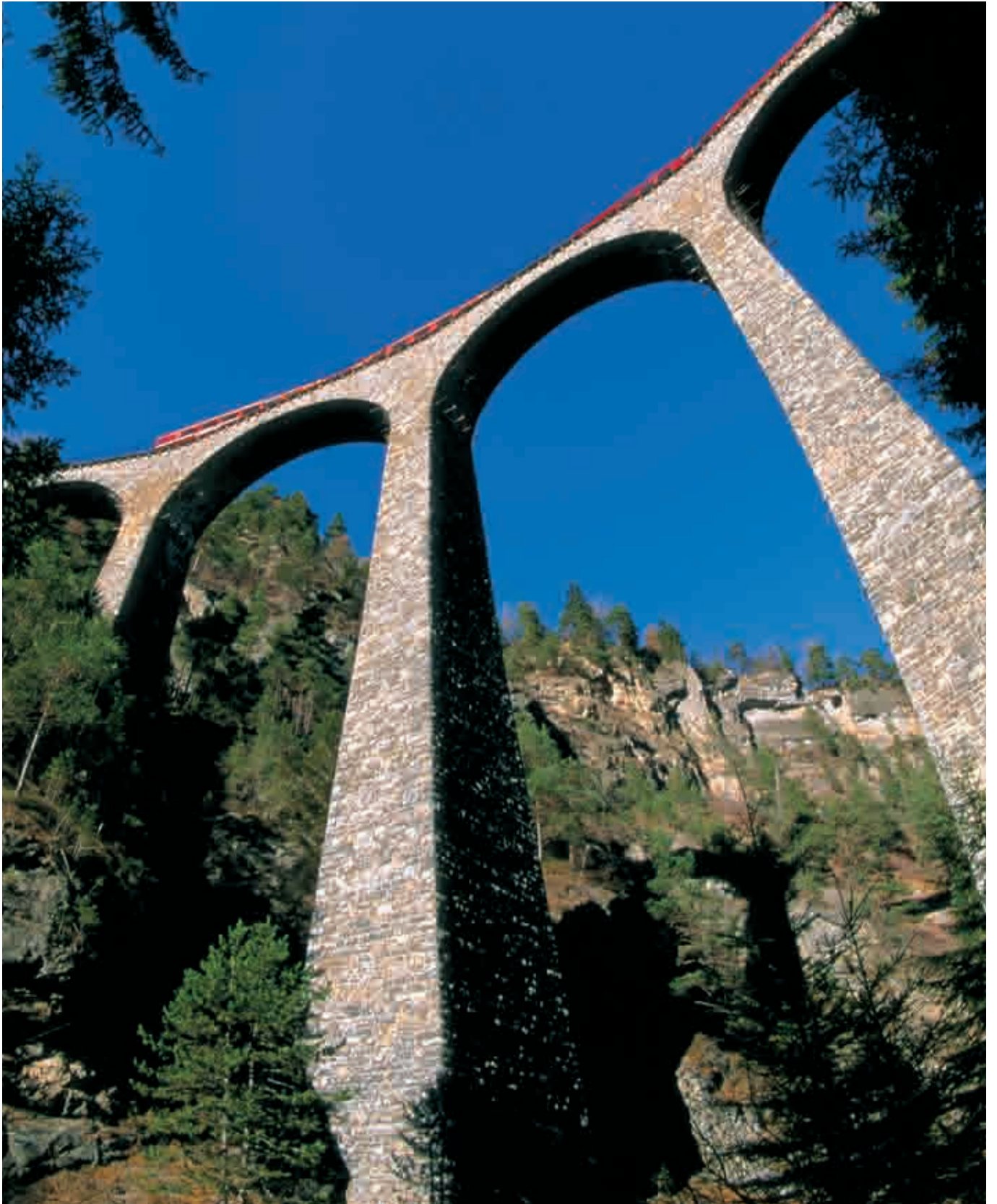


# Executive Summary

## Candidature UNESCO World Heritage

### Rhaetian Railway in the Albula/Bernina Cultural Landscape





## State Party

Switzerland and Italy

## State, Province or Region

Switzerland

Canton Graubünden

Regions: Heizenberg/Domleschg, Mittelbünden (Central Graubünden), Upper Engadin and Poschiavo

Italy

Region Lombardy

Province Sondrio

## Name of Property

Rhaetian Railway in the Albula / Bernina Cultural Landscape

## Geographical coordinates to the nearest second

The perimeter of the property comprises the stretch of railway line from Thusis to Tirano together with its buildings and installations. St. Moritz marks the approximate centre of the property.

