. Since 1999, cross-border cooperation has been based on a "Memorandum on Cooperation" between SNP and BFNP, which was signed by the State Ministers responsible for the respective national parks. In the meantime, several supplements were signed, e.g. regarding park management and new cross-border trails. In 2009, both parks agreed on common management guidelines for a transboundary wilderness area. Both parks have been official partners in several European funded projects (Interreg, Leader and German-Czech Future Fund). After several decades of cooperation, there are many positive results indicating the strengths and bringing broad benefits for the cross-border area. These include Natura 2000 sites and their management, understanding of the importance of the cross border perspective of nature protection and research, joint work of rangers, junior ranger

See: http://bahnreise-wiki.de/wiki/Fahrkarten_und_Tarife_Tschechien; https://www.cd.cz/de/typy-jizdenek/mezinarodni-jizdenky/-28625/

programme and environmental education. National park employees, local partners, NGOs, trainees, and volunteers of both countries are involved in many joint activities, including professional projects and various cultural events. The main weaknesses for cooperation are economic differences in the regions, language barriers, and different policies and laws.

Civil protection and disaster management

Bavarian-Austrian coordination and management of flood risks at the Danube River

The implementation of the Directive 2007/60/EC on the assessment and management of flood risks in the Danube River Basin is coordinated by the platform of the "International Commission for the Protection of the Danube River" (ICPDR). Bilateral coordination with the Republic of Austria was organised by the expert working group "Protection and Management of Waters" of the Permanent German-Austrian Water Commission, established under the Regensburg Treaty. Detailed information exchange and coordination of the objectives and measures included in the plans was analysed, substantiated and included in the "Report on International Information and Coordination of Flood Risk Management Planning under Articles 7 and 8 of the EC Flood Risk Management Directive (StMUV 2015).

Steady trilateral crossborder cooperation in the field of forest firefighting Cross-border cooperation between rescue services and especially fire-fighting services exists and was very recently further intensified through a trilateral large-scale practical simulation exercise, the "Austrian Bavarian Czech Forest Fire Drill 2017". Cost related to this exercise was co-funded through parallel joint applications to the Interreg VA programmes "Bavaria-Austria" and "Bavaria-Czech Republic".

Steady and intense cross-border cooperation between local fire-fighting services of the county Cham (DE) and the Pilsen Region (CZ)

Cross-border cooperation between local fire brigades in the Bavarian country of Cham and the border-close towns / municipalities of the Czech region Pilsen is already good. Joint exercises have taken place regularly for several years in different places on both sides of the border. After preliminary talks that have lasted for one and a half years, a cross-border agreement for assistance and cooperation in fire protection was signed between the country of Cham and the Czech region of Pilsen in May 2017. The agreement puts the existing cooperation on a solid legal basis and allows for a more optimal and professional organisation of cross-border assistance, with a view to provide help across borders as uncomplicated as possible and at a high quality level.

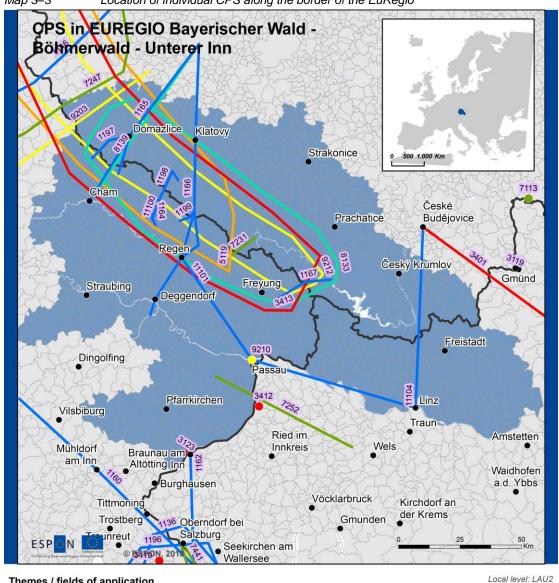
Citizenship, justice and public security

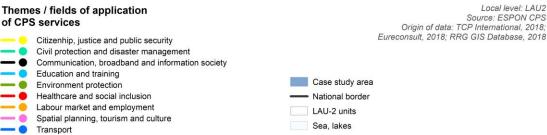
German-Austrian
"Police Cooperation
Centre" in Passau

The German-Austrian "Police Cooperation Centre" in Passau (official name: Gemeinsame Zentrum Passau) started work in November 2015. There, Bavarian police, federal police and Austrian police work hand in hand. The set up of this Centre is a further step towards even better bilateral police cooperation. It provides police services with a variety of important support services. Especially the exchange of information on prosecution warrants is often crucial for a successful fight against cross-border crime. On 28.03.2017, an agreement was also signed in Passau by the Ministers of the Interior of Bavaria, the Federal Republic of Germany and Austria, in which an even closer German-Austrian police cooperation was agreed.

Czech-German cooperation between police and border control authorities The "Joint Centre of German-Czech Police and Customs Cooperation in Petrovice (CZ) / Schwandorf (DE)" was established in 2007. Police officers from the Bavarian police, the Saxony police, the German federal police and the Czech police work together under one roof. Also liaison officers of the German and Czech customs authorities are represented. The civil servants support other police and customs units throughout Germany and Europe in cross-border investigations. In 2016, for example, a total of 13,834 inquiries, 29 follow-up cases and 35 observations were coordinated there. The centre also coordinates joint activities in the border area of the Euregio.

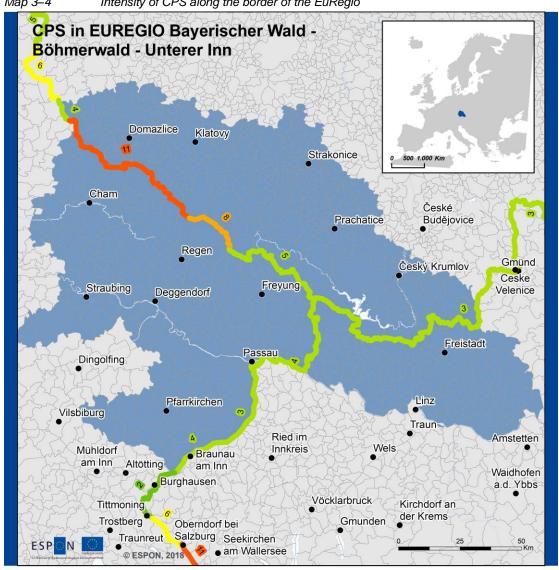
Map 3–3 Location of individual CPS along the border of the EuRegio

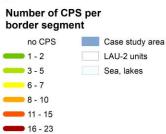




| CPS no | CPS title | CPS no | CPS title | |
|--------|-------------------------------------------------------------------------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------|--|
| 11101 | Regular cross-border fast bus line 7710 "Zelezna Ruda- | 3412 | Cross-border helicopter emergency medical service | |
| | Bayerisch Eisenstein-Regen-Tittling-Passau". | | "Christophorus Europa 3" based in Suben | |
| 1165 | Regular cross-border bus line RBO 6074 / VLC 519 "Cham- Domažlice-Pilsen" | 3413 | Ongoing cooperation between ground-based rescue services from Bavaria and the Czech Republic | |
| 1197 | Cross-border seasonal hiking bus line VLC 520/115 "Furth i.WDomažlice-Waldmünchen-Klenci-Čerchov" | 5119 | Regional EURES advisors Bavaria-Czech Republic | |
| 11100 | Cross-border seasonal hiking bus line RBO 6065 / VLC 618 "Drachselsried-Arnbruck-Eck- Arrach-Lam-Nyrsko-Hamry" | 7231 | Steady cooperation between the Bavarian Forest National Park (BFNP) and the Šumava National Park (ŠNP) | |
| 1199 | Cross-border seasonal ski & summer bus RBO 6081 "Zelezna Ruda-Bayerisch Eisenstein-Arber Bergbahn". | 7252 | Bavarian-Austrian coordination and management of flood risks at the Danube River | |
| 1166 | Regular direct cross-border train services operated by Bavarian "alex-trains north" (alex nord) and partly by | 8133 | Cooperation between Austrian, Bavarian & Czech Fire brigades for forest fire protection | |
| | Oberpfalzbahn (OPB 3) on the railway line KBS 875 "Schwandorf-Cham-Furth im Wald-Domazlice-Plzen". | 8139 | Steady cooperation between local fire-fighting services in the county of Cham (DE) and the Pilsen Region (CZ) | |
| 1167 | Integrated cross-border rail / bus service for tourists and "Donau-Moldau fare association" | 9203 | German-Czech Police and Customs Cooperation | |
| 11104 | Cross-border rail ticket České Budejovice-Linz-Passau | 9210 | German-Austrian Police Cooperation (Centre in Passau) | |
| 3123 | Information service for patients from Bavaria and Upper | | | |
| | Austria on cross-border health care | | | |

Map 3-4 Intensity of CPS along the border of the EuRegio





Local level: LAU2 Source: ESPON CPS Origin of data: TCP International, 2018; Eureconsult, 2018; RRG GIS Database, 2018

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4 CPS provided in the Euregio

4.1 Cross-border emergency helicopter "Christophorus Europa 3"

4.1.1 Cross-border needs and opportunities motivating the setup of CPS

Before the helicopter emergency medical service "Christophorus Europa 3" was started in mid-2002, the wider cross-border zone between the Bavarian Forest, the Upper Mühlviertel and the Upper Danube Valley was a "blank spot" on air rescue maps. At that time, the nearest rescue helicopters were stationed in Austria at a distance of around 80 kilometres (Linz, Salzburg) and in Lower Bavaria at a distance of even 90 kilometres (Straubing, Traunstein)⁴³.

In the early 1990s, already 10 years before the commissioning of "Christophorus Europa 3", the then head of the dispatch centre in Passau (Leitstelle Passau) and others expressed the wish to station a rescue helicopter in Passau. Due to a lack of political support, however, this first initiative had not been successful. In summer 2001, the hospital in the Upper Austrian border town of Braunau am Inn launched a new initiative for the deployment of a further rescue helicopter in the border zone of the greater Passau area in order to close the last gap in the Bavarian air rescue network⁴⁴.

The preparatory phase of the service was marked by a complex Austria-internal negotiation process with different operators of emergency ambulance helicopters. The hospital in Braunau initially started negotiations in 2001 with an operator called "EHS" (European Helicopter Service), but then the Austrian company "ARA-Flugrettungs GmbH" (Air Rescue Alpin) negotiated with the Upper Austrian regional government and voluntary aid organisations as well as with the Braunau hospital. But also the "Austrian Automobile, Motorcycle and Touring Club" (Österreichische Automobil-, Motorrad- und Touring Club, ÖAMTC), being through its "Christophorus Air Rescue Association" (Christophorus Flugrettungsverein, CFV) Austria's largest operator of emergency ambulance helicopters, entered the discussion on stationing a helicopter in Braunau. However, after the ÖAMTC withdrew from the negotiations in mid-2002, it seemed that ARA-Flugrettung would set up a helicopter station in the Braunau area.

In early July 2002, however, the ÖAMTC announced that as of 23 July 2002 an emergency ambulance helicopter will fly rescue operations in the greater Passau area and in the Upper Austrian Innviertel on the initiative of the Braunau Hospital. This service will be jointly operated by the ÖAMTC flight rescue association (CFV) and the "ADAC-Air Rescue" (ADAC Luftrettung), which forms part of the "General German Automobile Club" (Allgemeiner Deutscher Automobil-Club, ADAC)⁴⁵.

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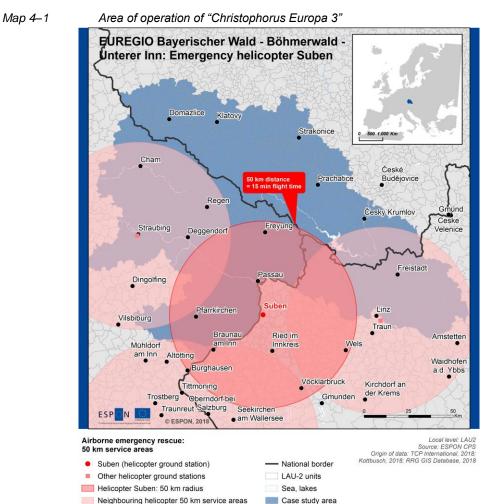
⁴³ Christophorus Europa 3 (2018)

⁴⁴ Christophorus Europa 3 (2018)

⁴⁵ Christophorus Europa 3 (2018)

The cross-border service "Christophorus Europa 3" started as a pilot project that was initially limited to one year. However, the stationing of this service did not take place as originally hoped by the initiators in Braunau itself, but at the border-close airfield Schärding-Suben in Austria about 40 km east of Braunau. The concerned operators and other aid organisations as well as the political level considered the service location at Suben much more appropriate than at Braunau, and also underligned from the outset that the service will remain in Suben if it is continued after the end of the pilot phase.

Once the test phase had ended, the cross-border service was uphold and the emergency helicopter remained permanently stationed on the heliport in the border town of Suben. The special feature of this air rescue service is that German-Austrian mixed teams fly domestic and cross-border emergency medical aid operations, which can reach within 15 minutes a total population of 800,000 persons⁴⁶ living in the area of operation (see: map 4-1).



Although this first truly cross-border helicopter service in Europe is strictly speaking located outside the Euregio territory (i.e. just 1,000 metres across the river Inn), "Christophorus

Europa 3" is of crucial importance especially for the central-southern Bavarian part of the

⁴⁶ RegioWIKI Niederbayern (2018)

cooperation area. In Lower Bavaria, the service covers the counties of Freyung-Grafenau, Passau and Rottal-Inn that account for a total population of 500,000 persons. On the Upper Austrian side, the area of operation covers a total of 300,000 persons, of which only a part is living within the territory covered by the Euregio (i.e. in the western part of the Mühlviertel).

Nevertheless, map 4-1 also shows that the northern 15 minutes flight distance of existing rescue helicopter services (Straubing, Suben) does not fully reach out to the Bavarian-Czech border. This affects especially the border-close zones of the countries Freyung-Grafenau and Regen, where slightly higher flight times are still needed.

4.1.2 General and/or theme specific legal framework conditions for CPS

The legal framework for a provision of helicopter emergency medical services (HEMS) is very complex and also applies to the cross-border helicopter emergency medical service "Christophorus Europa 3" that is operating at the border between Bavaria and Upper Austria.

The general framework for HEMS includes a wide range of legal provisions that are governing civil aviation, which emanate from multilateral international agreements and standards⁴⁷ as well as from EU-level and national-level legislations. The most important pieces of EU legislation applicable throughout the EEA are Regulation (EC) No 216/2008 that aims at the establishment and uniform application of common rules in the field of civil aviation safety⁴⁸, and also the related implementing Regulation (EU) No 1178/2011⁴⁹. On ground of these regulations, the European Aviation Safety Agency (EASA) carries out certification, regulation and standardisation, and also performs investigation and monitoring. This also covers HEMS, for which a new concept covering mountain operations and rescue operations other than search and rescue (SAR) operations is currently examined⁵⁰.

There are also **specific rules on cross-border helicopter emergency medical missions.** For the latter, pursuant to the provisions of the Schengen Agreement, customs clearance in cross-border traffic within the meaning of an EU internal border is waived⁵¹. In case of Austria and Germany, overflight rights do exist for emergency rescue helicopters from the respective other country. Rules on a cross-border use of helicopters are also stipulated by the Austrian-German interstate agreement on mutual assistance in the event of disasters or serious accidents of 1992 (i.e. articles 5 and 8). Pursuant to article 1(2), however, this agreement

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⁴⁷ The "Chicago Convention" (Convention on International Civil Aviation, signed in Chicago on 7 December 1944) established the "International Civil Aviation Organization" (ICAO), which is a specialised agency of the United Nations. It codifies the principles and techniques of international air navigation and fosters the planning and development of international air transport to ensure safe and orderly growth.

⁴⁸ Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC.

⁴⁹ Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council.

⁵⁰ EASA (2018)

⁵¹ BASt (2006), pp.46, 68

does not concern the daily cross-border emergency aid provided in the sense of good neighbourly relations⁵².

In Austria and Germany, the organisation and financing of civil protection and rescue services (ground-based and air-based) are regulated by national laws and especially by region-specific laws (see: box 4-1).

Box 4-1 Organisation of helicopter emergency medical services in Germany and Austria⁵³

In Germany, all matters related to ground-based and also air-based rescue services fall within the regulatory competence of the federal states (Länder) and are therefore governed by Land-specific laws on rescue services. There are currently 71 sites for rescue helicopters in Germany. At most of these air rescue sites, the respectively responsible ministries of the Länder are the direct carriers of air rescue and make use of different organisations for actually delivering air rescue services. In Bavaria, however, the State Ministry of the Interior determines the supply structure for air rescue in coordination with social insurance institutions, but the direct carriers of rescue services are sub-regional and local authorities. For this, the latter usually established a so-called "Public local purpose association for rescue service and fire alarm" (Zweckverband für Rettungsdienst und Feuerwehralarmierung, ZRF). Each association with a rescue helicopter site in its service area then commissions a suitable operator to perform air rescue services from the relevant base of operation.

In Austria, the Federal Constitutional Law allocates the general legislative competence on rescue services to the nine Länder (Article 115), while municipalities have to establish functioning rescue services. The Länder have adopted own rescue service laws that regulate the municipalities' responsibilities for delivering rescue services. In 1982 it was decided by law to introduce an Austriawide air rescue network. Since then and until 2001, the provision of related services was separately regulated by state agreements concluded between and the federal government and the Länder. Air rescue was carried out jointly by the Federal Armed Forces (Bundesheer), the Federal Police (Bundesgendarmerie) and a number of other civilian rescue organisations. In 2001, however, the Federal Armed Forces and the Federal Police retreated from domestic air rescue, which also led to the privatisation of the provision of related services. Since then, the Länder bear the legal responsibility for organising air rescue services and must take care for the provision of the necessary and suitable rescue equipment. After privatisation, the ÖAMTC flight rescue association (Christophorus Flugrettungsverein, CFV) together with the Austrian Red Cross (ÖRK), the Austrian Mountain Rescue Service (Bergrettungsdienst) and the Vienna Professional Rescue (Wiener Berufsrettung) took over air rescue services in Austria completely. These organisations also work closely together in carrying out air rescue missions.

The specific domestic regulatory frameworks for HEMS have been different in each country before 2001, which also led to a certain asymmetry in responsibilities along the Bavarian-Austrian border. After the transfer of responsibilities for an organisation and provision of air rescue services to the Austrian Länder in 2001, however, the overall situation has become much more similar to that in Bavaria (i.e. competence levels; type of organisations delivering the service).

