# **SKI-ABILITY:** OPERATIONAL INDICATIONS FOR INCLUSIVE SKI RESORTS IN THE ALPINE AREA

Alberto Arenghi, Mariachiara Bonetti, Fausto Cesena

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Attilio Fontana, *President of Regione Lombardia*
Federica Picchi, *Undersecretary for Sport e Giovani of Regione Lombardia*

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## Ski-Ability: Preface

*"Sport has the power to change the world. It has the power to inspire, the power to unite people in a way that little else does. Sport can create hope where once there was only despair".*

With these words Nelson Mandela, speaking in 2000 at the opening ceremony of the Laureus World Sports Awards in Monte Carlo, referred to the value of sport as an instrument capable of generating change, cohesion and hope. A vision going beyond the competitive dimension, recognizing that sport plays a central role in the construction of relationships, opportunities and paths of inclusion in communities for those experiencing conditions of fragility or disability.

The publication of the "**Operational indications for inclusive ski resorts in the alpine area**" by the **Ski-Ability Project**, promoted and co-financed by the **Lombardy Regional Authority** within the sphere of the **Arge Alp** international Working Community with the aim of making ski resorts accessible to people with disabilities, falls cohesively and concretely within this framework of values. It offers evidence of how sports activities, if adequately supported and designed, can contribute meaningfully to improvement in the quality of the life of people with disabilities, favouring their physical, psychological and relational wellbeing, as well as challenging the forms of isolation and marginalization that are still present in our society.

The data, good practices and reflections gathered together in this publication tell the story of a path consisting of commitment, expertise and collaboration between institutions, third sector bodies, sports operators and citizens. This is a collective endeavour combining public policies and social commitment, demonstrating that inclusion is not an abstract principle but a shared responsibility requiring vision, continuity and networking capacities.

As a **Regional Authority**, we consider it fundamental to support and showcase initiatives that promote equal opportunities of access to sport with the aim of removing physical, cultural and social barriers. Investing in sport for people with disabilities means investing in a fairer, more aware and more cohesive community.

For the **Lombardy Regional Authority** the value of this project has taken on even more significance in the context of the preparations for the **Winter Olympic and Paralympic Games Milano Cortina 2026**. The Games in fact offer a historic opportunity to secure a **legacy** that is capable of positively affecting the social, cultural and infrastructural fabric of the **Region**. A **legacy** that translates into enduring inclusion policies able to guarantee equal opportunities of access to sport, participation and full recognition of the rights of people with disabilities.

With this spirit, the **Lombardy Regional Authority** is determined to renew its commitment to support projects that place sport at the service of inclusion, participation and social development, reaffirming its commitment to building a future in which nobody is excluded, and in which the mountains, sport and international cooperation are truly instruments of hope and progress for all, in the awareness that responsibility and inclusion are the foundations on which to build a fairer, more participatory society.

*President of  Regione Lombaria*
*Attilio Fontana*

Sport is not only passion, and not even only a measurable economic value. Sport is a crucial and essential component of the social fabric of our community and our region, because it imparts the values of loyalty, commitment and sense of belonging. "*Sport welcomes, produces joy, passion, hope. It is respect for others. It challenges its own limits: it is freedom to progress. Sport is peaceful encounter: it is evidence of brotherhood and sisterhood in the loyalty of competition with others*" - as President of the Republic Sergio Mattarella remembered during the Opening Ceremony of the 145th session of the International Olympic Committee (IOC) - "*The Olympic values of loyalty, inclusion and fraternity are values that the Italian Republic has made its own ever since its foundation eighty years ago*".

It is precisely upon these values that Lombardy, within the sphere of the Arge Alp Community, has been extremely keen to propose and coordinate a research project oriented towards the definition of a model for improving social inclusion. Ski-Ability has come about from this: from the awareness that facilitating sporting practices, including winter sports, for people with disabilities is a crucial element of the social and cultural progress of the world of sport.