Name	Community(ies)	State(s)	Area in ha (Core zone)	Coordinates
Thusis – Tirano	20 Communities (cf. chap. 1.e)	Switzerland / Italy	152.42	<b>A (Thusis Exit Signal)</b> N 46° 41' 50'' E 9° 26' 28''
				<b>B (St. Moritz Station)</b> N 46° 29' 54'' E 9° 50' 47''
				<b>C (Tirano Station)</b> N 46° 12' 57'' E 10° 10' 00''

## A4 size map of the nominated property, showing boundaries and buffer zone



Sources:  
 Basic map: PK 200'000 swisstopo, Wabern  
 Geo-data: Amt für Raumentwicklung Graubünden  
 Design: Süsskind, SGD, Chur  
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### Core zone

— Core zone

### Buffer zone

■ Primary buffer zone  
 ■ Buffer zone in the 'near' area  
 ■ Buffer zone in the 'distant' area ("backdrop")  
 — Horizon line

### Georeferenced points

- **A** Thusis Exit Signal:  
N 46° 41' 50" E 9° 26' 28"
- **B** St. Moritz Station:  
N 46° 29' 54" E 9° 50' 47"
- **C** Tirano Station:  
N 46° 12' 57" E 10° 10' 00"



## Textual description of the boundary(ies) of the nominated property

### Core zone

The Albula and Bernina railway lines running from Thusis via St. Moritz to Tirano represent the “red thread” that defines the cultural landscape; the overall length is some 130 km. The railway line with its structures, installations and systems is defined as the core zone.

The perimeter of the nominated area touches 19 communities on Swiss territory: Thusis, Sils i.D., Muttien, Vaz/Obervaz, Alvaschein, Tiefencastel, Brienz/Brinzauls, Surava, Alvanneu, Schmitten, Filisur, Bergün/Bravuogn, Bever, Samedan, Celerina/Schlarigna, Pontresina, St. Moritz, Poschiavo and Brusio. The perimeter takes in only one community in Italy, namely Tirano.

### Buffer zone

In places, the cultural landscape can be surveyed for miles and miles from the railway line; the traveller can overlook entire valleys. The distant silhouettes of mountain ranges and peaks are an important element of experiencing the cultural asset in the sense of a “background” or “backdrop”. As specified by Article 104 of the *Operational Guidelines*, the buffer zone comprises the immediate environs of the property together with the landscape (in this case, as far as the horizon).

The buffer zone is an important element of the property as regards the overall visualisation and the general functional relationships. The most wide-ranging view a traveller can experience in Switzerland is at Bever: a 27 km vista covering a large part of the Engadin and extending as far as the Swiss National Park. Many villages within this viewing distance cannot be seen due to the topographic features or their sheer remoteness, so that changes in the cultural landscape cannot be observed from the railway. In the immediate proximity of the core zones, some settlements and landscape elements can also be seen in considerable detail from the property. Changes to these are more noticeable.

Under these circumstances, the buffer zone was broken down in an initial step into a ‘near’ and a ‘distant’ area (buffer area or “backdrop”). The division into two areas resolves the problems of differentiation between “open” tributary valleys and extensive vistas, and the cultural landscape in the immediate vicinity of the core zone with its clearly visible details of settlement and elements of the cultural landscape. In a second step, in the near zone, a distinction is made between areas with a high quality of cultural history or landscape and those of lesser value. This demarcation is further reflected in the differentiated

provisions for the protection of the buffer zone (cf. chapters 5.b and 5.c). The three categories in this zone are:

- > a *primary buffer zone* (in the near area)
- > a *buffer zone in the 'near' area*
- > a *buffer zone in the 'distant' area*

The *primary buffer zone* (in the near area) comprises important and valuable cultural assets, places of interest (of national importance) and landscape elements. The demarcation of the buffer zone in the distant area is determined either by natural features (e.g. the tree line) or by topographical criteria (contours, slopes etc.); where this is not possible or expedient, the boundaries are marked by infrastructure features (such as roads or power lines). The resulting “ribbon” is, for the most part, 500 – 1000 m wide, although this width is reduced in narrow valleys (120 – 150 m). It may, however, extend to some 5 km where there is an exceptional vista of high alpine areas and glacial valleys.

The *'near' buffer zone* essentially includes parts of settlement areas that are close to the core zone and lack the exceptional qualities of the primary buffer zone. These are recently built residential areas together with small commercial and industrial zones and their immediate surroundings.

The *buffer zone in the 'distant' area* (“back-drop”) includes the entire remaining vista of the cultural landscape visible from the train as far as and including the horizon. In view of the way in which Veltlin valley opens up and the character of the railway changes in Tirano (where it runs on the road and is no longer a mountain railway with imposing scenery), the definition of a buffer zone in the distance is omitted for the approximately 3 km stretch on Italian territory.

## Justification Statement of Outstanding Universal Value

In exceptional fashion, the “Rhaetian Railway in the Albula/Bernina Cultural Landscape” is an example as unique as it is typical of a mountain railway integrated into an Alpine landscape. The Albula line, with its spectacular alignment and original engineering structures that represent a most impressive technical achievement, is an outstanding ‘product’ of the golden age of high altitude railways. From the outset, it was recognised as a transport route most harmoniously embedded in the landscape. The Bernina railway, as an electric surface railway at exceptionally high altitude and with extreme upgrades, is a unique example of the application of a technology that was highly innovative about 1900, but would soon become widespread. What is more, the development of its alignment was planned with a view to the best possible integration into the surrounding landscape. The Albula/Bernina line, as a railway that traverses an entire mountain range, links three distinct linguistic and cultural regions. To this day, it remains in full service, transporting both passengers and goods.