At the time of initiating the European model project for a cross-border HEMS in 2001/2002, it was therefore easier to reach consensus between the Länder Bavaria and Upper Austria on how this service should be established operationally. Although both

⁵² Bundesamt für Bevölkerungsschutz und Katastrophenhilfe (2018a)

⁵³ BASt (2006); Bayerisches Staatsministerium des Innern und für Integration (2018b); Austria Forum (2018); Andreaus (2009); ÖAMTC (2018); Wikipedia (2018a)

Länder did not conclude a formal bilateral agreement, it was politically agreed that a joint operation base for "Christophorus Europa 3" will be established in Suben that is staffed with personnel coming at equal shares from both sides of the border⁵⁴. Also the conditions for an alerting of the Austria-based "Christophorus Europa 3" rescue helicopter by the concerned integrated dispatch centre in Passau were clarified at the outset. Until now, this still is the only case along the Austrian-German border for which these modalities are properly "regulated"⁵⁵.

The exact conditions for a joint staffing and financing of the day-to-day operation of "Christophorus Europa 3" were internally agreed between the two involved private service operators (i.e. ÖAMTC-CFV and ADAC Air Rescue). This also included a sharing of costs for the ongoing operation, as each operator takes over the costs incurred for its service time on rescue flights⁵⁶.

In 2008, however, the Austria-internal arrangement on a financing / reimbursement of air rescue services had become a major contentious issue between the Federal government and the Austrian public health insurance funds on the one hand, and the private operators (mainly ÖAMTC) on the other hand. Due to an increasingly problematic and unresolved financing situation⁵⁷, ÖAMTC-CFV terminated in 2008 the domestic Federal contracts that existed for 8 Austrian air rescue sites operated by the Ministry of the Interior.

Although this termination did not directly impact the site in Suben, it nevertheless became evident that Upper Austria had to act in order to secure long term financing of air rescue services on its territory. This was started with the revision of the Land-level law on rescue services in autumn 2010, which recognised ÖAMTC air rescue as official rescue organisation. In addition, Upper Austria was the first federal state to stipulate that contractual cooperation with the Land-level social insurance institutions must take place. Since March 2012, the Land of Upper Austria has commissioned ÖAMTC air rescue to operate the sites in Hörsching and Suben. Moreover, a contract was concluded between the Land and the "Upper Austrian Regional Health Insurance Fund" (Oberösterreichische Gebietskrankenkasse, OÖGKK), acting on behalf of all public health insurance companies. In this contract it is agreed that OÖGKK pays for clearly defined, necessary missions with fixed cost rates and thereby contributes significantly to the financing of the air rescue system. As the OÖGKK flat-rate

⁵⁴ Christophorus Europa 3 (2018); BASt (2006), pp.68-71

⁵⁵ There are a number of Austrian rescue helicopter sites that also claim to be in charge of emergency situations on the Bavarian side. This has already in 2003 led to a Bavarian-internal regulation issued by the Ministry of the Interior, which defined binding requirements for an alerting of these Austrian rescue helicopters by Bavarian integrated dispatch centres. Accordingly, rescue helicopters are only alerted when a Bavarian ambulance cannot reach the site of emergency within a period of 15 minutes. See on this: BASt (2006), pp.39, 71

⁵⁶ Christophorus Europa 3 (2018)

⁵⁷ The necessity of using a helicopter is decided by the dispatch center on the basis of the information reveived by telephone. However, if the competent Austrian public health insurance funds does not reimburse the costs for helicopter use, either the operator must bear the costs or charge them to the patient. In 2008, for example, every third rescue operation was not paid by the health insurance funds. For social reasons, however, the ÖAMTC rejects an invoicing of patients and thus had to face annual losses of between 3 to 5 million euros. See on this: Wikipedia (2018a); RegioWIKI Niederbayern (2018)

tariffs do not cover the actual operational costs of air rescue services, it was also agreed that the necessary balance is financed by the Land of Upper Austria⁵⁸.

Due to this Austria-internal agreement on financing, it also became possible in 2016 to conclude a **public-law based cross-border contract on the air rescue service** "Christophorus Europa 3" according to article 8 (1) of the Bavarian Rescue Service Act (BayRDG)⁵⁹. This contract was concluded between the "local purpose association for rescue service and fire alarm" of the Greater Passau Area (Zweckverband für Rettungsdienst und Feuerwehralarmierung Passau, ZRF-Passau) and the subsidiaries of the two automobile clubs responsible for operating the service (i.e. ÖAMTC-CFV and ADAC Air Rescue)⁶⁰.

Despite this now well-developed legal framework, it seems that national aviation laws and also regional-level legislation on emergency rescue can still create obstacles for the cross-border provision of this air rescue service. This has become evident in case of the envisaged extension of the operation time for "Christophorus Europa 3", which currently spans from 7.00h in the morning to sunset (plus 30 minutes). This time-span could be widened because the rescue helicopter in Suben is already equipped with a night-vision device that enables for night flight operations. However, the current agreements and legal regulations in force do not yet allow this change. A possible extension of air traffic requires extensive legal, organisational and financial clarifications as well as substantial negotiations between all parties involved (i.e. Bavaria, Upper Austria, the service operators and public health insurances). German aviation legislation also requires a mandatory second pilot in case of night flights, but the helicopter "Christophorus Europa 3" in Suben has simply not enough space for a second pilot⁶¹.

4.1.3 Production base for a provision of the CPS

For the provision of the cross-border helicopter emergency medical service, "soft" infrastructures with a public supply function are used that exist on either side of the common border. This includes fixed physical assets in form of buildings with their specialised equipment (e.g. the ÖAMTC/ADAC heliport at the Schärding-Suben airfield and its maintenance equipment, the involved dispatch centres and the concerned hospitals) as well as mobile equipment (e.g. rescue helicopters, ambulance cars in case of combined ground-based / airborne interventions). Soft infrastructures also include a wide range of other non-physical assets (e.g. body of rules and regulations governing general rescue and air rescue services; the related financing system including health insurances; training facilities) and of

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⁵⁸ Amt der Oberösterrechischen Landesregierung (2012)

⁵⁹ This is due to the fact that article article 8 (2) of the BayRDG requires a previous clarification of the financing of operations of Bavarian rescue units in neighbouring countries as well as of operations of non-Bavarian rescue units in Bavaria. See: Bayerische Staatskanzlei (2018a)

⁶⁰ Wochenblatt (2016); Stadt Passau (2016)

⁶¹ Focus Online (2018)

course the specialised staff that operates all physical and non-physical infrastructure assets on a day-to-day basis.

The legal status of organisations involved in the delivery of the cross-border helicopter emergency medical service "Christophorus Europa 3" is variable on both sides of the border, which also implies different forms of ownership as regards the used soft infrastructures. Fixed and mobile physical assets are partly in direct or indirect public ownership, or owned by associative and non-profit-making organisations.

To illustrate this diversity, the overview below presents profiles of the key actors that are involved in the provision of the air rescue service "Christophorus Europa 3" (see: box 4-2). These are the two non-profit-making subsidiaries of the automobile clubs in Germany (ADAC) and Austria (ÖAMTC) that are jointly operating the cross-border air rescue service (i.e. ADAC Air Rescue; ÖAMTC Christophorus Flight Rescue Association)⁶², but also the "Integrated Dispatch Centre Passau" (Bavaria) and the "Red Cross dispatch centre Innviertel" (Upper Austria) that are coordinating air rescue missions of "Christophorus Europa 3"⁶³. In the day-to-day cross-border provision of air rescue services, these organisations have to work together closely and without friction. This clearly illustrates the high degree of complexity associated with a delivery of this CPS.

Box 4-2 Actors involved in the provision of the air rescue service "Christophorus Europa 3"

The "Austrian Automobile, Motorcycle and Touring Club" (Österreichische Automobil-, Motorradund Touring Club, ÖAMTC) is a non-partisan and non-profit association that claims to support and represent mobile people. In 1983, the Land-level associations of the ÖAMTC founded the "Christophorus Flight Rescue Association" (Christophorus Flugrettungsverein, CFV), which is also non-profit organisation. The CFV aims to provide facilities for emergency medical care of emergency patients with emergency ambulance helicopters and is the largest provider of air rescue services in Austria. It provides Christophorus emergency medical helicopters in each of the nine federal states (Länder), which are stationed in 17 locations throughout Austria.

The "General German Automobile Club" (Allgemeiner Deutscher Automobil-Club, ADAC) is Europe's largest traffic club and based in Munich. In addition to the provision of many services to promote the interests of motoring (such as roadside assistance), motorsport and tourism, the ADAC also operates the non-profit subsidiary "ADAC Air Rescue" (ADAC Luftrettung gGmbH). The ADAC Air Rescue operates with more than 50 helicopters at 37 stations the largest fleet of rescue helicopters in Germany and is also one of the largest civil air rescue organisations in Europe. Since 2017, ADAC Air Rescue belongs to the charitable ADAC foundation (ADAC Stiftung). In Bavaria there are eight ADAC Air Rescue bases: Augsburg, Bayreuth, Dinkelsbühl, Ingolstadt, Munich, Murnau, Ochsenfurt and Straubing.

The tasks of the "Integrated Dispatch Centre Passau" (Integrierten Leitstelle Passau, ILS Passau) focus on the following core areas: fire brigades (fire protection and technical assistance), emergency services (emergency rescue, patient transport, emergency medical service), the alerting of local organisations of the organized first aid (first responder / local assistants) and the function as reporting head of the safety authority / civil protection authority in urgent cases. The dispatch centre receives in its area of responsibility all emergency calls, emergency messages, other requests for assistance and information for emergency services and fire services, but also alerts the necessary operational forces and resources and supports / accompanies their operations. The ILS Passau is operated directly by the

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⁶² ÖAMTC (2018); Wikipedia (2018a); ADAC (2018)

⁶³ Integrierte Leitstelle Passau (2018); Österreichisches Rotes Kreuz Oberösterreich (2018)

"local purpose association for rescue service and fire alarm" of the Greater Passau Area (Zweckverband für Rettungsdienst und Feuerwehralarmierung Passau, ZRV Passau), which is set-up by the city of Passau and by the counties of Passau, Freyung-Grafenau and Rottal-Inn. The ZRF Passau determines and establishes in its service area the supply structures necessary for ensuring rescue services. The ZRF Passau regularly reviews the supply structure and its necessity, decides on necessary changes and implements its decisions without delay. With a service area of approximately 3,800 km2, the ZRF Passau is one of the largest ZRVs in Bavaria and covers a population of 500,000 people.

Since 1999, there is the "Red Cross area dispatch centre Innviertel" (Rot-Kreuz Bereichsleitstelle Innviertel), which is located in the Upper Austrian city of Ried. With the move into the premises in the new building of the Ried district office in March 2016, the dispatch centre Innviertel has become a part of the dispatch centre network of the Upper Austrian Red Cross. The dispatch centre is an information hub accessible around the clock, in which the threads of the Red Cross network of the districts of Braunau, Ried and Schärding converge. The range of services extends from informing on primary medical emergency service to the transmission of messages to mobile nursing staff. The main task of the 13 professional staff members and of the 13 voluntary collaborators consists in the receipt and disposition of emergencies and patient transport. For providing rescue services to the 220,000 inhabitants, 36 rescue vehicles and 4 ambulance rescue services are available in order to be able to provide help in an emergency much faster than the statutory auxiliary period of 15 minutes. The mission control software ELDIS3 makes it possible for the affiliated dispatch centres Innviertel, Steyr, Wels and the dispatch centre Linz (from mid-2016) to access a common database and work together even more closely than before. The dispatch centre is not only responsible for the above-mentioned tasks in the three Upper Austrian districts, but also cooperates closely and excellently with the neighbouring Bavarian dispatch centres in Passau and Traunstein.

The civil sports airfield Schärding-Suben is located 7 kilometres south of the city of Schärding in Upper Austria. It was chosen as base for "Christophorus Europa 3" because it is the ideal location from where the 50 km operation radius with 15 minutes flight time can cover most of the originally defined area that was not well-serviced by air rescue. In August 2004, after almost half a year of construction, the cross-border crew of "Christophorus Europa 3" took over the ÖAMTC / ADAC heliport facility at the airfield Schärding-Suben. The air rescue base disposes of adequate space for the demanding and strenuous emergency ambulance helicopter service (i.e. rest room, sleeping room, operations room, sanitary facilities). A new hangar was built, from which the helicopter rolls remotely controlled and on rails to the point of departure. The new heliport also has its own refueling system as well as an approach fire and a ground lighting system, which allow landing even in the dark. The total construction costs of around EUR 600,000 were shared between the Land Upper Austria, the ÖAMTC and the ADAC⁶⁴.

The currently used "Christophorus Europa 3" rescue helicopter flies up to 300 km/h fast, is technically very well equipped and disposes of all devices needed for emergency medical care. During a first phase, the service was delivered with different types of helicopters: ÖAMTC used a twin-engine Ecureil during summer, whereas the ADAC used a twin-engine

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⁶⁴ wax.AT (2004)

BO 105 in winter. In the meantime, however, the helicopter type EC 135 has become standard in both organisations, so that a nearly identical model is flown all year round 65.

In 2018, the operational staff of "Christophorus Europa 3" consists of 6 pilots, 14 emergency doctors (Notärzte) and 7 emergency paramedics (Notfallsanitäter, Rettungsassistenten). The pilots, emergency physicians and the paramedics come from both Bavaria and Upper Austria⁶⁶. "Christophorus Europa 3" flies with a three-man crew, which includes the pilot and an emergency doctor as well as an emergency paramedic.

"Christophorus Europa 3" mainly flies to neighbouring public clinics and hospitals in Bavaria (Passau, Deggendorf) and Upper Austria (Schärding, Ried, Braunau, Linz), but sometimes also to the more distant clinics in Salzburg⁶⁷.

4.1.4 CPS tasks and intervention approaches to address cross-border needs

The cross-border helicopter emergency medical service "Christophorus Europa 3" has above all an **auxiliary basic supply task** benefitting to the population living in the Euregio. The service is not a competition to other neighbouring domestic Christophorus helicopter emergency medical services located in Straubing or Linz, but acts as a valuable and lifesaving cross-border supplement to these services.

"Christophorus Europa 3" addresses the originally identified cross-border needs with an intervention approach that improves the quality and efficiency of public service provision within the covered service area and thus also in larger parts of the Euregio.

(1) Quality improvement results first and foremost from the fact that "Christophorus Europa 3" eliminated a considerable gap in the supply of air rescue services that previously existed in areas along the border between Bavaria and Upper Austria. Patients living in the southern and eastern Bavarian Forest had in the past often to wait 25 minutes and more for the urgently needed airborne help.

Today, a large number of inhabitants on both sides of the border (app. 800,000) are significantly better reached by the joint air rescue service. Especially in the Bavarian part of the Euregio, the 15 minutes operation radius of "Christophorus Europa 3" now covers the southern and eastern Bavarian Forest as well as the eastern part of the county Rottal Inn. The helicopter in Schärding-Suben reaches Freyung in 15 minutes and a transport from the citiy of Waldkirchen to Passau takes 6 minutes, while a transport to the hospital in the more distant Upper Austrian city of Linz is now possible within 25 minutes. Austrian-sided rescue flights of "Christophorus Europa 3" go mainly to the Innviertel, the western Mühlviertel and the Hausruck. Patients from the areas covered by the 15 minutes flight radius are taken to hospitals that are fit for reception and can also treat them according to their conditions or

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⁶⁵ RegioWIKI Niederbayern (2018); Christophorus Europa 3 (2018)

⁶⁶ Christophorus Europa 3 (2018)

⁶⁷ Wikipedia (2018c)

injuries, irrespective of whether it is an Austrian specialist hospital in Linz or a Bavarian hospital in the district of Freyung-Grafenau⁶⁸.

Quality improvement also emerges for individuals who are directly affected by emergencies, as they can now benefit from the life-saving advantages associated with helicopter rescue. The high speed of a helicopter and its independence from traffic congestion or weather-related road conditions is crucial in case of a cardiac arrest or serious injuries after accidents, where minutes decide about life and death. The short transport times by air and the quiet and low-vibration flight conditions also minimise the risk of transport and improve the therapeutic opportunities of the most critically ill patients⁶⁹.

Since the start of the cross-border air rescue service in July 2002, "Christophorus Europa 3" has realised more than 21,000 flights (see: table 4-1). During the first years, about 80 to 90 emergency patients were helped across the border every month. On the 3rd of April 2011, the 10,000th rescue flight was realised almost unnoticed. The statistics of this first decade shows that between 55% and 60% of the annual missions were flown in Bavaria and the rest in Austria⁷⁰. The highest numbers of flights were reached in 2014 (1,850 flights) and again in 2016 (1,848 flights), while in 2015 flight activities were much lower due to bad weather conditions (i.e. frequent fog days)⁷¹.

Table 4–1 Number of Christophorus Europa 3 rescue flights realised between 2002 and 2017

| Year | Number of flights | Year | Number of flights |
|-----------------------|-------------------|-----------|-------------------|
| 2002, since Juliy (*) | 418 | 2010 (*) | 1,206 |
| 2003 (*) | 1,139 | 2011 (**) | 1,265 |
| 2004 (*) | 1,093 | 2012 (**) | 1,280 |
| 2005 (*) | 1,041 | 2013 (**) | 1,731 |
| 2006 (*) | 1,144 | 2014 (**) | 1,838 |
| 2007 (*) | 1,254 | 2015 (**) | 1,763 |
| 2008 (*) | 1,188 | 2016 (**) | 1,848 |
| 2009 (*) | 1,235 | 2017 (**) | 1,675 |

In 2017, "Christophorus Europa 3" realised a total of 1,675 rescue flights, although the number of missions decreased by 9.4% when compared to 2016. The German-Austrian crews realised 803 cross-border air rescue flights into the Greater Passau area, which accounted for around 48% of all missions realised. Out of the total rescue flights realised in

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⁶⁸ RegioWIKI Niederbayern (2018); Christophorus Europa 3 (2018)

⁶⁹ Wochenblatt (2015)

⁷⁰ Christophorus Europa 3 (2018)

⁷¹ Passauer Neue Presse (2015)

2017, 81.3% were so-called "primary missions" (i.e. accidents or serious illnesses): in these missions, "Christophorus Europa 3" had either the function of a quick emergency doctor feeder (the hospital transport was carried out by the ambulance crew), or the helicopter crew took over the treatment and also flew patients to a more distant and specialised hospital. A further 10.5% of all rescue flights realised were "secondary transports", in which a patient was transferred from a general hospital to a more specialised clinic with advanced therapy options. 138 flights were false alarms, which mean that the helicopter was either cancelled by ground-based rescue staff or had to return to the heliport due to bad weather conditions⁷².

(2) An efficiency improvement mainly results from the commissioning of "Christophorus Europa 3" as the first truly European air rescue service and the fully binational operation of the air rescue station. In a purely nationally oriented approach, which would have involved the opening of one air rescue station in Austria and one in Bavaria, both stations would not have been optimally utilised. By contrast, the bi-national European solution leads to a more efficient and also cost-effective use of resources from both directly involved companies (i.e. ADAC Air Rescue; ÖAMTC Christophorus Flight Rescue Association) and also the supporting regions⁷³.