The combination of two different kinds of mountain railway – on the one hand with crest tunnels (and the equally technically demanding

spiral tunnels) and on the other a surface electric railway crossing a high altitude mountain pass in the open – make the Albula/Bernina line simultaneously unique and typical, an outstanding example of a railway in the mountains. Its major role in the history of railway construction and the quality of the achievement established the basis for the worldwide recognition it has enjoyed ever since it was first brought into service. It is essentially different from the mountain railways already figuring on the World Heritage List: the Albula line, as a masterpiece, constructed with lavish planning and excellent craftsmanship, represents the archetype of the mountain railway from the golden age of rail. With its many stone viaducts of varying heights and lengths, the complex, sometimes overlaid structures of the helical tunnels and the long crest tunnel, the meticulous and architecturally valuable design of the elevated structures, and finally the actual operation itself, it displays all the characteristics of a mainline railway, even though it was constructed with a narrow gauge. The Bernina line, on the other hand, an electric surface railway at a high altitude and with the extreme gradient of 70‰, opened up new technical territory and introduced a new type of railway which would

soon become widespread. The Albula/Bernina section represents a special type of “high-altitude mountain railway”: over a distance of some 130 km and with a maximum difference in altitude (1,550 to 1,700 m) it crosses a mountain range, from one side to the other. While the “Semmeringbahn” UNESCO World Heritage Site marks the beginning of accessing mountainous areas by rail, the Albula/Bernina line represents the golden age of mountain railway construction: it was only with the development of mechanical tunnelling machines in the second half of the 19th century that long tunnel constructions and special types of tunnel (such as spiral tunnels) could be erected within acceptable time and cost constraints. The construction of alpine mountain railways came to an end with the First World War. Since then, no new trans-alpine railways have been completed, while spiral tunnels no longer feature in contemporary rail construction.

The construction of the Albula/Bernina line was rendered possible by an exceptionally creative exploitation of technical, economic and socio-cultural influences. An important goal which was promoted by the construction of the railway, was to preserve the diverse cul-

tural and linguistic areas within the canton of Graubünden. In view of the topography, the Albula line was laid out as a narrow-gauge railway, but its design and operation followed the pattern of a mainline (standard gauge) railway. The aim was to facilitate access to the Engadin, in both summer and winter. Thus the railway contributed to the development of a new branch of the economy, namely winter (sports) tourism. Indeed tourism was to become the main industry in the region. The railway line was integrated subtly into the diversified cultural landscape and continues to enrich it today. The Bernina line was a product of the hydroelectric projects, built on Italian initiative, to generate power for the Lombard metropolis of Milan, and exploited the capital released by these projects. Moreover, the concerns of tourism were taken into account by aligning the track to ensure an exceptional ‘mountain experience’ from the comfort of the train. To satisfy these special conditions, the latest technology was used to construct the high Alpine railway as an electrical surface operation. The “Rhaetian Railway in the Albula/Bernina Cultural Landscape” is an exceptional example of a masterpiece created by a unique and diversified interplay between economics, politics, engineering, culture and nature.



Even at the time the railway was built, the outstanding quality of the landscape to be traversed was recognised and deemed worthy of preservation. Emphasis was put on harmonious integration of the railway infrastructure, while at the same time the alignment – particularly in the case of the Bernina line – was planned, as far as possible, to present the landscape to the traveller in all its magnificence as a landscape experience. The structurally created measures to enhance perception of the landscape during a rail journey together with the railway landscaping realised during construction are unique in the early 20th century. The experience of the exceptional views is an inherent element of the quality of the property. The “Rhaetian Railway in the Albula/Bernina Cultural Landscape” displays emblematically this synthesis of nature, culture and technology which has exerted a powerful influence on how the Alps have been perceived over the years: a vignette of cultural history.

## Criteria under which inscription is proposed (and justification for inscription under these criteria)

The property is nominated according to Criteria i, ii and iv pursuant to Article 77 of the *Operational Guidelines for the Implementation of the World Heritage Convention* on the following grounds:

### Criterion i

The “Rhaetian Railway in the Albula/Bernina Cultural Landscape” is an exceptional masterpiece of creative genius generated by the interaction of aesthetic standards, engineering acumen, technical innovation and perfect craftsmanship in a *Gesamtkunstwerk*. It is the outcome of the outstanding cooperation of wide skills with a highly innovative approach and handling of difficulties.

### Criterion ii

The “Rhaetian Railway in the Albula/Bernina Cultural Landscape” is a pioneering work of modern engineering and architectural structures that exhibits the important interchange of human values on innovative technical developments in the early 20th century. It is an excellent example of a harmonious relationship between human interaction and natural beauty, exemplary of the perception of the Alps as a sublime experience of the relationship between nature, culture and technology.

### Criterion iv

The “Rhaetian Railway in the Albula/Bernina Cultural Landscape” is an outstanding example of a technological ensemble which illustrates the zenith of the golden age of mountain railways. It has also exerted a powerful influence on how the Alps have been perceived over the years.

## **Name and contact information of official local institution/agency**

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