4.1.5 Organisational structures and processes for delivering the CPS

From a methodological point of view, it is difficult to clearly allocate the organisation and delivery approach of the cross-border helicopter emergency medical service to one of the basic implementation models that were identified in the Inception Report to the CPS-study project. "Christophorus Europa 3" is clearly a CPS that was established anew, but it is

- neither delivered and managed by an existing service provider on one side of the border for the benefit of both sides (i.e. a sub-type of the "centralised model"),
- nor is it jointly delivered and managed by a specifically established cross-border structure / body with own legal personality (i.e. a sub-type of the "integration model").

In our opinion, this allocation difficulty arises, above all, from the peculiarities of a cross-border provision of air rescue services (i.e. delegation to mostly non-public associative actors), but in parts also from the particularly strong commitment and material direct involvement of the non-profit making organisations responsible for providing this service (i.e. ADAC Air Rescue; ÖAMTC Christophorus Flight Rescue Association).

Nevertheless, the following paragraphs briefly summarise the main features that characterise the organisation and delivery of the "Christophorus Europa 3" aire rescue service.

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⁷² ADAC (2018)

⁷³ BASt (2006), pp.68-71

Joint management and staffing

The technical management of the "Christophorus Europa 3" base at the airfield in Suben alternates twice each year: on 1st of May an ÖAMTC-pilot takes over the management until the end of October (summer season), while on 1st of November the management is taken over by an ADAC-pilot until the end of April (winter season)⁷⁴.

The binational team of emergency physicians and paramedics (Notfallsanitäter, Rettungsassistenten) are half coming from the Upper Austrian Red Cross and half from the Bavarian Red Cross (BRK), with the latter being provided by the BRK county-level associations Passau and Freyung-Grafenau. This binational team is on duty throughout the year because there is no half-yearly change of staff as in case of the technical management⁷⁵. The mixed staffing makes it possible that, for example, an emergency physician and a paramedic from Bavaria fly with an Austrian pilot on the ÖAMTC helicopter to an incident in Upper Austria.

Needs-oriented and complementary use of flight equipment

The helicopter is also changed twice a year. In the summer season until the end of October, an EC 135 helicopter of the ÖAMTC is used because the latter organisation has during this time-perod more helicopter capacities available than the ADAC. In the winter season, however, the ÖAMTC needs more helicopters for additional locations due to the numerous ski resorts in Austria. Therefore, from the 1st of November until the end of April, a nearly identical helicopter EC 135 T1 of the ADAC-Air Rescue is used, since the latter can provide a machine more easily in the winter period than in summer⁷⁶.

Cross-border coordination of air rescue operations and balanced patient distribution

The cross-border helicopter emergency medical service "Christophorus Europa 3" is alarmed by the "Integrated Dispatch Centre Passau" (Bavaria) and the "Red Cross dispatch centre Innviertel" in Ried (Upper Austria), which also cooperate closely between each other.

Since the application of new guidelines for the request of emergency rescue (Anforderungsrichtlinien), "Christophorus Europa 3" has become an integral part of the emergency plans of Bavaria and Upper Austria. Depending on the incoming message about an incident, the dispatcher, at the suggestion of the dispatch control system, requests air rescue immediately upon alerting the ground-based emergency services. In the past, the helicopter was not automatically scheduled and had frequently to be requested later when a need became obvious. The now more optimised procedure benefits the patients, since no valuable time is lost anymore⁷⁷.

⁷⁴ Christophorus Europa 3 (2018)

⁷⁵ Wochenblatt (2015); RegioWIKI Niederbayern (2018)

⁷⁶ Christophorus Europa 3 (2018)

⁷⁷ RegioWIKI Niederbayern (2018)

As the "Red Cross dispatch centre Innviertel" has meanwhile also a BOS radio authorisation for Germany, no problems in radio communication do exist. Due to the fact that German is spoken on both sides of the border, problems for inter-personal communication do not exist.

Moreover, a code system was developed for distributing emergency patients as evenly as possible to Bavarian and Austrian hospitals. Patients are transported in the most rapid way possible to the nearest suitable hospital, but if the illness or injury pattern allows it, priority is given to hospitals located in the close-by area. These are mainly the clinic in Passau, as well as the hospitals in Schärding, Ried or Braunau⁷⁹.

4.1.6 Conclusions, elements of good practice and outlook

The cross-border helicopter emergency medical service "Christophorus Europa 3" is operating for over 16 years, while using a model of service organisation and delivery that is still unique throughout Europe. Since the commissioning of the service in July 2002, more than 21,000 rescue flights were realised that saved lives on both sides of the border.

Based upon the previously realised analysis, one can summarise **the most important elements of good practice** as follows:

- (1) The service definitely eliminated a considerable gap in the supply of helicopter emergency medical services that previously existed in areas along the border between Bavaria and Upper Austria.
- (2) The cross-border helicopter emergency medical service is delivered very efficiently, mainly because of its fully binational operation (i.e. joint management / staffing of the air rescue station and the helicopter team, sharing of operational cost).
- (3) The involved private operators (i.e. ADAC Air Rescue; ÖAMTC Christophorus Flight Rescue Association) and the coordinating dispatch centres on both sides of the border (i.e. dispatch centres) work together very effectively within the originally established and recently also further developed cooperation model.

Nevertheless, it seems that better coverage is still needed in border-close Czech and Bavarian parts of the Euregio that are at the limits or beyond the quickly reachable 50km operational radius of existing helicopter services. Perspectives for establishing a new trilateral cross-border service are therefore examined in the analysis of future CPS (see: section 5.1).

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⁷⁸ Christophorus Europa 3 (2018); Wochenblatt (2015)

⁷⁹ Christophorus Europa 3 (2018)

4.2 Integrated cross-border rail / bus service for seasonal tourism

4.2.1 Cross-border needs and opportunities motivating the setup of CPS

An **essential factor** motivating the establishment of the CPS was the decommissioning of the since 1892 existing Bavarian secondary railway line "Passau-Freyung" (IIztalbahn) in 2005 and the then planned conversion of the line into a recreational biking path.

Starting from the year 1980, rail traffic on the IIztalbahn line was driven back by the German Federal Railways (DB) piece by piece. At the end of April 1982, rail passenger transport was stopped because of the ailing state of the Kachlet-bridge over the river Danube at Passau. Public passenger transport was then substituted by DB buses, but also the remaining freight traffic on the line continued to fall in the period from 1994 to 2001. After sales negotiations between prospective buyers for the railway line and the German railway net operator "DB Netz AG" had failed, the latter requested a decommissioning of the line at the Federal Railway Authority (Eisenbahnbundesamt) in March 2005. This request was approved and came into effect on 1st April 2005. After the decommissioning, several local authorities decided to buy the railway line and to convert it into a biking path⁸⁰.

However, an external study had already in 1998 examined traffic-related, operational and economic potentials associated with a reactivation of various railway lines in the Lower Bavarian Forest / Bohemian Forest region⁸¹. The final report concluded that a re-opening of the "Passau-Freyung" line (Ilztalbahn) would provide positive structural impulses for the entire Lower Bavarian Forest area and recommended, as a first measure, the implementation of a rail transport service for tourism and excursions. Due to the attractive routing of this railway-line, it was expected to become an important instrument for regional tourism development. In the medium term, also the take up of a regular public local rail passenger transport offer on the route Passau-Freyung was recommended, while taking also into account a sound coordination and sequencing with long-distance travel and other local bus services⁸².

During the early phase of the Ilztalbahn re-activation process (2005-2007), its initiators were laughed at as fantasists because it was believed that nobody would switch to the train. Some local politicians wanted to build a biking path on the decommissioned railway line, as it was considered too expensive to rehabilitate the dilapidated rail tracks on which for years no train had rolled⁸³. In November 2005, the **non profit making "association for a promotion of the Ilztalbahn" (Förderverein Ilztalbahn e.V.)** was founded. The association's purpose is to promote monument protection and environmental protection, which is to be achieved by the

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⁸⁰ Wikipedia (2018d)

⁸¹ The study was commissioned by the Bavarian Railway Company (Bayerische Eisenbahngesellschaft, BEG) on behalf of the Bavarian State Ministry for Economic Affairs, Transport and Technology and with support of the European Union.

⁸² Ilztalbahn (2018)

⁸³ Bayerischer Landtag (2011)

usable preservation of the railway line "Passau-Freyung" and of the existing listed buildings⁸⁴. In the following, the association continued to raise awareness among the population and local politicians for the Ilztalbahn's role as an economically and ecologically sensible means of transport.

In October 2006, two local civic decisions (Bürgerentscheide) were initiated in Freyung and Waldkirchen that aimed at preventing both cities from buying the railway line and from using the track for non-railway related purposes. However, both initiatives failed due to the necessary approval quorum of 20%. Following this, the German railway net operatior "DB Netz AG" applied to the Federal Railway Authority for an exemption from railway operations in order to be able to sell the route to the local authorities. The "Ilztalbahn GmbH", founded in November 2006, appealed against this application, with this appeal being approved by the Federal Authority in July 2007⁸⁵.

Then, between 2008 and 2010, the demanding and also costly preparatory works for reactivating the Ilztalbahn were realised (see: section 4.2.3). A total of 65 volunteers have spent more than 10,000 hours of work for making the rail track accessible again. The entire route was formally approved in July 2011 by the Bavarian Railway Supervisory Authority (Landeseisenbahnaufsicht Bayern) and the first train with press representatives then drove from Passau to Waldkirchen on 15 July 2011.

Since, the Ilztalbahn operates during the holiday season on a 49.5 kilometer long and nonelectrified secondary railway branch from Passau via Waldkirchen to Freyung in the Bavarian Forest (see: map 4-2). Shortly after the re-opening, the Ilztalbahn non-profit association received the 1st prize of the "citizenship and cultural award 2011" (Bürgerkulturpreis 2011) of the Bavarian parliament (Bayerischer Landtag) for the active voluntary work of its members⁸⁶.



Source: Wikipedia (2018d), map by OpenStreetMap contributors

⁸⁴ Förderverein Ilztalbahn (2018)

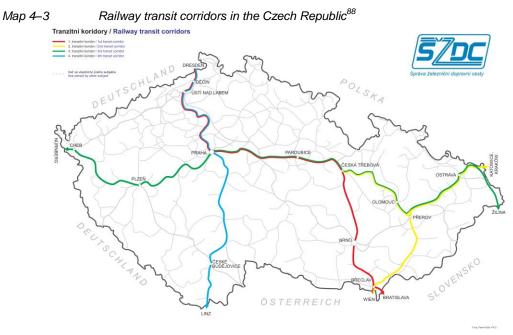
⁸⁵ Wikipedia (2018d), Ilztalbahn (2018)

⁸⁶ Bayerischer Landtag (2011)

In parallel, unexpected **new dynamics** for the starting cross-border tourism service **emerged** from the ongoing modernisation of the Czech railway system and the intention of the Czech national railway company (České dráhy, ČD) to stongly expand rail passenger traffic to the south.

Based on the national rail infrastructure improvement plan agreed nearly 20 years ago, the Czech Republic has engaged in an unprecedented programme of rail infrastructure upgrades that will transform domestic and international services. Infrastructure upgrading is focused on four railway transit corridors (see: map 4.3) and related modernisation works are expected to be completed in the 2014-2020 funding period.

Of particular relevance for the analysed cross-border tourism service at the Bavarian-Czech border is the 4th north-south corridor: it cuts through the Czech Republic from Děčín to Prague and from there via České Budějovice (Budweis) to the Austrian border municipality Summerau, where a connection is possible to Linz. In 2015, works on the southern part of this corridor focused on introducing a second track that would reduce journey times between Prague and České Budějovice from 2h 30 min to 1h 40 min when complete⁸⁷.



The Czech Ministry of Transport ordered new express trains as a part of national long-distance passenger transport that were introduced in December 2016 on the line "Praha-České Budějovice-Linz. The trains quickly became popular especially with the residents of České Budějovice, as the journey time to Prague was shortened from 2:30 to 1:58 and faster

than a journey with an express bus. One of the express trains branched off at České

⁸⁷ In 2015, mostly the section from České Budějovice to Summerau in Austria had been modernised. See: IRJ (2015), Wikipedia (2018f).

⁸⁸ SŽDC (2018a)

Budějovice on a secondary regional line that terminated in Český Krumlov and in an extended version also in Nové Údolí directly at the Czech-Bavarian border. Express trains on both lines served tourism transport from Prag into the heart of Šumava⁸⁹.

At the border in Nové Údolí, where before World War II the railway line continued to Passau in Bavaria, cross-border journeys are today only possible on weekends and during the tourism season. This is ensured by the "Ilztalbahn connection bus" operating from Waldkirchen over Haidmühle to Nové Udolí and back. However, a direct and daily connection to the Bavarian public transport system still does not yet exist, as the regular bus line "Waldkirchen-Haidmühle" (RBO 6122) ends in the village of Haidmühle that is only about 1,500 m away from the border⁹⁰.

4.2.2 General and/or theme specific legal framework conditions for CPS

EU legislation is relevant for the integrated cross-border rail / bus tourism service only to a very limited extent. This is because Regulation (EC) 1370/2007⁹¹ does not apply to services by rail and road operated for their historical interest or their tourist value, but also because the CPS does not lead to a border-crossing of domestic rail passenger transport services for which the rules in Directive 2012/34/EU would apply⁹².

Only in case of the cross-border bus-lines interconnecting the different domestic rail passenger transport services covered by this CPS, it may be that a carriage of passengers by bus and coach requires a "Community license" according to Regulation (EC) 1073/2009⁹³. This, however, depends on whether the latter are "regular services", "occasional services" or "special regular services", for which an authorisation is then either required or not.

The general and specific legal base for this CPS are therefore the national and/or regional laws in Gemany and the Czech Republic that are governing a provision of public local transport services. As the most important elements of this CPS are located on the Bavarian side, the following is only reviewing the German-sided legal context.

The general legal base is the German "Federal Law on a Regionalisation of Public Local Transport" of December 1993 (Regionalisierung des öffentlichen Personennahverkehrs, RegG) and more specifically the "General Railway Act" of December 1993 (Allgemeine Eisenbahngesetz, AEG). Of particular relevance for the Bavarian railway line "Ilztalbahn" are the AEG provisions on a submission and decommissioning of railway infrastructure facilities

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⁸⁹ Interreg Central Europe (2018)

⁹⁰ Da Hog'n (2017b), Wikipedia (2018d), Passauer Neue Presse (2017)

⁹¹ Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road and repealing Council Regulations (EEC) No 1191/69 and No 1107/70.

⁹² Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (recast).

⁹³ Regulation (EC) No 1073/2009 of the European Parliament and of the Council of 21 October 2009 on common rules for access to the international market for coach and bus services, and amending Regulation (EC) No 561/2006.

(§ 11), on planning and approval of planning (§ 18), on a ban of change and the right of first acquisition (§ 19) and on the exemption of railway operations (§ 23)⁹⁴.

Also the Bavarian Law on Public Local Transport of 1996 (Gesetz über den öffentlichen Personennahverkehr in Bayern, BayÖPNVG)⁹⁵ is relevant for this CPS, as it includes general rules on public local transport that have to be observed and also designates the authorities responsible for public rail passenger transport in Bavaria. This is the "Bavarian Railway Company" (BEG)⁹⁶, which is responsible for planning, financing and controlling regional and suburban public rail traffic on behalf of the Bavarian State Ministry responsible for transport.

On ground of these laws, the two German companies involved in operating the IIztalbahn (see: section 4.2.3) have negotiated in 2008 / 2009 the conditions of usage for a provision of rail services on the line Passau-Freyung and requested the required permits. As a result, the Rhein-Sieg-Eisenbahn GmbH received the operating license for 50 years from the Bavarian Ministry of Economic Affairs and Transport in March 2009 and the IIztalbahn GmbH signed a 50 years lease agreement with the railway infrastructure owner "DB Netz AG" in June 2009⁹⁷.

4.2.3 Production base for a provision of the CPS

The integrated cross-border rail / bus service for seasonal tourism is delivered through a combined use of "hard" infrastructures for passenger transportation that are located on both sides of the Bavarian-Czech border and include different systems elements.

An essential element are fixed infrastructure assets (e.g. roads and rail tracks at variable length, rail and bus stations) and other fixed transport-related technical installations (e.g. control systems for rail traffic). Another important element is the diverse and mode-specific mobile equipment that transport operators use for passenger transportation. These are conventional rail rolling stock (i.e. different types trains) and small or large-sized buses.

To this must be added different elements of the legal and administrative framework governing the organisation and provision of the included local / cross-border rail and bus transport services (i.e. national / regional legislations; public institutions / bodies on both sides of the border organising public local transport; service providing organisations) as well as the personnel that maintains and operates fixed and mobile assets.

As infrastructures are embedded into different contextual settings on either side of the border, some aspects are now looked at in more detail for better understanding how the integrated cross-border rail / bus tourism service is actually "produced" (i.e. rehabilitation / modernisation

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⁹⁴ Ilztalbahn (2018)

⁹⁵ Bayerische Staatskanzlei (2018b)

⁹⁶ The Bavarian Railway Company (Bayerische Eisenbahngesellschaft, BEG) was founded in 1995 as a consequence of the "Federal Law on a Regionalisation of Public Local Transport" (RegG), which allocated responsibility for public rail passenger transport from the federal government level to the individual Länder.

⁹⁷ Ilztalbahn (2018), Wikipedia (2018d)

and maintenance of railway infrastructures; types of service providers; personnel operating the railway).

Rehabilitation and ongoing maintenance of the railway line "Passau-Freyung"

Rehabilitation works on the railway line Passau-Freyung started in late summer 2008, when volunteer members of the Ilztalbahn non-profit association began to cut free the overgrown railway line. Experts estimated the cost for restoring the pure trafficability of the railway line at 770,000 euros, with an additional 100,000 euros needed for inspection and approval fees⁹⁸.

This cost assessment was used as reference for a project application submitted in 2009 to the Interreg IV-A programme "Bavaria-Czech Republic" (2007-2013). It aimed at supporting the reactivation of the IIztalbahn line as part of the wider "Cross-border leisure traffic network Donau-IIz-Moldau". This cross-border and even European dimension was from the outset a very important "push factor" for the re-activation initiative⁹⁹.

Although this Interreg project was of central importance for the entire process, it also creates an additional financial burden for the small IIztalbahn GmbH even after project closure. This is due to the fact that the company had to financially secure the entire amount of the ERDF subsidy on a long-term basis within Bavaria, because ERDF support must be repaid, should the operation of the railway line not be ensured permanently over 15 years (see: box 4.3).

Box 4-3 The Interreg IV-A project Cross-border leisure traffic Donau-Ilz-Moldau¹⁰⁰

The application for the Interreg IV-A project was supported by Czech and Bavarian government representatives, the Euregio Bayerischer Wald - Böhmerwald, the non-profit association Ilztalbahn, the Ilztalbahn GmbH, the county of Freyung-Grafenau and the cities of Waldkirchen and Freyung. At the end of June 2010, the Interreg Monitoring Committee had unanimously approved the grant application with a total budget of EUR 7.5 million. Project funding was earmarked to finance the reactivation of the Ilztalbahn railway line and the rehabilitation of the station environment in Waldkirchen and Freyung, as well as the establishment of "connecting bus lines" for the Ilztalbahn. These buses were intended to link the seasonal rail service to attractive destinations in national parks Bavarian Forest as well as to the Czech national park Bohemian Forest and the Czech railway network starting in Nové Údolí. Finally, an improvement of the cycling network and marketing measures were also supported.

At the outset, however, the Free State of Bavaria demanded that the entire amount of ERDF funding (EUR 1.675.361) is secured by the Ilztalbahn GmbH, since the project was initially considered to be highly risky. Compliance with this obligation generated substantial cost from guarantee commissions and additional costs on borrowing for the small Ilztalbahn GmbH, which also had to "block" parts of its company assets as collateral security with banks. Because from 1 June 2014 the Ilztalbahn GmbH has to cover cost for route maintenance alone, the formation of financial reserves is extremely important. However, this reserve formation is severely curtailed by the guarantee-related financing costs. In 2012, Ilztalbahn GmbH, for example, only had a net profit of around 15,000 euros, which would have been more than 50,000 euros without guarantee and financing costs. Although the cost burden of the guarantee will be lower over time, the guarantee itself still exists until 2026.

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⁹⁸ Wikipedia (2018d)

⁹⁹ Ilztalbahn (2018), Interview (Ilztalbahn GmbH)

¹⁰⁰ Wikipedia (2018d), Bayerischer Landtag (2013)

With the completion of works on the northern section from Freyung to Waldkirchen in September 2010, the railway line on this part was again fully operational. The finished section was released for public rail transport on 3rd September 2010 by the Federal Railway Authority (Eisenbahnbundesamt), and in July 2011 the entire route was formally accepted by the Bavarian Railway Supervisory Authority (bayerische Landeseisenbahnaufsicht) 101.

Since September 2012, the railway station in Waldkirchen is owned by the "Ilztalbahn non-profit association". The purchase of this station helps permanently preserving a regional historic monument, which celebrated its 125th anniversary in 2015. Moreover, during the winter break 2013/2014, Ilztalbahn GmbH further upgraded the railway line for a two-train service, which enabled realising a compacted timetable with six train pairs per day in 2014¹⁰².

The "Ilztalbahn non-profit association" is also in charge of the ongoing maintenance of the railway line, as every year vegetation on the track has to be cut back and platforms or level crossings have to be maintained. Considerable cost emerges from damages at the railway track that are caused by adverse weather conditions (e.g. storms or landslides in 2013, 2017, 2016). Cost for eliminating such damages have to be self-financed by the Ilztalbahn and related works are, as much as possible, realised by voluntary members of the association. The most severe damage ocurred in 2017, when a landslide close to a tunnel had blocked rail traffic for several weeks. Most of the cost for related reparation works (i.e. approximately EUR 300,000) were financed through fund-raising by the non-profit association Ilztalbahn, but also the city of Passau contributed with EUR 50,000¹⁰³.

Modernisation of secondary railway lines in the South Bohemian Region

Already in 2008, the Czech "Railway Infrastructure Administration" (Správa železniční dopravní cesty, SŽDC)¹⁰⁴ announced that it would also modernise several single-track and non-electrified secondary railway lines in the South Bohemian Region during the coming years. These lines branch off the main railway line "Plzeň-Číčenice-České Budějovice" and converge at the two railway junctions Volary and Černý Kříž in the border-close district of Prachatice (Okres Prachatice). The three currently exsting railway lines are "Strakonice-Vimperk-Volary", "Číčenice-Volary-Černý Kříž-Nové Údolí" and "České Budějovice–Černý Kříž" (see: map 4-4)¹⁰⁵.

As the railway lines with a total length of 229 km are owned by SŽDC, the national rail network operator is also responsible for the ongoing maintenance and modernisation of these rail infrastructures. Several modernisation projects were realised by SŽDC during the period

¹⁰¹ Wikipedia (2018d)

¹⁰² Wikipedia (2018d), Förderverein Ilztalbahn (2018)

¹⁰³ Ilztalbahn (2018), Interview (Ilztalbahn GmbH)

¹⁰⁴ The SŽDC was set up in 1993 and administers the state-owned fixed railway infrastructure assets (e.g. tracks, train stops etc.) and ensures the operation / operability / modernisation of railway infrastructures. See on this: Wikipedia (2018f)

¹⁰⁵ Wikipedia (2018d)

2009 - 2016, either with only national funds or with EU-level co-financing from the Czech "ERDF/Cohesion Fund Operational Programme Transport" and the Interreg IV-A programme "Bavaria-Czech Republic". These projets concerned the organisation of rail transport in accordance with standard and safe procedures on the single-track regional line segment "Čičenice-Volary" (17.4.2009-31.5.2011), the construction of a passenger transfer terminal in Nové Údolí (1.3.2011-31.12.2011) and the revitalisation of the single track line "Budějovice-Volary" (1.3.2014-2.10.2016)¹⁰⁶.

Railway network in the Czech regions Pilsen (Plzeňský kraj) and South Bohemia Map 4-4 (Jihočeský kraj) 10 Středočeský ČESKÉ BUDĚJOVICE

Thanks to the still ongoing modernisation of the north-south railway transit corridor (see: section 4.2.1) and the completed modernisation projects on regional secondary lines, the Czech national railway company (České dráhy, ČD) had operated since May 2017 express trains "Prague-České Budějovice-Krumlov-Nové Údolí" that realised the journey distance in only 4 hours 14 minutes. Coordinated time tables for this new Czech-sided offer were elaborated in close cooperation between the ČD and Ilztalbahn GmbH¹⁰⁸.

Operation of rail passenger services in Bavaria and the South Bohemian Region

Different rail companies are providing the respective passenger transport services on either side of the border (see: box 4-4), which also leads to significant differences as regards the day-to-day operation of trains.

On the Bavarian side, the private company "Ilztalbahn GmbH" (founded in November 2006) is operating the recommissioning of the railway line Passau-Freyung and for this entered in

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¹⁰⁶ SŽDC (2018b)

¹⁰⁷ "Zoom-in snapshot" realised from the original source map elaborated by SŽDC (see: SŽDC, 2018)

¹⁰⁸ Da Hog'n (2017b), Passauer Neue Presse (2017)

2009 into a cooperation with the German company "Rhein-Sieg-Eisenbahn GmbH" (RSE). This was done because of RSE's important know-how and experiences, emerging from its double role as railway infrastructure untertaking and railway operating untertaking. On ground of the operating license received in 2009, RSE is managing the operation of the seasonal train service on the railway line Passau-Freyung.

Day-to-day operation of the tourist trains is solely carried out by numerous volunteers of the non-profit association IIztalbahn who are active with no pay. A total of 11 association members have been trained to train drivers. They run passenger trains from Passau to Freyung and back, and are also responsible for realising train transfer rides and operating construction trains. The volunteer train attendants sell tickets on the train and are the contact persons for questions and requests from passengers. Also staff planning and organisation of special rail trips as well as the marketing of the line is done on a voluntary basis 109.

On the Czech side, the national railway company ČD had operated the three secondary railway lines in the South Bohemian Region until the end of 2017. After a rather conflictual bidding process in the years 2015 / 2016¹¹⁰, the private Czech rail company "GW Train Regio" (GWTR) was finally selected and contracted as new service provider. As of 10. December 2017, GWTR is operating for 15 years the three regular rail lines Číčenice-Nové Údolí (line 197), České Budějovice-Český Krumlov-Černý Kříž (line 194) and Strakonice–Volary (line 198)¹¹¹. The day-to-day operation of trains running on these lines is realised by the employed professional personnel of GWTR.

Box 4-4 Key actors involved in the provision of rail passenger transport services 112

The limited liability company "Ilztalbahn GmbH" was founded on 14th November 2006 and entered in December 2006 under the number HRB 7054 into the commercial register Passau. The company is represented by the managing director in honorary office Prof. Dr. Thomas Schempf. The company's capital amounts to € 300,000, which was mobilized by 36 private shareholders that paid in sums ranging from 1,250 to 10,000 euros. The overall purpose of the company is very broad and covers, according to §2 of its statutes, the following aspects: (1) the speedy recommissioning of the "Passau-Waldkirchen-Freyung" railway line (Ilztalbahn) for traffic with occasional rail vehicles, (2) the organisation of train traffic on the Ilztalbahn in cooperation with recognised railway infrastructure companies and railway undertakings; (3) the reopening of regular traffic on the Ilztalbahn with rail vehicles in freight traffic; (4) the reopening of regular traffic on the Ilztalbahn with rail vehicles in scheduled passenger transport; (5) the care of customers during travel and transport on the Ilztalbahn; (6) the creation and implementation of advertising and marketing concepts for the promotion of rail transport on the Ilztalbahn and (7) similar businesses promoting rail transport on the Ilztalbahn. Tasks relating to this purpose are carried out with the help of members of the Ilztalbahn non-profit association

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¹⁰⁹ Bayerischer Landtag (2011), Ilztalbahn (2018)

¹¹⁰ In April 2015, the South Bohemian Region had selected a private rail company for a 15-year contract, which expected to take over the three lines from the state operator ČD in December 2016. The formal award of the contract was prevented when ČD appealed, claiming there had been procedural deficiencies and insufficient transparency. The dismissal of ČD's appeal by the court in Brno on 4th November 2016 allowed the regional authority to proceed with signing the contract. See on this: Railway Gazette (2016)

¹¹¹ GW Train Regio (2018)

¹¹² Ilztalbahn (2018), Wikipedia (2018g), Bayerischer Landtag (2013), Wikipedia (2018e), Wikipedia (2018f), GW Train Regio (2018)

(Förderverein Ilztalbahn e.V.), which is also the main shareholder of the Ilztalbahn GmbH.

The limited liability company "Rhein-Sieg-Eisenbahn" (RSE) was founded in 1994 by the Transport Club of Germany (Verkehrsclub Deutschland, VCD) and interested private individuals, initially with the purpose of saving a threatened industrial rail line (the Beuel-Großenbusch railway). Today, the RSE acts as railway infrastructure company in three German federal states (Bavaria, Lower Saxony, North Rhine-Westphalia) and operates more than 200 km of rail lines (as of July 2017). On the other hand, the RSE acts as a railway transport company in passenger and freight traffic on other routes. Due to these functions, RSE also signed a cooperation agreement with Ilztalbahn GmbH in March 2007 to preserve the Passau-Freyung line. On 13 March 2009, the Bavarian State Ministry for Economic Affairs, Infrastructure, Transport and Technology granted RSE an operating license for the Ilztalbahn.

The Czech Railways (České dráhy, ČD) is the main railway operator in the Czech Republic providing regional and long-distance services. ČD was established on 1st of January 1993, after the dissolution of Czechoslovakia, as a successor of the Czechoslovak State Railways. On 1 January 2003, the ČD was converted into a public limited company and is since then only a rail transport company operating trains. Until December 2017, ČD also operated the rail lines "Číčenice–Nové Údolí", "České Budějovice–Černý Kříž" and "Strakonice–Volary".

GW Train Regio a.s. (**GWTR**) is a private railway company in the Czech Republic based in Ústí nad Labem, which mainly operates regional rail lines in public transport. From 20 December 2011 onwards, the former corporate name "VIAMONT Regio a.s." was changed into "GW Train Regio a.s.". On 24 April 2014, the company ČSAD JIHOTRANS a.s. became the new 100% owner of GW Train Regio. In the South Bohemia Region, GWTR operates since 10. December 2017 the rail lines "Číčenice–Nové Údolí", "České Budějovice–Černý Kříž" and "Strakonice–Volary".

4.2.4 CPS tasks and intervention approaches to address cross-border needs

The integrated cross-border rail / bus transport service for seasonal tourism performs an important development task in the Euregio and also contributes directly to realising a more wide-ranging conservation task. The CPS has become on both sides of the border an important element in the local trourism offer and supports at the same time also a sustainable and environmentally friendly tourism within the concerned areas of the Bavarian Forest and Šumava national parks. Moreover, through facilitating excursions across the border, it also promotes international understanding among neighbouring countries.

The CPS addresses the originally identified local and cross-border needs with an intervention approach that aims to improve the quality and effectiveness of public service provision within the Euregio. One the one hand, it established a completely new service offer that can be used by seasonal tourists and also by the local population living in the Euregio. On the other hand, the CPS also interlinks and coordinates / integrates domestic local rail passenger services that already exist on both sides of the border.

This quality and effectiveness improvement is achieved by a comprehensive strategy that combines four main elements: (1) the seasonal operation of the leisure railway Ilztalbahn in Bavaria (2) and its integration into other regional/local public transport concepts and fare systems as well as (3) the operation of a cross-border seasonal connecting bus service "Waldkirchen-Nové Údolí and (4) the establishment of a cross-border bus / rail fare system between operators on the Bavarian and Czech sides.

Seasonal operation of the leisure railway "Ilztalbahn"

Already in the Ilztalbahn's first operating season between July 2011 and the end of October 2011, the train service was operated on 34 days during weekends and public holidays. In the main holiday season, an average of about 1,000 passengers per day used the train. Over the entire season 2011, a total of 28,000 paying passengers had used the newly introduced service. In the 2012 season, already 49,000 passengers used the service on 59 days of operation. In 2013, however, the volume declined to 38,000 passengers (on 59 operating days) because tracks had to be closed in the area Passau-Stelzlhof due to flood damage 113.

Also the seasonal revenue of the "Ilztalbahn GmbH" developed accordingly between 2011 and 2013: it raised from EUR 132,632 in 2011 (about EUR 30,000 from infrastructure revenue and EUR 102,000 from fares) to EUR 224,051 in 2012 (about EUR 52,000 from infrastructure revenue and EUR 172,000 from fares), but then dropped in 2013 to EUR 188,000 (about EUR 50,000 from infrastructure revenue and EUR 138,000 from fares)¹¹⁴.

A questionnaire-based survey carried out from July to October 2013 on different trips of the IIztalbahn showed that 44% of the 630 responding passengers were tourists and 55% were local residents, using the IIztalbahn either on holiday or as part of a day trip. 82% of passengers planned to spend money before, during or after their journey on the IIztalbahn. This was envisaged mainly for a restaurant visit (55%), but also for shopping (20%) and visits to a museum (10%) or the national park (9%)¹¹⁵.

Passenger numbers on the IIztalbahn remained high during most of the following years (2014-2017), but weather-related damage to the railway line has sometimes also hindered service provision. The 2014 and 2015 seasons of the IIztalbahn were completed with total passenger volumes of respectively 42,000 persons between 36,000 and 37,000 persons. No figures are available for 2016 and 2017, but rail traffic was in both seasons strongly disturbed by landslides having blocked parts of the rail track¹¹⁶.

Overall, however, the annual passenger volumes ranging between 35,000 and 40,000 people illustrate that the IIztalbahn has become a considerable economic factor for the tourism sector in the region.

Bavarian-sided integration into other local public transport concepts and fare systems

At the official start of the Ilztalbahn in July 2011, also the "Ilztalbahn connecting bus" (Ilztalbahn Anschlussbus) to the Bavarian Forest National Park Centre (Nationalparkzentrum) was started. This bus was first ordered by the Ilztalbahn GmbH itself,

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¹¹³ Wikipedia (2018d), Bayerischer Landtag (2013)

¹¹⁴ Bayerischer Landtag (2013)

¹¹⁵ Ilztalbahn GmbH (2017)

¹¹⁶ In 2016, the service had to be realised in June and July with rail replacement traffic (bus). In 2017, the start of the season had to be postponed from May to July 2017. See: Wikipedia (2018d), Ilztalbahn (2018)

since a vote of the county council of Freyung-Grafenau on a service order took effect only at the end of the first operating season in September 2011. From 2012 onwards, however, the county of Freyung-Grafenau is ordering and paying this service as part of its own local public transport policy¹¹⁷.

Today, the bus line 605 "Freyung-Nationalparkzentrum-Lusen" departs from the Ilztalbahn railway station in Freyung and transfers passengers to National Park Centre, where they can also access the so-called "Igelbuses". This bus system forms part of the public transport concept elaborated for the Bavarian Forest National Park (Nationalpark-Verkehrskonzept Bayerischer Wald). The buses are operated by the "Regionalbus Ostbayern GmbH" (RBO) and take passengers to attractive destinations within the Bavarian Forest National Park.

The leisure railway **Ilztalbahn raises an own in-house fare,** the amount of which more or less based on the normal prices of the local train fare charged by the German Federal Railway (DB). Since the start of its second operating season in April 2012, the Ilztalbahn GmbH integrated to the two main regional tariff elements ("Bayerwald-Ticket" and "GUTi") that form part of the Bavarian Forest National Park public transport concept (see: box 4-5)¹¹⁸. The Ilztalbahn also recognises the "Bavaria Ticket" (Bayernticket)¹¹⁹ of DB on the rail segment "Röhrnbach-Freyung", but other DB and bus tickets are not valid.

Box 4-5 Integration of Ilztalbahn into the "Bayerwald-Ticket" and "GUTi" (situation 2018)

The IIztalbahn GmbH works together with the Bayerwald Tariff Association (Bayerwald Ticket Tarifverbund), which offers the "Bayerwald-Ticket". This ticket is valid one day on all trains and buses in the counties of Freyung-Grafenau and Regen as well as on some adjacent routes (to Lam in the county of Cham). The Bayerwald-Ticket is also valid on the IIztalbahn (rail section "Röhrnbach-Freyung") and on the "IIztalbahn connections buses" (lines 605 and 606).

The "Guest Service Environment Ticket" (Gästeservice-Umweltticket, GUTi) is offered free of charge to seasonal tourists by currently 25 municipalities located in the Bavarian Forest National Park and Nature Park region. It allows a free of charge use of bus and train in the "Bayerwald Tariff Association" area during the entire holiday stay. On the IIztalbahn, "GUTi" is valid in the rail section "Röhrnbach-Freyung" and on the "IIztalbahn connections buses" (lines 605 and 606).

The cross-border Ilztalbahn connecting bus "Waldkirchen-Nové Údolí"

At the start of the Ilztalbahn in 2011, also a cross-border seasonal connecting bus service was established between the Ilztalbahn train station in the Bavarian town of Waldkirchen, and the train station in the Czech border municipality of Nové Údolí.

Since 2012, the Ilztalbahn connecting bus line 606 is ordered and paid for by the county of Freyung-Grafenau as part of its own local public transport policy¹²⁰. The seasonal cross-

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¹¹⁷ Wikipedia (2018d), Interview (Ilztalbahn GmbH)

¹¹⁸ Ilztalbahn (2018)

¹¹⁹ The "Bayern Ticket" is a ticket offer of Deutsche Bahn AG and allows the use of all regional trains (including S-Bahn) in Bayaria.

¹²⁰ Wikipedia (2018d), Interview (Ilztalbahn GmbH)

border bus line operates on the route Waldkirchen-Haidmühle/border-Nové Údolí and back on the same way. It is the essential link by which Ilztalbahn passengers from Bavaria or the Czech Republic can reach on weekends and bank holidays the other side of the border. On this bus line, the Bayerwaldticket and GUTi as well as the "Donau-Moldau-Ticket" are valid (see below).

Since July 2018 also a new **cross-border seasonal bus service is** operated by GW Train Regio, which is **marketed as "GW Bus".** The service connects the trains of GW Train Regio starting / ending at the railway station in Nové Údolí to the Bavarian border municipality Haidmühle and onwards to a popular site for tourism excursions on the Bavarian side (Dreisesselberg). The bus runs in 2018 from mid-July to mid-September. Valid on this bus route are the day ticket of GW Train Regio, the Freyung-Passau season card for 2018 of the Ilztalbahn (Saisonkarte) as well as the "Donau-Moldau-Ticket" (see below) 121.

Cross-border "Donau-Moldau fare association" and "Donau-Moldau-Ticket"

Already in 2011, the IIztalbahn GmbH has cooperated with the Czech national railways ČD on a mutual recognition of tariffs for making cross-border trips to the neighbouring South Bohemian Region possible with just one ticket 122.

Initially, the ČD wished to integrate the IIztalbahn into an already existing "Moldau-Donau Ticket" system that it had established together with the Austrian national railway company ÖBB (Österreichischen Bundesbahnen). However, the ÖBB was not interested in setting up a trilateral cooperation and ČD continued bilateral talks with the IIztalbahn GmbH¹²³ on introducing a new cross-border ticket with a slightly different brand name.

This has led to the setting-up of the cross-border "Donau-Moldau fare association" (Donau-Moldau-Verbund), which offers a single cross-border "Donau-Moldau-Ticket" that is valid on the Bavarian side (i.e. IIztalbahn train, IIztalbahn connecting buses to/from train stations) and also on ČD trains operating in Southern Bohemia. Since 10th of December 2017, however, the secondary railway lines "Číčenice-Nové Údolí", "České Budějovice-Černý Kříž" and "Strakonice-Volary" are no longer operated by the ČD but by GW Train Regio.

Nevertheless, cooperation on the Donau-Moldau fare association" is continued between Ilztalbahn GmbH and GW Train Regio. The conditions of this cooperation were agreed upon between both companies through a simple exchange of Emails¹²⁴.

However, the new constellation led to a changed geographical scope of the tariff association especially on the Czech side and also to new conditions for the validity of the "Donau-Moldau-Ticket".

¹²¹ Wikipedia (2018h), GW Train Regio (2018), Ilztalbahn (2018)

¹²² Ilztalbahn GmbH (2017)

¹²³ Interview (Ilztalbahn GmbH)

¹²⁴ Interview (Ilztalbahn GmbH)

In the period from 2011 to mid December 2017, the "Donau-Moldau fare association" covered a wide range of railway lines in the South Bohemian Region that were all operated by ČD. The association's range in 2017 is shown by map 4-5. The first of the cross-border "Donau-Moldau-Ticket" was valid for return trip (even intermittently) within a maximum of four days and also allowed extended two-day tours overnight stays in neighbouring Czech cities¹²⁵.

From mid December 2017 onwards, cooperation between the Ilztalbahn GmbH and GW Train Regio on the cross-border fare association is continued. On the Czech side, however, the fare association now covers only the three secondary railway lines in Southern Bohemia that are operated by GW Train Regio (see: map 4-6).

The current "Donau-Moldau-Ticket" is valid for a return trip within a day on the Ilztalbahn, the "Ilztalbahn connection buses" (lines 605 & 606), the three South Bohemian railway lines and the new cross-border seasonal bus line "Nové Údolí-Haidmühle-Dreisesselparkplatzt" operated by GW Train Regio since Juli 2018.

Map 4–5

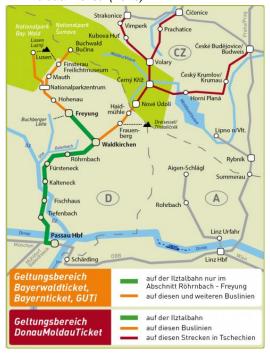
Bus and rail lines covered by the "Donau-Moldau-Ticket" (2017)



Green = Ilztalbahn railway Passau-Freyung. **Orange** = bus lines. **Red** = ČD railway lines. **Grey** = other railways not included in "Donau-Moldau-Ticket".

Source: Ilztalbahn GmbH (2017)

Map 4–6 Bus and rail lines covered by the "Donau-Moldau-Ticket" (2018)



Green = Ilztalbahn railway Passau-Freyung. **Orange** = bus lines. **Red** = GW Train Regio lines. **Grey** = other railways not included in "Donau-Moldau-Ticket".

Source: Ilztalbahn (2018)

¹²⁵ Wikipedia (2018d), Ilztalbahn (2018)

4.2.5 Organisational structures and processes for delivering the CPS

The organisational structure and process for delivering the integrated seasonal cross-border rail / bus tourism service is currently **more alike to a "networking model"** than to a "shared service centre model".

The CPS is newly established and delivered on a cooperative basis by the directly involved railway infrastructure and railway transport companies (i.e. Ilztalbahn GmbH, Rhein-Sieg-Eisenbahn, GW Train Regio). Especially the Bavarian-sided partners collaborate also closely with the "Ilztalbahn non-profit making association" and other relevant local actors (i.e. Bayerwald Tariff Association; county of Freyung-Grafenau as orderer of the connecting bus services). However, the network-based service did not lead to the setting up of a joint cross-border structure for a shared management of the service (i.e. one-sided management).

The CPS also involves substantial coordination / harmonisation (i.e. timetables for trains and buses) and an integration of different fare systems (i.e. mutual recognition of tickets), both within Bavaria and across the border with the Czech railway operator. This helps providing the domestic and cross-border elements of the seasonal rail / bus tourism service more effectively.

4.2.6 Conclusions elements of good practice and outlook

The the integrated seasonal cross-border rail / bus tourism service is now active in its 7th operating season and has become an important facilitator for cross-border tourism in this part of the Euregio. Considering the thousands of passengers transported each year, the service also contributes significantly to promote sustainable and environmentally friendly tourism within the concerned areas of the Bavarian Forest and Šumava national parks.

Based upon the previously realised analysis, one can summarise the most important elements of good practice as follows:

- (1) The outstanding and non-remunerated engagement of many volunteers in the Bavarian-sided re-activation and ongoing operation of the seasonal leisure train Ilztalbahn, which is from the outset framed by a coherent and long-term oriented cross-border concept for leisure and tourism development.
- (2) The comprehensive and also successful integration of different fare systems, both within Bavaria (i.e. "Bayerwald-Ticket" and "GUTi", partially "DB Bayernticket") and in a cross-border perspective (i.e. Donau-Moldau fare association; Donau-Moldau-Ticket).
- (3) The pragmatic and open-minded way in which the involved operators managed to cope with significantly changed framework conditions (i.e. reallocation of South Bohemian regional railway lines at the end of 2017), which in other circumstances could also have led to the end of the cross-border service.

An outlook on further development perspectives for the integrated cross-border rail / bus service in the period from 2018 until 2022 involves the following short and medium-term aspects¹²⁶.

Throughout the year 2018, the Ilztalbahn timetable will be further optimised to allow for a dense service supply during the high demand summer holiday period. Also local connections to the Bavarian Forest national park and the cross-border connection to the Czech Side within the "Donau-Moldau fare association" are continued with a view to facilitate day trips to close-by attractive locations in Southern Bohemia. Finally, the networking of Ilztalbahn GmbH with other regional partners will be pushed forward in order to permanently establish the service as a fixed offer for leisure-oriented traffic and tourism.

In view of the 50th anniversary of the Bavarian Forest National Park in 2020 and the Bavarian Land Garden Show (Landesgartenschau) taking place at Freyung in 2022, the reestablishment of a daily reguar local rail passenger traffic is sought. This objective already forms part of the business concept of the Ilztalbahn GmbH. However, before the Bavarian Railway Company (Bayerische Eisenbahngesellschaft) orders a daily train service on the Ilztalbahn, various requirements must be met. On the one hand, a sufficient passenger potential traveling in trains of the Ilztalbahn has to be proven through an independent expert report (Potenzialanalyse) and a "trial operation" (Probebetrieb) must be realised, so that investment in a daily railway operation are made. On the other hand, the concerned counties would then have to adapt their local public transport offer by road to that of the new railway line, so that a meaningful overall concept for efficient public transport with bus and train is created. However, all this is since a while discussed very controversially at different levels (Land, locally) and still far from becoming a tangible reality.

These aspects are also addressed in following chapter of this case study, which assesses future development potentials for cross-border public local transport in the Euregio. This analysis focuses mainly on the Bavarian side, where important challenges associated with local coordination and political consensus building are still existing(see: section 5.2).

¹²⁶ LOKReport (2017), Ilztalbahn GmbH (2017), Interview (Ilztalbahn GmbH)

The future of CPS in the Euregio

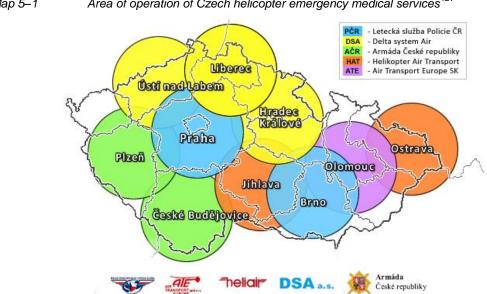
Perspectives for a trilateral helicopter emergency medical service

Potential needs motivating the set-up of a trilateral helicopter service

General motives for setting up a cross-border helicopter emergency medical service are usually local shortcomings or needs that emerge from geographical / physical features or specific structural developments in a cooperation area. Concrete examples are long driving times from the border zone to the next closest hospitals in the domestic hinterland or a lack of general physicians who can also perform emergency care.

Our previous analysis (see: section 4.1.1) showed that the cross-border service "Christophorus Europa 3" has largely eliminated such gaps on the Bavatian and Austrian side of the Euregio. However, the northern 15 minutes flight distance of this helicopter and also of another existing Bavarian rescue helicopter ("Christoph 15" in Straubing) do not fully reach out to the Bavarian-Czech border. This affects especially the border-close zones of the countries Freyung-Grafenau and Regen, where slightly higher flight times are still needed.

If the view is now expanded across the border to the Czech side (see: map 5-1), it can be seen that also in the Czech border-close zone opposite to the county of Regen a "white area" exits. It is only covered in parts by the two air rescue helicopters located in the regions of Pilsen ("Kryštof 07") at) and South Bohemia ("Kryštof 13" at Bechyne).



Area of operation of Czech helicopter emergency medical services 127 Map 5-1

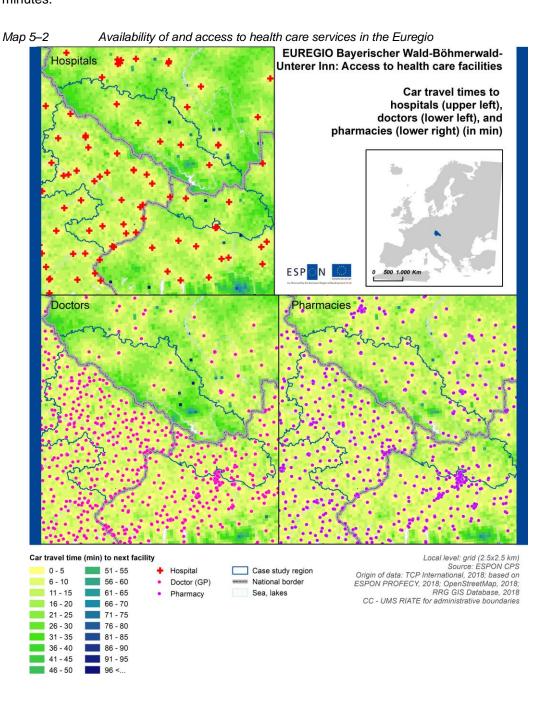
Map 5-2 shows a strong polarisation in the availability and accessibility of various types of health services. Although there is a continuous "chain" of hospitals and pharmacies in the

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¹²⁷ The Czech country-wide network of 10 air rescue sites is designed in a way that no point on the national territory is more than 50 km away from a regional rescue helicopter base. Rescue helicopters are provided by the police (in blue), the armed forces of the Czech Republic (in green) or non-public operators (other colours). See on this: Wikipedia (2018b)

Czech part of the Euregion, especially the availability of local doctors is in larger parts of the area very low. Furthermore, it can be seen that driving times to hospitals and doctors are also very long in the Czech areas close to the Bavarian border, where many tourists stay in both summer and winter (i.e. between 25 to 45 minutes).

The situation is completely different in the Bavarian and Austrian parts of the Euregio. Across all three service types, the entire southern part of the Euregio is marked by a high level of service availability, which even reaches out to the border close zones. Also high levels of service accessibility can be observed on this side, with driving times ranging from below 5 minutes to around 15 minutes in the largest part of the area and only exceptionally up to 20 minutes.



Further needs also arise from growing cross-border and domestic car traffic in the EuRegio. Car traffic is already intense especially on the Federal main road 12 (B12), which runs from Passau and Freyung to Philippsreut on the Czech border, where it merges into the motorway 4 to Prague. Traffic-related problems also exist in other border-close parts of the Euregio, where insufficiently developed transport networks and time-delaying road congestion often hinder ground-based emergency medical services in meeting legally prescribed "time-to-rescue periods" (Rettungsfristen) and ensuring quick transport of accident victims to the next hospital.

All this suggests that there are indeed various cross-border needs arguing in favour of establishing a new bilateral or even trinational air rescue service. This service could be beneficial for those border-close Czech and Bavarian parts of the Euregio, which are currently at the limits or even beyond the quickly reachable 50km radius of already existing helicopter emergency medical services (i.e. "Kryštof 07" at Plzeň: "Kryštof 13" at Bechyne, "Christoph 15" at Straubing, "Christophorus Europa 3" at Suben). For emergency patients and victims of accidents in these border areas, the establishment of a new trilateral cross-border service would certainly result in a clear improvement of emergency care, especially since larger and specialised hospitals near the border are rather scarce.

A first attempt for establishing such a trilateral service was made within the non-profit association "Europa-Union Bayern" at its 62nd Land Assembly in July 2013. The delegate and former member of the Bavarian parliament, Konrad Kobler, presented a motion for a resolution calling upon the association's members "to influence the Bavarian State Government appropriately, in particular to upgrade the air rescue service from Bavaria to the Czech Republic and vice versa". Such a service would not only be a unique step in Europe, but also lead to a new quality of cross-border integration along the common border 128. Since this early initiative aimed at influencing the political level in Bavaria, further informal steps were made to explore ways for setting up a new trilateral air rescue helicopter on the border between Bavaria, Upper Austria and the southwestern part of the Czech Republic 129.

5.1.2 Legal, administrative and political framework needed for a new CPS

Despite obvious needs that motivate setting-up a trilateral cross-border helicopter service and the first steps undertaken, there is until today no cooperation between providers of helicopter emergency medical services (HEMS) that are operated in the Bavarian, Czech and Austrian parts of the Euregio¹³⁰. This is mainly due to the existence of various "blocking factors", which tend to make the practical realisation of a trilateral cross-border service possible only in a medium term perspective

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¹²⁸ Europa-Union Bayern (2013)

¹²⁹ The local purpose association for rescue service and fire alarm of the Greater Passau Area (ZRV Passau) has shown interest in this project and also the former member of the Bavarian parliament, Konrad Kobler, has realised in 2017 a visit to the South Bohemian Region for discussing practical matters with official representatives.

¹³⁰ rth.info - Faszination Luftrettung (2018)

The current legal base for a bi-lateral or trilateral HEMS

The German-Czech and Austrian-Czech framework agreements on cross-border cooperation between rescue services both include identical articles on the "use of aircraft for the emergency service" (Article 9). This article prescribes that air vehicles intended for emergency rescue services may only be used to provide HEMS in accordance with European Union law. The air vehicle deployed in an emergeny that is stationed on the territory of one Contracting Party may fly over the territory of the other Contracting Party, and may also land in places other than the approved airfields or landing / take-off areas.

In the Bavarian-Czech regional agreement on cross-border cooperation of rescue services (signed in 2016) that implements the framework agreement, however, only cross-border rescue operations of ground-based rescue services in a 5-kilometer area around the common border are regulated. Whether this also applies to the regional implementation agreement concluded between Upper Austria and the South Bohemia Region (signed in 2016) cannot be verified, as the text of the agreement is not publicly available.

Different national systems for a provision of HEMS

If one compares the structure and organisation of HEMS in Bavaria and Austria (see: 4.1.2) with the basic features of the Czech system, at first sight there are no fundamental contradictions hindering the establishment of a trilateral cross-border service. Nevertheless, there are a number of differences at the operational level that make such a project difficult.

Since the mid-1990s, the Czech Republic has built up a nationwide air rescue network that belongs, with its technical equipment, the skilled personnel and its strong anchorage within the overall system of emergency services, to one of the most developed in the world. Also the model of integrated operational management of HEMS is one of the great advantages of the the Czech system. All emergency calls are received in regional-level dispatch centres, where the dispatchers then select the most appropriate rescue means or a combination of several according to the nature of the event (see: box 5-1).

Box 5-1 Main features of helicopter emergency medical services in the Czech Republic 131

Although helicopter emergency medical services (HEMS) in the Czech Republic are provided by public and private helicopter operators, everything else regarding the operation of air rescue is led by the emergency services of the Czech regions. HEMS are therefore not a separate organisation or structure, but a mandatory component in 10 out of the 14 officially designated regional emergency services of the Czech Republic. This means that the operational management of HEMS is entirely in the hands of the regional dispatch centres, which also coordinate the deployment of ground-based rescue crews. The only exception is the HEMS in Plzeň, where the army also provides the medical section of the helicopter crew. However, emergency calls are received at the dispatch centre of the Plzeň Region, which also manages and operationally coordinates the deployment of relevant rescue means.

HEMS are not only an integral part of the rescue service, but also work very closely with a variety of partners of the Czech "Integrated Rescue System" (IRS). These are the police of the Czech Republic,

¹³¹ Bundesministerium für Gesundheit (2012), pp.52-61

the city police and fire brigades of the Czech Republic, but also other partners such as the Mountain Rescue Service of the Czech Republic, the mine rescue service, the water rescue service, the Czech Red Cross and a number of others organisations.

The operation of general air rescue and also of HEMS is mainly financed from the state budget. The Czech Ministry of Health has a specific budget unit responsible for the exclusively earmarked financing of the operational costs of air rescue sites. On the basis of tenders, the Ministry of Health concludes contracts with public and non-governmental operators and reimburses the costs of operating the helicopters. Cost for the medical services of doctors is directly paid to the emergency service providers by Czech national health insurances.

The personnel and technical requirements for helicopter equipment and the qualifications of individual crew members in the Czech Republic are in accordance with European civil aviation legislation and the CEN standards of the European Committee for Standardisation. At present, mainly helicopters of the types "EC 135" (versions T1, T2 and T2+) and "Bell 427" mainly used in the Czech Republic. At the two sites operated by the Czech army (Pilsen Region, South Bohemia Region), helicopters of the type "W3A Sokol" are used. However, this helicopter type is not fully compatible with EU standards for helicopter operations in air rescue services.

In the Czech part of the Euregio, the two existing domestic HEMS are operated by the armed forces of the Czech Republic. The first service is the emergency rescue helicopter with the call sign "Kryštof 07", which is stationed at Plzeň-Líně Airport in the Pilsen Region. The second is the emergency rescue helicopter with the call sign "Kryštof 13", which is stationed at the military airport in Bechyne in the South Bohemian Region. Helicopters of the type W-3A Sokół are currently being used at both sites, but this type is not compliant with EU standards for A1-class twin-engine helicopters and therefore also not certified accordingly ¹³². However, this could be contrary to the provisions of Article 9 of the German-Czech and Austrian-Czech framework agreements on cross-border cooperation between rescue services, which expressly point to compatibility with EU-level requirements.

Another difference at is that the air rescue at both Czech sites is operated by the armed forces, whereas the domestic or cross-border HEMS on the Bavarian and Austrian sides of the Euregio are operated, either individually or in cooperation, by non-governmental operators (i.e. ÖAMTC-CFV and ADAC Air Rescue).

Other influencing factors

From the point of view of the "local purpose association for rescue service and fire alarm" Passau (ZRF Passau) that also operates the integrated dispatch centre (ILS Passau), the realisation of a trilateral service is difficult because of **technical-communicative hurdles.** On the one hand, there are different alarming and radio systems being not yet technically matched. On the other hand, there is the language barrier that makes fast and smooth communication difficult 133.

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¹³² Wikipedia (2018b)

¹³³ rettungsdienst.de (2015)

Finally, after first informal talks with representatives in South Bohemia in 2017, it also seems that there is not yet a real intention to extend domestic rescue flights beyond the region ¹³⁴.

5.1.3 Potential next steps in the Euregio

Given the fact that informal bilateral talks on establishing a trilateral helicopter emergency medical service are already undertaken for a while, it is recommended that the Euregio supports these efforts by creating a framework for a structured and continuous discussion process among the relevant public and private actors concerned.

A good context for this could be the recently announced Euregio-initiative on a "Future Region 2020+" (see: section 3.1.1) and in particular the interactive development of the concept "Bavarian Forest-Šumava 2020+". This initiative explicitly focuses on themes such as healthcare (incl. emergency medical care) and the establishment of cross-border public services.

The joint work process should involve all relevant stakeholders from all sides of the Euregio. These are (1) the national and regional authorities with regulatory competences in the field of HEMS, (2) the relevant private and public service providers, (3) the regional dispatch centres covering the envisaged service area, (4) the ground-based rescue forces likely to work in cooperation with the air-borne rescue service and (5) the national and / or regional public health insurance funds.

The joint work process should start with elaborating a detailed needs assessment for the envisaged service area and the joint drawing up of an inventory of legal / administrative and technical or practical hurdles that may possibly affect an establishment of the CPS. Beyond this gathering of factual evidence for becoming more aware of the actual context in which the CPS will operate, preparatory work should also involve a step-by-step process of consensus-building that is realised through a series of structured and externally moderated discussion rounds (i.e. workshops, focus groups etc.).

All stages of this work process have to take into account the complex interplay between various effects emerging from the multidimensional nature of borders. Information on relevant influencing factors is summarised in a "nexus model" presented under section 5.3 at the end of this chapter.

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¹³⁴ FRG-REGIONAL (2017)

5.2 Perspectives for cross-border public local transport services

5.2.1 Current situation and future needs for CPS development in the Euregio

A first comprehensive stock-taking of domestic and cross-border public local transport connections between the Bavarian and Czech side of the cooperation area was already realised in 2009 / 2010 by a so-called "potentials analysis" (Potenzialanalyse), which was commissioned by the Euregio¹³⁵.

However, the results of our previous analysis (see: sections 3.1.2 and 4.2) show that **the** described **situation of public local transport has considerably changed in the Euregio.** Firstly, because the integrated cross-border rail / bus service for tourism developed around the Ilztalbahn is operating during the summer season already since July 2011. Secondly, because the former cross-border direct rail connection "Plattling-Bayerisch Eisenstein-Špičák" had been stopped at the end of December 2014 (see: box 5-2)¹³⁶. This reduced by half the regular direct cross-border local rail passenger services offered in the Euregio. Thirdly, because one further cross-border seasonal hiking bus line was added (i.e. Wanderbus VLC 520/115 "Furth im Wald-Domažlice-Waldmünchen-Klenci-Čerchov")¹³⁷, which now allows realising cross-border round trips in the Bayerischer Wald-Šumava area (see: box 5-2).

Box 5-2 Cross-border rail or bus lines at the Bavarian-Czech border of the Euregio

On 28 May 2006, when the summer timetable came into effect, the Bavarian "Waldbahn" operated for the first time regular trains every two hours from Plattling via Bayerisch Eisenstein to the Czech railway station Špičák and back. In the 2008 timetable, two pairs of trains drove daily to Špičák. In addition, during the winter season, three pairs of trains were driven on weekdays and five pairs of trains on the weekend. In the summer season, three additional trains drove daily. Since 1st of March 2012, however, trains were again broken at the joint border railway station Bayerisch Eisenstein / Železná Ruda-Alžbětín at short notice because the law on cross-border train operations changed in the Czech Republic. In the year 2014, two train pairs ran again on weekdays to and from Špicák. For the change of timetable on 14 December 2014, however, the trains between Bayerisch Eisenstein and Špičák were canceled by the Pilsen Region (Plzeňský kraj). Since then, no direct cross-border trains run on this line. Passengers now have to change at the railway station Bayerisch Eisenstein / Železná Ruda-Alžbětín to trains of the Czech national railways (ČD), in order to continue their journey to Klatovy and Plzen or further onwards to Prague. For this, however, a longer waiting period must be accepted.

Today, one cross-border ski bus (Skibus) and two seasonal cross-border hiking buses (Wanderbusse) are operated between Bavaria and the Czech Republic. The services are provided by the company "Regionalbus Ostbayern GmbH" (RBO), which currently runs these buses between December and March (skibus) or between May and October (hikingbuses).

- The "alternating" seasonal cross-border bus service operated on the line RBO 6081 "Zelezna Ruda-Bayerisch Eisenstein-Arber Bergbahn" (as "ski bus" between end of December and early March and as "summer bus" between mid-May to end of September)
- The hiking bus line RBO 6065 leads from the tourist resort Drachselried in the Bavarian Forest via Lam to the Czech city Nyrsko and then to the picturesque municipality of Hamry in the Czech

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¹³⁵ EUREGIO (2010)

¹³⁶ Wikipedia (2018i)

¹³⁷ In 2009 / 2010, the alternating seasonal cross-border ski / summer bus line (RBO 6081 "Zelezna Ruda-Bayerisch Eisenstein-Arber Bergbahn") and one cross-border hiking bus line (RBO 6065 / VLC 618 "Drachselsried-Arnbruck-Eck-Arrach-Lam-Nyrsko-Hamry") already existed.

mountains.

• The hiking bus line VLC 520/115 leads from the Bavarian Furth im Wald to Čerchov, where the highest mountain in the Upper Palatinate Forest is located.

By combining the existing hiking bus offers, interesting cross-border round trips can be realised in summer within the Bavarian Forest and Šumava national parks. An example is the round trip starting at Bodenmais with the Bavaria-internal hiking bus line RBO 6198 that leads to the "Großer Arber" mountain railway station. Here, a change is possible to the regular cross-border summer bus line RBO 6081 that leads to the joint border railway station Bayerisch Eisenstein / Železná Ruda-Alžbětín. From there, the regular cross-border rail connection can be used to travel back to Zwiesel in Bavaria. At Zwiesel, the Bavarian rail "Waldbahn" (WBA1) travels every hour back to the point of departure in Bodenmais.

A more recent spatial analysis elaborated in 2015 for the entire Bavarian-Czech border zone points to general needs for a further improvement of existing cross-border public passenger transport offers and the development of new offers. It stressed that especially the lack of connectivity and coordination between the different passenger transportation modes as well as the diversity of fares and tickets complicate a cross-border use of public local transport. In addition to an improvement of the existing basic offer, the analysis also recommended that target-group-specific and flexible cross-border offers should be introduced to attract new user groups for public local passenger transport and to supplement existing offers in line with the actual demand¹³⁸.

More or less in parallel, the "knowledge platform mobility, accessibility and traffic" of the trilateral **Europaregion Donau-Moldau (EDM)** elaborated a long list with concrete national / regional / cross-border projects relating to public local transport. Thirty-three senior and experienced experts from various public administration and private sector organisations were involved in the platform work and identified projects for the development of a high-quality quality transport network in the EDM. Among the **identified cross-border projects, some also concern the territory of the Euregio**¹³⁹:

- Introduction of an integrated transport system in the area of the Šumava National Park, the Böhmerwald nature protection area and the Bavarian Forest National Park (project number 5):
- Introduction of a public transport "ring line" in Šumava National Park / Bavarian Forest National Park (project number 37);
- Introduction of a cross-border regional train connection "Plattling-Klatovy" and "Schwandorf-Domažlice" (project number 12);
- Introduction of a new cross-border bus service "Freyung-Vimperk" with connection to the South Bohemian railway network to Volary and Prachatice (project number 36),

¹³⁸ Bayerisches Staatsministerium der Finanzen, für Landesentwicklung und Heimat / Ministerium für Regionale Entwicklung der Tschechischen Republik (2015), pp.10-14

¹³⁹ EDM (2014), EDM (2015)

supported by a Bavarian-sided modernisation of the "Passau-Waldkirchen-Freyung" railway line (Ilztalbahn) towards the Czech border (project number 28);

 Introduction of a three-country leisure transport service around the tourism attractions "Dreisessel" and "Plöckenstein" (project number 38).

Many of these project proposals are indeed fully appropriate for addressing the currently observed shortcomings in the Euregio.

However, the CPS stakeholder workshop organised at Freyung in June 2018 showed that context conditions of Bavarian counties located directly at the Czech or Austrian borders of the Euregio are highly diverse. As a provisional workshop result, it was noted that coordination between Bavarian counties has to be further improved before a more comprehensive future development of cross-border public local transport can be addressed together with the Czech and Austrian neighbours.

5.2.2 Bavaria-internal coordination needs and county-level CPS potentials

This section focuses on those Bavarian counties that are located directly at the various border sections within the Euregio (i.e. Cham, Regen, Freyung-Grafenau, Passau, county-level city of Passau, Rottal-Inn). Representatives from all these counties also participated at the CPS stakeholder workshop organised at Freyung in June 2018.

Workshop discussions showed that a considerable degree of diversity exits between the counties with respect to both their respective policies on public local transport as well as their current situation and future prospects for cross-border public local transport. The following analysis examines both dimensions based on information gathered at the CPS stakeholder workshop and through further background research.

Coordination for overcoming "dividing lines" in the field of public local transport

There are a number of "dividing lines" in the field of public local transport that have to be overcome by stronger Bavaria-internal coordination among all policy relevant actors.

These dividing lines emerge from the complex interplay between two basic influencing factors:

- (1) the legally prescribed division of responsibilities for planning, organising and ensuring public local transport by road and rail (see: box 5-3);
- (2) the county-specific policy approaches, which are conceived in dependence of structural context conditions and geographical location within the Euregio.

Public local passenger transport (öffentlicher Personennahverkehr ÖPNV) is a task of general interest and divided into "general public local passenger transport" (allgemeiner öffentlicher Personennahverkehr) and "local rail passenger transport" (Schienenpersonennahverkehr SPNV).

On a voluntary basis, Bavarian counties (Kreise) and county-level cities (Kreisfreie Städte) may plan, organise and ensure **general public local passenger transport**. They carry out these voluntary tasks as part of their own responsibilities and within the limits of their capabilities, while using for their implementation third parties, especially private transport companies. The aim is to provide their resident population with "sufficient transport services", on which criteria can be defined in a plan on public local transport (i.e. not mandatory). For ensuring and improving general public local passenger transport, counties and county-level cities shall motivate transport companies in their area to cooperate at the extent necessary. This can be done by cooperation on tariffs, the establishment of a transport association or the establishment of a transport and tariff association. Counties and county-level cities are responsible for securing the financial basis of general public local passenger transport. They can, on demand, also obtain different forms of financial from the Bavarian State Government.

The local offer of counties and/or county-level cities has to be aligned to **local rail passenger transport by trains (Schienenpersonennahverkehr, SPNV)**, which constitutes the basic offer of public local transport in territories distant to major rail traffic axes as well as in larger urban agglomerations (here together with urban express trains or subways). The planning, organisation and securing of SPNV is a task of the Bavarian State Government (i.e. ministry responsible for transport), which uses for this purpose the Bavarian Railway Company (BEG). The BEG acts according on the government's specifications and fulfils the role as service ordering party.

(1) A first dividing line exists with respect to the way how counties are delivering sufficient transport services for their resident population. The five Bavarian counties and the county-level city of Passau are each planning, organising and ensuring general public local passenger transport within their respective territories as a voluntary task of self-government. As responsibilities of each county end at its administrative boundaries, also very different perceptions and policy approaches exist in the field of local public transport.

In the more densely populated county of Passau and the county-level city of Passau as well as in the less densely populated county of Rottal-Inn¹⁴¹, local passenger transport policies are geared to satisfying in a balanced way the needs emerging from a commuting to the place of work and educational institutions as well as other general mobility demands of the resident population. This is done by offering diversified, dense and also well-integrated line services, which are complemented by leisure-oriented and other innovative public local passenger offers (e.g. night express buses, call buses, autonomously driving bus etc.).

Public transport is much more difficult in the predominantly rural and less densely populated counties covering the border-close Bavarian Forest area and the core zone of the Bavarian Forest National Park (i.e. Cham, Regen and Freyung-Grafenau)¹⁴². The scattered rural

¹⁴⁰ Bayerische Staatskanzlei (2018b)

¹⁴¹ Population density as of 31.12.2016: county of Passau (123 inhabitants/km2), county-level city of Passau (734 inhabitants/km2), county of Rottal-Inn (93 inhabitants/km2). See: DESTATIS (2018)

¹⁴² Population density as of 31.12.2016: county of Cham (83 inhabitants/km2), county of Regen (79 inhabitants/km2), county of Freyung-Grafenau (79 inhabitants/km2). See: DESTATIS (2018)

settlement structure often means that few people need to be transported on relatively long and complex bus lines with many stops. The quality of local public transport supply is mostly based on the demand for school transport, which means that time schedules of local public transport are strongly tailored to this need. Many regular bus lines are operated often only on week-days and during the school periods. On weekends and during school holidays, however, local public transport offers are rather scarce and show spatial or temporal operating gaps. Moreover, the consequences of demographic change are leading to declining numbers of pupils, which increasingly causes loss of revenue for bus transport companies. A good example illustrating the manyfold problems in rural areas is the county of Freyung-Grafenau, where these aspects have recently led to a fairly confusing situation in local public bus transport that the county administration still attempts to improve 143.

Moreover, rural counties often lack of sufficient financial resources and all decisions on establishing additional public local passenger transport services are strongly influenced by the economic viability of a service. This applies to local services for tourism or leisure and in particular to cross-border local public transport services, which are indeed of public interest but not belonging to the core task of the counties. These services are therefore only ordered if they are to a certain extent financially self-supporting and not requiring disproportionally high public contributions or compensation payments. Nevertheless, seasonal domestic and cross-border transport services for tourism have become a relatively important part in the local public transport offer and can also be used by the local resident population (see below).

(2) Another dividing line exists with respect to the existence of "transport associations" (Verkehrsgemeinschaften), which aim at creating a county-wide area with a uniform ticket range and the right to change between all lines of the participating transport operators.

In 3 counties, transport associations were established by transport operators that also integrate the existing local rail passenger transport by trains. These are the **transport association Rottal-Inn** (Verkehrsgemeinschaft Rottal-Inn, VGRI), the **transport association county Passau** (Verkehrsgemeinschaft Landkreis Passau, VLP)¹⁴⁴ and the **transport association county Cham** (Verkehrsgemeinschaft Landkreis Cham, VLC). While the VLP and VGRI areas offer honeycomb-based fares (Wabentarife), the VLC area is divided into concentric circles and fares result from the number of circles travelled through.

No county-level transport associations exist in the counties of Regen and Freyung-Grafenau. In both counties, various in-house fares of different transport operators providing

¹⁴³ The county's public local transport offer by bus was for a long time essentially determined by how much a transport operator can earn on each line. After growing problems with school transport and other local public transport, the county administration decided in 2016 to develop and implement a coherent "line bundling concept" for significantly improving the problematic situation. See on this: Landratsamt Freyung-Grafenau (2017), Da Hog'n (2016), Da Hog'n (2017c)

¹⁴⁴ In terms of tariffs, the city bus network of the county-level city of Passau is not integrated into the VLP. On ground of special arrangements, however, the VLP issues temporary connection tickets entitling to travel on the city bus network.

regular or seasonal public local passenger services are applied. Moreover, also tariffs of transport associations existing in neighbouring counties apply on specific "in-coming" or "outgoing" lines¹⁴⁵. In the wider framework of the "Bavarian Forest National Park Traffic Concept" (Nationalpark-Verkehrskonzept Bayerischer Wald), however, the counties of Regen and Freyung-Grafenau are working closely together in the areas of tariff offers and passenger information.

The core element is the "Bayerwald Ticket Tariff Association" (Bayerwald Ticket Tarifverbund)¹⁴⁶, which includes a larger number of regular rail and bus lines or special services in the counties of Regen and Freyung-Grafenau, both during the summer and winter seasons (see: maps 5-3 and 5-4).

The association offers reduced fares through the "Bayerwald-Ticket" that can be used by local residents and tourists. The so called "Guest Service Environment Ticket" (GUTi) can be used seasonal tourists for a free-ofcharge use of public transport services. Both tickets are also valid on some lines leading into the neighbouring county of Cham (i.e. Lam, Furth im Wald, Bad Kötzingen).

Map 5–3 Rail und bus lines covered by the "Bayerwald Ticket" and "GUTi" (line network, summer 2017)



Map 5–4 Rail und bus lines covered by the "Bayerwald Ticket" and "GUTi" (line-network, winter 2017)



Source: Bayerwald-Ticket (2018b)

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¹⁴⁵ In the county of Regen, tariffs of the transport associations in the counties of Cham (VLC), Deggendorf (VLD) and Straubing-Bogen (VLS) are applied. In the county of Freyung-Grafenau, tariffs of the transport associations in the counties of Passau (VLP) and Deggendorf (VLD) are applied. See on this: Landratsamt Freyung-Grafenau (2018), Arberland Verkehr (2018)

¹⁴⁶ The "Bayerwald-Ticket Tariff Association" currently includes the following transport companies and / or transport services: the railway companies "Waldbahn", "Oberpfalzbahn" and "Ilztalbahn" (between Freyung and Röhrnbach), the "Igel buses" operated operated by RBO-Regionalbus Ostbayern in the Bavarian Forest National Park, the call buses in the county of Regen, the ski buses and line buses operated by RBO-Regionalbus Ostbayern as well as the local bus companies Lambürger and Wenzl. Revenues from the Bayerwald-Ticket (and GUTi) flow into a "common pot" and are then, depending on the vehicle kilometers traveled, divided among the involved companies.

An interesting development is currently taking place in the county of Freyung-Grafenau, which has in 2017 and 2018 engaged into closer cooperation with the neighbouring county of Passau and the county-level city of Passau. The declared goal of this cooperation is the establishment of common public transport and fare area (gemeinsamer Nahverkehrsraum) in a medium-term perspective¹⁴⁷.

(3) A final dividing line exists with respect to an effective integration of local rail passenger transport by trains (SPNV) and general public local transport by bus. This integration is not only needed for ensuring a smooth transition between the different modes of public transport, but also helps rural areas with only secondary railway lines in designing a coherent and attractive public transport offer for the benefit of their local resident population.

In half of the counties, regional and local rail passenger transport by trains is strongly integrated with general public local transport by bus through the transport associations existing Cham, Passau, and Rottal-Inn (see above). Also the regularly operated Bavarian regional railway "Waldbahn" with its important connecting function to the Czech border (line WBA1) shows a faily good level of integration with other road-based local public transport offers. Aside to the in-house tariff of DB Regio and the DB Bayern-Ticket, also the regional associative "Bayerwald-Ticket" as well as the GUTi free-of charge transportation offer for tourists can be used.

Nevertheless, it appeared from the CPS workshop discussions that integration of all regular local public transport services (bus, rail) and of the related information systems still has to be improved on the Bavarian side of the Euregio. This should involve a definition of "public transport corridors" across counties for better interlinking the respective public transport offers especially in rural parts along the Czech border. Cross-county planning is also needed because of persistent problems in financing public transport and due to the fact that bus line concessions are awarded on a long-term basis (10 years). Key determinants for such a planning approach are the existing regular rail passenger transport services, where, however, a lack of willingness to stronger integrate is currently observed.

Integration with local bus services is also well-developped in case of the seasonal leisure railway "Ilztalbahn" operating on the line Passau-Freyung (see: section 4.2.4). Yet, the central weak point is that rail passenger transport is so far only running on weekends / bank holidays, which substantially hinders achieving a stronger level of integration with the rest of the regular local offer. Since 2015 already, a very controversial discussion is going on about the trains' daily operation as regular rail passenger service. However, the required realisation of a "trial operation" (Probebetrieb) was rejected in 2016 by the competent autority in Munich (i.e. Bavarian Railway Company). The main reason for this was and still is local disagreement of over what effects a regular train operation could have on other regular bus services (esp. school bus traffic, other local line bus services). These effects can indeed arise from

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¹⁴⁷ Passauer Neue Presse (2018b)

provisions in the Bavarian Law on Public Transport, which give local rail passenger transport precedence over road-bound line services and require the latter to be aligned accordingly (e.g. switch from pupils transport by bus to transport by train if lines are operating more or less in parallel).

Cross-border public transport at the northwestern part of the Euregio border

Within the Euregio, the northwestern part of the Bavarian-Czech border is covered by the county of Cham that, in administrative terms, forms part of the government district of Upper Palatinate (Regierungsbezirk Oberpfalz). In county of Cham, there are several possibilities for crossing the border by means of public transport¹⁴⁸.

A regular direct cross-border railway service exists on the line 875 "Schwandorf-Cham-Furth im Wald-Domažlice" (i.e. mostly by "alex trains", punctually by "Oberpfalzbahn") and a regular cross-border bus service is operated by Regionalbus Ostbayern (RBO) on the line VLC 519 / RBO 6074 "Cham-Furth im Wald-Taus-Pilsen".

Further to this, there are three seasonally operated cross-border buslines for tourism. The hiking bus lines VLC 520/115 "Furth im Wald-Domazlice-Waldmünchen-Cerchov" and VLC 618 / RBO 6065 "Drachselsried-Arnbruck-Eck-Arrach-Lam-Nyrsko-Hamry" are operated from May to October in the summer tourism season. The "alternating" seasonal cross-border bus line RBO 6081 "Zelezna Ruda-Bayerisch Eisenstein-Arber Bergbahn", which is operated as "ski bus" between end of December and early March and as "summer bus" between mid May to end of September.

Cross-border bus lines were established 10 years ago with considerable efforts undertaken for their approval. These bus services have achieved much in the past, but some of them are currently not performing optimally because of low levels of usage. At present, these bus lines are financed annually on a "trilateral" basis (i.e. Free State of Bavaria EUR 20,000; county of Cham: EUR 35,000; Czech side: CZ Kr 600,000). On the Czech side, however, financial cuts are made by 1/3 due to the low levels of utilisation. This has led to a reduction of service frequency. However, the introduction of a new cross-border bus service for commuters is currently investigated because around 4,000 Czech residents drive daily with private cars to their place of work in the county of Cham.

Within the county, the "transport association Cham" (VLC) ensures close coordination of the local public transport network (bus and rail) with a uniform tariff system. VLC tariffs apply only to journeys within the VLC-area and to the bus and rail companies that are members of the transport association. VLC fares do not apply to lines leading outside the county of Cham, which also affects the existing regular cross-border bus line (i.e. VLC 519 / RBO 6074) as well as the seasonal cross-border tourism lines (i.e. hiking buses VLC 520/115 and VLC 618 / RBO 6065; ski and summer bus line RBO 6081).

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¹⁴⁸ Landkreis Cham (2018a), Landkreis Cham (2018b), Interview (county of Cham)

Since 2015, however, the county of Cham offers a so-called "Šumava-Dayticket" (Šumava-Tagesticket) that allows exploring the Bavarian Forest and Šumava areas in one day. This ticket is valid throughout the VLC tariff zone (county of Cham), on the cross-border hiking bus line VLC 618 / RBO 6065 (Hamry-Drachselsried), the cross-border summer bus line 6081 (Železná Ruda-Arber Bergbahn) and on the ČD railway line in the section from Nýrsko to Železná Ruda. Some attempts are currently made for extending this offer to the entire public transport network in neighbouring Pilsen Region. Overall, however, cross-border tariff integration between both sides is still at a very early stage.

Cross-border public transport at the central-eastern part of the Euregio border

This segment of the Euregio border is covered by the neighbouring counties of Regen and Freyung-Grafenau, which both form part of the administrative district of Lower Bavaria (Regierungsbezirk Niederbayern). Most northern parts of the county of Regen and a larger part in the northwest of the county Freyung-Grafenau belong to the Bavarian Forest National Park (BFNP), which is directly adjacent to the Czech Šumava National Park (ŠNP). The county of Freyung-Grafenau borders the Czech and Upper Austrian parts of the Euregio in the east, forming together the so-called "three countries corner" (Dreiländereck).

In the county of Regen¹⁴⁹, there are three possibilities for crossing the border by means of public transport: the first one is indirect and can be realised by using a Bavarian regional train (Waldbahn) until the border, while the other two are direct and can be realised by using a regular cross-border express bus service and a seasonal cross-border hiking bus.

A negative impact on the quality of cross-border service provision arose from the ending of the former direct rail connection on the Bavarian "Waldbahn" line WBA 1 "Plattling-Bayerisch Eisenstein-Špičák" in December 2014 (see above). Passengers from the Bavarian or Czech sides now have to change trains at the joint border railway station Bayerisch Eisenstein / Železná Ruda-Alžbětín, with journey continuation on the respective other side often requiring longer waiting periods (up to 50 min). Therefore, in order to be attractive, timetables and service frequency have to be better coordinated between the Bavarian "Waldbahn" and the Czech national railways (ČD).

Since 2015, however, the ČD recognises the Bayerwald ticket and GUTi on the section from the joint border railway station until Špičàk (i.e. on all trains of the ČD line 183 "Plzeň-Železná Ruda-Alžbětín"). This further increases the attractiveness of both tickets, as tourists from Bavaria do not have to purchase an additional ticket for this route section. Nevertheless, further improvements are still needed with regard to a mutual recognition of tickets in order to create a truly cross-border rail fare area.

The city of Regen is also served by the regular cross-border express bus operated by the Czech provider PROBO BUS on the line 7710 "Zelezna Ruda-Bayerisch Eisenstein-Regen-

¹⁴⁹ Arberland Verkehr (2018), Landkreis Regen (2018), Bayerwald Ticket (2018e)

Tittling-Passau". Due to a lack of demand, however, the frequency of this bus service was recently reduced for ensuring its economic operation. During the summer tourism season from May to October, also a daily cross-border hiking bus is operated on the line VLC 618 / RBO 6065 "Drachselsried-Arnbruck-Eck-Arrach-Lam-Nyrsko-Hamry" that starts in county of Regen.

Potentials for improving cross-border connections also exist in the area of the Bavarian Forest National Park (BFNP)¹⁵⁰. In the BFNP and also in the neighbouring Czech Šumava National Park (ŠNP), several domestic seasonal public transport services are operated that can be used by visitors and local residents: in the BFNP these are the regional trains of the "Waldbahn" and the network of "Igelbuses", while in the ŠNP this is the network of the so-called "Green Buses" (Zelené autobusy).

During the summer season, especially the two bus systems offer regular connections to attractive hiking destinations within the respective national parks and are therefore an environment-friendly alternative to the use of private cars. Some bus lines in the two national park also run to the two border crossings at "Bučina / Finstrau" and "Železná Ruda / Bayerisch-Eisenstein" (see: map 5-5).

This in principle enables a change to the local bus system on the other side. Yet, interchanges are still optimal at the border crossing Železná Ruda / Bayerisch-Eisenstein. On the Šumava green bus line leading from Horská Kvilda to the border at Bučina / Finster, however, a new stop was created only about 100 meters away from the stop of the "Finsterau-Igelbus" at the border crossing point. This clearly shortens the former 800m walking distance to Bučina.



Snapshot taken from source map elaborated by: Správa Národního parku Šumava (2018)

¹⁵⁰ Správa Národního parku Šumava (2018), Tourismusverband Ostbayern (2018), Bayerwald Ticket (2018c), Bayerwald Ticket (2018d), Regionalbus Ostbayern (2018b)

Nevertheless, both national park bus systems still have their proper ticketing systems. On the Czec side, the green buses are operated by the regional public road transportation company "ČSAD bus Plzeň a.s." and fares are applied according to the domestic standard tariffs. On the Bavarian side, the Igelbuses are operated by "Regional Bus Ostbayern" (RBO), which applies special in-house fares with reductions. Moreover, Igelbuses are included into the specific ticket systems that form part of the Bavarian Forest National Park public transport concept (i.e. Bayerwald Ticket, GUTi).

Also the timetables of both bus systems are not yet really coordinated, but information on possible line interchanges is now on both sides included into the most recent versions of the timetables. Last but not least, also further efforts on a bilingual edition of information material for potential users as well as on a comprehensive cross-border mapping of the line systems could be made ¹⁵¹.

In the county of Freyung-Grafenau¹⁵², there are two direct cross-border bus services between the Bavarian and Czech sides. They are only operated on weekends and bank holidays during the summer tourism season. The first service is the "Ilztalbahn connecting bus", which offers forth and back rides on the line Waldkirchen-Haidmühle-Nové Údolí. The second service is the very recently started "GW Bus", which offers forth and back rides from the railway station in Nové Údolí to the Bavarian border municipality Haidmühle and onwards to a popular site for hiking excursions on the Bavarian side (i.e. Dreisesselberg / Třístoličník). Both seasonal cross-border services are also integrated into fare and ticket systems established on the Bavarian side (i.e. Bayerwald Ticket, GUTi) and in cooperation with the Czech neighbours ("Donau-Moldau-Verbund" and "Donau-Moldau-Ticket", see: section 4.2.4)

Nevertheless, a direct cross-border connection does not exist on all week days within or outside the summer season because regular domestic services end in Haidmühle (i.e. bus line RBO 6122 "Waldkirchen-Haidmühle") and Nové Údolí (i.e. GW Train Regio line "Číčenice-Nové Údolí"). The distance between both end points still has to be covered on foot (about 1,500 m), wherefore a closure of this gap is desired and needed. For ensuring this on a long-term basis, however, a continuation of the regular bus service from Haidmühle to Nové Údolí would have to be included into the terms of reference for a new concession award process on the Bavarian side, which is expected to be published after September 2018.

From this gap-closure can also emerge further potentials for cross-border public local transport if the seasonal leisure train "Ilztalbahn" operated on the railway line Passau-Freyung is developed into a daily regular local rail passenger service on the Bavarian side. However, this is likely to happen only in a medium-term perspective because the "conversion" has to

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¹⁵¹ A cross-border map with a complete line overview exists only in the Czech information brochure for 2018, but not in the currently available line mapping of RBO (see map-snapshot above)

¹⁵² Ilztalbahn (2018), GW Train Regio (2018), Hochficht Bergbahnen GmbH (2018)

comply with a number of formal conditions within Bavaria that are still far from being met (see: section 4.2.6).

Another potential is the development of seasonal cross-border public local transport offers for Bavarian and Czech winter tourists in the "three countries corner", which would give easier access to the attractive ski resort "Hochficht" located in the Upper Austrian Mühlviertel. Currently, this destination can only be reached by a seasonal public transport service in Upper Austria. The "Snow & Fun Express" train goes from the railway station Linz/Urfar to the station at Aigen-Schlägl, where a free of charge ski bus transfers tourists to the "Hochficht Centre" and the ski lift valley-station.

Finally, and depending on passenger potentials, also an additional cross-border bus connection could be established with relatively little effort on the road leading from Freyung and Philipsreuth to Lenora and Volary. This service would provide a further direct access to the railway network in the South Bohemian Region.

Cross-border public transport at the southern part of the Euregio border

This segment of the Euregio border includes the counties of Rottal-Inn and Passau as well as the county-level city of Passau (kreisfreie Stadt), which all have a border only with the Land of Upper Austria. Here, nearly all existing cross-border public transport connections lead to destinations in Upper Austria that are located outside the area covered by the Euregio.

The county of Passau and the county-level city of Passau are connected to the Czech side of the Euregio by the express bus service operated by PROBO BUS on the line 7710 "Zelezna Ruda-Bayerisch Eisenstein-Regen-Tittling-Passau", on which fare conditions of the Passau transport association VLP apply until the county border. Overall, however, the need for an expansion of regular cross-border public transport services to the Czech Republic is considered to be rather low, whereas potentials in the opposite direction are seen.

Also several cross-border connections to different "Euregio-external" destinations in Upper Austrian exist, but these are considered negligible in terms of strategic importance. From Passau there are regular direct railway connections to Linz (ÖBB regional trains or "REX" trains") and also several direct bus connections to the municipalities of Schärding, Münzkirchen and Engelhartszell. Two of these lines form part of the "Upper Austrian Transport Association" (Oberösterreichischer Verkehrsverbund, OÖVV)¹⁵³.

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i.e. cross-border bus line operated by the Regionalbus Oberbayern (RBO 6106 "Passau-Neuhaus-Schärding-Hartkirchen-Pocking-Rotthalmünster-Simbach a. Inn"); cross-border bus line operated by Glas Günther GmbH at Schärding (OÖVV line 816 "Münzkirchen-Schardenberg-Freinberg-Haibach-Passau"); cross-border bus line operated by the postbus branch of the Austrian Railways (OÖVV line 673 "Passau-Esternberg-Engelhartszell"). For further details on these lines, see: VLP (2018), SCOTTY (2018), OÖVV (2018), Wikipedia (2018j).

In the county of Rottal-Inn¹⁵⁴, two direct cross-border connections exit between the neighbouring cities of Simbach in Bavaria and Braunau in Upper Austria that are separated by the river Inn. The "Innkreisbahn" of the Austrian Railways ÖBB runs every hour from Simbach via Braunau and Ried im Innkreis to its Upper Austrian terminus Neumarkt-Kallham. Furthermore, a direct cross-border bus service is operated by the postbus branch of the Austrian Railways (ÖBB Postbus) on the line 899/Kfl 2342 "Braunau/Inn-Simbach". This line forms part of the "Upper Austrian Transport Association" OÖVV and connects the respective bus stations as well as a school in Simbach. However, the development of better connections between Simbach and Braunau is still a concern.

A common point of interest of the counties of Passau and Rottal-Inn is the improvement of cross-border connections from Lower Austria to the so-called "Lower Bavarian Spa Triangle" (Niederbayerisches Bäderdreieck), which refers to the three spa resorts located in the county of Passau (Bad Füssing, Bad Griesbach) and the county of Rottal-Inn (Bad Birnbach). An option for this could be the introduction of a new cross-border bus line from the Obernberg-Altheim train station in Upper Austria that gives access to the Austrian railway network.

Overview on current CPS and future development potentials

The overview on the following page summarises the current situation for access to cross-border public local transport services and also future development potentials for CPS in the Bavarian counties of the Euregio directly located at a border with the Czech Republic and/or Upper Austria (see: table 5-1).

Main features of the current situation can be summarised as follows. (1) The predominant mode of cross-border public local transport within the Euregio is the road (i.e. regular or seasonal bus services), as only one direct cross-border local rail passenger service exists in the county of Cham. (2) The county of Cham has also the highest number of cross-border public local transport services (rail / road) leading to destinations in the Czech part of the Euregio. The figures are lowest in the southern counties along the border with Upper Austria (i.e. Regen, Passau, county-level city of Passau), where CPS also exist but are mainly leading to destinations outside the Euregio area. (3) There are only 3 regular cross-border public local transport services by bus or rail that are operated throughout the year. This is due to the fact that the express bus line 7710 "Zelezna Ruda-Bayerisch Eisenstein-Regen-Tittling-Passau" serves at the the counties of Regen and the county of Passau / the county-level city of Passau. (4) Seasonally operated CPS are higher in number especially in the Bavarian counties along the Czech border. However, this strongly reduces cross-border connectivity by means of public local transport especially during winter time. Particularly concerned by this effect is the county of Freyung-Grafenau.

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¹⁵⁴ ÖBB Postbus (2018), VGRI (2018)

Future development potentials for CPS are strongest in the counties of Regen and Freyung-Grafenau. Relevant activities can involve both, the optimisation of existing CPS and domestic services with cross-border relevance (i.e. regular trains; BFNP "Igelbuses" and ŠNP "Green Buses"; Ilztalbahn) as well as the establishment of new cross-border bus services. Clear potentials for optimisation and the establishment of a new service also exist in the county of Cham. The other counties do not have Euregio-relevant potentials, but development possibilities do exist with other parts of Upper Austria not forming part of the Euregio.

Table 5–1 Current access to cross-border services (rail / bus) and future development potentials

| County | Access to CPS in 2018 | | | Future development potentials |
|-------------------------|-----------------------|-------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Regular services | Seasonal services | Total services | (optimisation of existing CPS and/or establishment of new CPS) |
| Cham | 2 | 3 | 5 | New bus line for cross-border commuters. |
| | (bus & rail) | (bus) | (bus & rail) | Stonger tariff integration on cross-border regional railway connections (alex trains, Oberpfalzbahn, ČD). |
| Regen | 1 (bus) | 1 (bus) | 2 (bus) | Mutual recognition of rail tickets and better coordination of timetables / service frequence (Waldbahn, ČD). |
| | | | | BFNP "Igelbuses" & ŠNP "Green Buses": Better connection at the the border crossing Železná Ruda / Bayerisch-Eisenstein. |
| | | | | BFNP "Igelbuses" & ŠNP "Green Buses": Better coordination of timetables and ticket integration for cross-border round trips (also valid for Freyung-Grafenau). |
| Freyung- Grafenau | 0 | 2 (bus) | 2 (bus) | Regular cross-border bus connection Haidmühle-Nové Údolí (short-term), in connection with a regular operation of the "Ilztalbahn" (medium-term). Seasonal cross-border bus services for Bavarian (and Czech) winter tourists to the "Hochficht" ski area in Upper Austria. |
| | | | | New bus line Freyung-Philipsreuth-Lenora-Volary. |
| Passau & city of Passau | 1 (bus) | 0 | 1 (bus) (*) | Potentials for regular cross-border public transport services CZ→ Passau area. (***) |
| Rottal-Inn | 0 | 0 | 0 (**) | (***) |

^(*) plus 4 services with destinations in Upper Austria located outside the Euregio area.

^(**) plus 2 services with destinations in Upper Austria located outside the Euregio area.

^(***) A new cross-border bus service connecting the "Lower Bavarian Spa Triangle" to railway in Upper Austria and better bus connections between the cities of Simbach and Braunau.

5.2.3 Potential next steps in the Euregio

The overall situation described above shows that developing future domestic and cross-border public local transport is in fact a very complex task: common goals must first be defined within Bavaria as well as with the partners on the Czech and Upper Austrian sides of the Euregio, which then have to be implemented step by step.

The Euregio should therefore initiate and animate a comprehensive and ongoing mediumterm work process on the future development of cross-border public local transport, which is structured in a way that it can fulfill a "hinge function" between the different perspectives for action:

- (1) Coordination and consensus-building between the Bavarian counties for identifying shared problems and common potentials to be addressed jointly on the Bavarian side.
- (2) Joint development and implementation of concrete projects with the Czech and Upper Austrian neighbours to further improve the current situation along different parts of the Euregio border.
- (3) Joint actions that are addressed to higher-level government authorities in Bavaria, the Czech Republic and Upper Austria for further raising awareness about the problems and needs of cross-border public local transport in the Euregio.

A good framework for launching this work process is the recently started Euregio initiative "Future Region 2020+" and its sub-part "Bavarian Forest-Šumava 2020+", which foresees the development and implementation of pilot projects also in the fields of cross-border mobility and public transport services (see: section 3.3.1).

Within this context it is also advised to exchange experience with other borders where solutions for cross-border public local transport in predominantly rural areas are already established. Of particular relevance is the cross-border public local transport system "EgroNet", established between parts of the three Germany Länder of Saxony, Thuringia and Bavaria and of the Czech Karlovy Vary Region (Karlovarský kraj) that are belonging to the Euregio Egrensis.

All stages of this work process have to take into account the complex interplay between various effects emerging from the multidimensional nature of borders. Information on relevant influencing factors is summarised in a "nexus model" presented following section 5.3.

5.3 Assessment of future CPS development in general

The Euregio-wide introductory analysis (see: section 3.1) and especially the assessment of future development perspectives for CPSP in the fields of helicopter emergency medical care and public local transport show that there are still considerable potentials for optimising existing CPS and for developing new CPS in the trilateral cooperation area.

Nevertheless, especially the joint preparatory work processes for developing new CPS will most likely last for several years and must therefore be thoroughly prepared and continuously supported by relevant stakeholders in the Euregio.

This is particularly relevant in case of a new trilateral helicopter emergency medical service: actors from the three countries, coming in addition from different public organisation / bodies and non-profit making organisations, have to jointly identify shared needs and also agree on practical modalities for adressing these. But also new cross-border public local transport services (e.g. bus lines, tariff integration / harmonisation) will require time, mostly because substantial consensus-building is needed for reaching joint decisions having substantial financial implications for the concerned stakeholders (i.e. local authorities, transport operators etc.).

Yet, neither of these work processes process can "escape" from the general and policy-specific context in which it will take place. Stakeholders in the Euregio therefore have to consider a variety of influencing factors that can act as incentives or hurdles for a development of new CPS.

This can be illustrated by a nexus diagram for the Euregio (see: figure 5-1), which shows at one glance the pathway for developing and implementing future CPS as well as the most relevant factors that are likely to affect related policy actions. The nexus diagram shows the cross-border context for action in form of a web-like picture, because a linear presentation (e.g. by a logical framework) is barely able capturing the complexity of cross-border policy making. This context for a development of new CPS consists of inhibiting factors (closure effects) and enhancing factors (opening effects) that emerge simultaneously from the multidimensional reality of any border (i.e. political, physical-geographical, economic, socio-cultural border dimensions). These border effects usually cause problems / potentials in the present-time and also challenges / opportunities in the future. However, their complex interplay also causes further "reinforcement effects" or "alleviation effects" having additional influence on a future development of CPS. Presented this way, the nexus diagram becomes a "mind-map" that can help establishing a better and shared understanding among policy-relevant actors who will prepare decision-making on future CPS.

¹⁵⁵ For example: Two related problems and / or challenges causing together an even stronger closure effect. Two related potentials and / or opportunities causing together an even stronger opening effect.

¹⁵⁶ For example: A problem or challenge reducing the opening effect of a potential or opportunity. A potential or opportunity reducing the closure effect of a problem or challenge.

"Closure effects" causing problems / challenges for CPSP **Border dimensions** "Opening effects" creating potentials / opportunities for CPSP PLT is complicated / hindered by the diversity of concepts / PLT is facilitated by homogeneous EU-legal framework for cross-border public transport by positions on the Bavarian side of the Euregio (lack of coordination). road and rail (Regulation EC No 1370/2007). HEMS lacks adequate legal framework conditions (i.e. no provisions in the Bavarian-Czech / Upper Austrian-Czech regional implementing agreements). PLT is enhanced by improved coordination between counties on the Bavarian side of the Euregio (common position). Cross-border context for action HEMS is hampered **HEMS** is complicated / hindered by differences between national / technical standards (EU standards regional systems (institutional / for helicopter operations in air administrative context) and rescue services; communication types of providers (military, non-Mountain range with few systems of dispatch centres). Bavarian Forest and Šumava national profit making organisation). border crossing possibilities by parks and related tourism create potentials road or rail allows focussing intensifying PLT (interlinking the development of PLT. "Igelbuses" and "Green Buses"). Mountain range with isolated settlements, few hospitals / doctors and HEMS is hindered by different cost limited border crossing possibilities by road creates potentials for HEMS. reimbursement systems on the three sides of PLT is hindered by lacking the border (i.e. public health insurance resources funds). Bavarian counties or Czech PLT is enhanced by stronger commuting of Czech workers to regional authorities. the Bavarian side (new bus service) Existing language barrier creates additional cost for PLT (i.e. bilingual passenger information) PLT is further intensified due to **HEMS** is facilitated by mutual trust and already existing cooperation on long standing cooperation between **HEMS** is hindered by existing fares (Donau-Moldau-Ticket). ÖAMTC-CFV and ADAC Air Rescue. language barrier (e.g. difficult **HEMS** is hindered by unwillingness to communication between extend domestic helicopter emergency PLP and HEMS between Bavaria and Upper Austria is facilitated by absence of a linguistic barrier dispatch centres, involved services to the other side of the border. (i.e. understanding of technical & legal aspects, communication among relevant dispatch centres). ground rescue teams). (+) Economically balanced development (++) Socially balanced development (++) Sustainable development of the EuRegio of the EuRegio of the EuRegio

Current and future CPSP in the fields of public local transport (PLT) and helicopter emergency medical service (HEMS)

6 Lessons learned, recommendations and transferability

This concluding chapter summarises the main lessons learned from the in-depth analysis of existing CPS (see: chapter 4) and the study of future perspectives for CPS (see: chapter 5) in the Euregio. It also highlights aspects that are of interest for general policy recommendations on CPS and also help stimulating a cross-regional knowledge transfer.

A well-developed theme-specific legal framework for CPS

Within the Euregio, a larger number of bilateral theme-specific interstate agreements were concluded between the involved countries. Some exist already since a while (e.g. police cooperation; mutual assistance in the event of disasters or serious accidents), while others were concluded more recently with a view to put already existing but largely informal cooperation on a more solid legal ground (i.e. rescue services; fire-fighting services).

Nevertheless, our assessment of future perspectives for a trilateral helicopter emergency medical service suggests that there might be "legal gaps" in the regional agreements on cross-border cooperation of rescue services signed between Bavaria and 3 Czech Regions as well as between Upper Austria and South Bohemia Region), as they only address aspects relating to ground-based rescue.

The multidimensional reality of borders influences CPSP very differently

Within the Euregio, shared needs or joint development potentials emerging from the physical-geographical dimension of the border were and still are the most important reasons for establishing CPS. Related needs and potentials are addressed by more than half of the existing CPS: they concern policy fields such as public local transport, nature protection, emergency medical care (e.g. cross-border helicopter service) or civil protection and disaster management (i.e. joint forest fire fighting and flood prevention).

Many adverse effects for CPSP that can emerge from the political dimension of the border are already "bridged" by a larger number interstate agreements (see above). Moreover, several CPS also address other aspects that are related to the political border dimension (i.e. police and customs cooperation, public security and civil protection). Despite of these positive aspects, differences of legal systems and administrative / organisational aspects will continue to exist and can therefore also affect current and future CPSP.

The economic dimension of the border creates a clear north-south dividing line within the Euregio. Regional economies of the Bavarian and Upper Austrian parts are clearly more developed and perform better than those of the neighbouring Czech regions. However, shared needs or joint development potentials emerging from this divide are until now only addressed by a few CPS (i.e. EURES advisors for cross-border commuters, information service for patients on cross-border health care).

Also the socio-cultural dimension of the border creates a clear north-south divide, mainly in form of a linguistic barrier for daily communication. Related needs and potentials are not yet

addressed by CPS, although relevant cross-border activities are implemented in the Euregio with support from Interreg.

Variable implications of EU legislation for CPSP

A larger number of existing CPS in the Euregio are affected by secondary EU legislation in the related policy areas (i.e. public passenger transport, cross-border labour market, healthcare, helicopter emergency medical services, nature protection, river basin and flood management). For the two examined CPS policy areas, however, implications are variable.

Secondary EU legislation on public local passenger transport has established a coherent set of rules, which governs the entire sector throughout the EU and also facilitates a standardised provision of cross-border line services (bus / rail) in the Euregio. In case of the integrated cross-border rail / bus service for tourists, however, EU legislation on public passenger transport by rail and road (Regulation EC 1370/2007) is relevant only to a very limited extent.

Helicopter emergency medical services are generally regulated by secondary EU legislation on civil aviation (Regulation EC 216/2008; Commission Regulation EU 1178/2011) and also affected by standardisation measures of the European Aviation Safety Agency (EASA). In case of a potential future trilateral cross-border helicopter emergency medical service, EASA standards might restrict a deployment of the currently used Czech army helicopters on the German and Austrian sides.

CPSP in the Euregio takes place on grounds of a low level of institutionalisation

Most CPS in the Euregio show a low level of institutionalisation, as permanent cross-border structures or joint bodies with an own legal personality were not set up. There are indeed the joint centres for German-Czech and German-Austrian police and/or customs cooperation in Petrovice (CZ) / Schwandorf (DE) and Passau (DE), but both are merely "network coordination units" without an own legal personality.

In case of the two in-depth analysed CPS, this lack of cross-border institutionalisation can probably be explained by the fact that private organisations are the primary service providers. They are acting jointly either through a bilateral partnership of non-profit making associations (Christophorus Europa 3) or through a multilateral cooperation involving profit-making, non-profit making and other private or public organisations (integrated cross-border rail / bus service for tourists).

Be this as it may, for both examined CPS it can be observed that "internal" cooperation between the respective provider organisations is relatively pragmatic, although the CPS are organised and delivered quite differently: the cross-border rail / bus service for tourists with its Donau-Moldau fare association corresponds to a "networking model", whereas the cross-border helicopter emergency medical service Christophorus Europa 3 has a hybrid status that can be located in-between a "shared service centre model" and an "integration model".

Nevertheless, ongoing service provision is working very smoothly since many years under the analysed CPS. Much of this good functioning is due to the particularly strong commitment of individuals and of the involved non-profit making organisations¹⁵⁷. This commitment can be observed not only for the setting up of these services (i.e. mobilisation of financial and human resources etc.), but also for their ongoing operation and the maintenance of related infrastructures or equipment.

CPS with a pronounced infrastructural and technical component can be challenging

The analysed CPS on public local transport and air-based emergency medical rescue are illustrating well the challenges that actors have to face when CPSP involves as production base a pronounced infrastructural and technical component.

For these services to become operational, either existing railway infrastructures had to be rehabilitated / modernised (i.e. tracks, signals, traffic operation systems) or a take-off / landing facility had to be established (i.e. hangar, helicopter maintenance equipment), with the latter being also further improved through the subsequent construction of a new heliport. This required in both cases decisions with considerable financial implications, which either were taken separately on each side of the border (i.e. integrated cross-border rail / bus service for tourism) or jointly between the different contributing partners (Christophorus Europa 3).

An important cost factor is also the daily operation of services, the ongoing maintenance of related infrastructures / equipment as well as the provision of additional "facilitator services" (i.e. IIztalbahn connecting buses within Bavaria and to the Czech side). However, the practical solutions found for addressing these aspects are in both cases very different:

- own "in-kind contribution" through high personal involvement of volunteers, fundraising at external donors and permanent or ad-hoc public support financing from county-level authorities (i.e. integrated cross-border rail / bus service for tourism);
- a joint management / staffing of the heliport station and the helicopter team as well as
 a sharing of operational cost between the involved non-profit service provider
 organisations (Christophorus Europa 3).

Due to the complexity of CPS involving physical infrastructures and/or expensive technical equipment, it should therefore always be considered that the time needed for consensus building during their set-up phase can often be quite substantial.

Type and number of actors involved in CPS is varying greatly

This observation seems at first glance relatively simple. However, both aspects are important influence factors for the set-up phase and the subsequent daily operation of CPS as well as

¹⁵⁷ i.e. ADAC Air Rescue; ÖAMTC Christophorus Flight Rescue Association; "association for a promotion of the Ilztalbahn".

for any further development of CPSP. This can be illustrated by the CPS examined in the Euregio.

The cross-border helicopter emergency medical service Christophorus Europa 3 involves only a few core actors. Thanks to high-level political backing in Bavaria and Upper Austria, the experienced and also relatively similar provider organisations (i.e. non-profit making ADAC and ÖAMTC air rescue branches) could very quickly achieve agreement on common operational modalities and also start operating the service within 3 weeks. In the daily operation of the CPS, however, Christophorus Europa 3 has to cooperate closely with various other relevant actors (e.g. dispatch centres, ground-based rescue services, and hospitals).

In case of the integrated cross-border rail / bus service for tourism, on the contrary, a much broader range of actors with different legal status and responsibilities or operational and financial capacities is needed for ensuring its actual operation¹⁵⁸. This has not only led to a rather lengthy and complicated set-up phase, but also involves substantial coordination efforts for the ongoing operation because a change of context conditions for an individual service component can very quickly put into question the entire integrated service.

The type and number of actors also play an important role for the further development of CPS within the Euregio. With regard to cross-border public transport, it became clear that different context conditions and policy positions of the individual Bavarian counties generate a high "Bavaria-internal coordination need" that has to be addressed in parallel to a further development of cross-border activities. For the possible establishment of a trilateral helicopter emergency medical service, differences between the potential service providers (i.e. Czech armed forces, non-profit private operators in Bavaria and Upper Austria) can involve some difficulties and may also explain why substantial progress was not yet made with setting up this service.

Potentials for a transfer of CPS approaches

Transfer potentials indeed exist, but context always matters when it comes to "exporting" a described solution that is adopted in the Euregio. The in-depth analysis of CPSP in the two addressed policy fields showed that the interplay of different context factors is very complex in the trilateral Euregio. This also strongly influences the relevance of the developed CPS approaches for other cross-border areas.

A very good example with a fairly wide transfer potential is the pragmatic model adopted for organising and delivering the truly cross-border helicopter emergency medical service "Christophorus Europa 3". Main features of this model are the joint management and staffing of the service, a needs-oriented and complementary use of joint flight equipment, a sharing of operational cost between the involved air rescue organisations, a sound cross-border

¹⁵⁸ i.e. the private operators of the Ilztalbahn, the Ilztalbahn non-profit association, the cooperation partners for ensuring Bavaria-internal and also cross-border fare integration with the Czech side, the Bavarian county financing the essential Bavarian-sided and cross-border linkage element (i.e. "Ilztalbahn connecting buses").

coordination of helicopter emergency operations, and a balanced distribution of emergency patients across existing hospitals on both sides of the border. This model can be relevant for areas where two parallel but non-cooperating helicopter services exist, but also for areas where no helicopter service does yet exist but would be needed.

Also the integrated cross-border rail / bus service for tourists has interesting transfer potentials, although it is strongly tailored to the specific needs in the concerned areas. A first aspect is the highly pragmatic and "tool-box like" service provision approach, which can relatively easily be adapted to other circumstances. Also the solution found for a "cross-border gap closure" and the cooperative approach to fare integration, both within Bavaria and with the Czech side, are aspects that can be considered by others to increase service quality and the number of users.

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List of interviews

EDERER, Thomas (county of Cham, local public transport division), 31.07.2918, short phone interview on exact labelling / nature of cross-border public transport lines

SCHEMPF, Prof. Dr. Thomas (managing director of IIztalbahn GmbH), 20.06.2018, open interview on the development of the IIztalbahn and the Donau-Moldau fare association.

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