As ever, the Regional Authority's aim is to be ready to take on new challenges in an evolving society, and Ski-Ability and the guidelines for accessibility - or perhaps it is better to call them "inclusion guidelines" - are one of those commitments leading up to the Winter Olympic and Paralympic Games Milano Cortina 2026 that we were keen to take on and complete, to also be left as a *legacy*, a concrete and lasting inheritance to the benefit of all. A commitment that is lasting over time, sustainable and enduring, to the benefit of the entire Alpine community and all the citizens who populate it.

*Undersecretary for Sport e Giovani*
*of Regione Lombardia*
*Federica Picchi*

Kaunertaler Gletscher. One of the snow-covered ski-slopes (Kaunertal_2025_HR)

# Ski-Ability: Introduction

This study investigates the subject of the accessibility and usability of ski areas within the sphere of the Ski-Ability project promoted by the Lombardy Regional Authority, in the context of the Arge Alp Working Community and co-financed by the same body.

The study has been structured starting with the analysis of how accessibility is recognized and handled in traditional construction and urban spheres at international level (Universal Design), to then be developed and adapted to suit skiing contexts (Chapter 1). The on-site investigations in the pilot areas (Chapter 2) selected by the regions involved in the Arge Alp Working Community have provided a meaningful overview of the operating conditions to which the various areas are subject, in terms of accessibility and usability (in some cases already consolidated, in others in the development phase), highlighting differences referable to the morphological characteristics of the sites and the degree of experience accrued over time.
The analysis conducted has made it possible, through a *flow-chain*, to define a methodology capable of supporting administrators in the integrated reading of the overall situation, the variables in play and the relative interdependences, with the aim of orienting systemic – and not episodic – interventions intended to allow an aware increase in the level of accessibility (Chapter 3).

On the pages that follow we intend to offer a number of insights of a cultural nature regarding the importance of the accessibility and usability of locations, objects and services in the defining of an inclusive, fair and cohesive society.

The improvement of the accessibility and usability of a location, an item or a service is, generally, a transversal operation involving various actors. It can be compared to a chain, the resistance of which is given by that of each of the rings of which it is

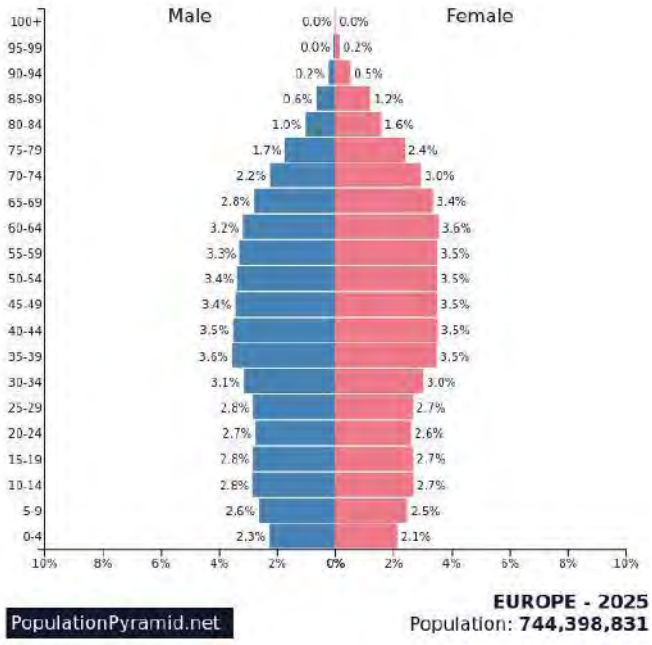
composed: if even one of these is weak, the whole chain will break. In a (snow-covered) mountain environment, improvement is possible if all the actors that manage and represent the territory contribute actively to the attainment of the result through shared programmes, actions and objectives, in terms of methods and timescales. In particular, it is not only a matter of physically affecting the territory, but, more properly, of managing it using different methods from the traditional ones.
Over time, the designing of locations, items and services will always need further adjustments in order to attempt to correct errors and to gradually include the largest possible number of people. Two important reflections can be drawn from this evidence:

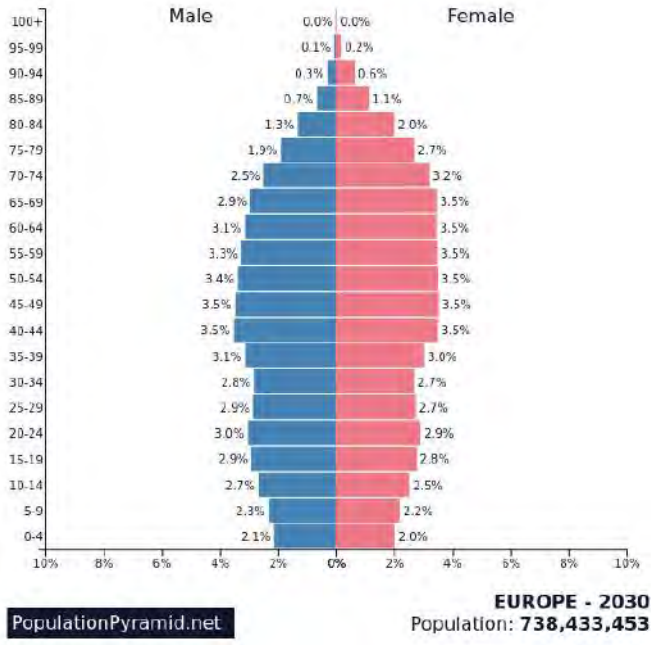
1. The accessibility of a location, an item or a service is not a fixed and definitive product, a result achieved once and for all, but rather a dynamic concept subject to constant checks on the basis of the evolution of knowledge, sensitivity, social transformations and technological innovations.

2. The evaluation of the accessibility of a location, item or service cannot be expressed with a simple "yes" or a "no", but rather as a level of satisfaction on a scale of values, which we may define as "degree of accessibility". This evaluation, which is related to various groups of users and to given contextual factors, is temporary and "uncertain", with a wide margin of error, depending on a number of components and, first and foremost, on the accuracy with which these groups are defined (Arenghi et al., 2016).

If on one hand the approach according to the principles of Universal Design satisfies the requirements of the largest possible number of users, in snow-covered mountain contexts a more personalized and contextual approach is needed in order to satisfy the connotation of usability.

In general it is necessary to reason holistically and critically, identifying what the advantages of an accessible and usable mountain territory are (in other words, asking "why"), to then act within a general framework that is well defined in a programmed way (in other words, asking "how").



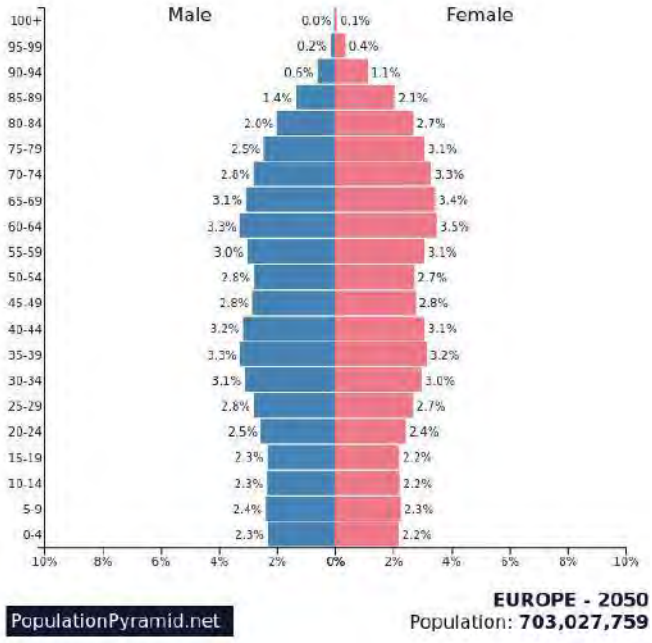




Figure 1.1 - Demographic projections in Europe, to date, to 2030 and 2050.

According to the Council of the European Union, in Europe, around 101 million people (27% of the population) have some form of disability. In the world, around 650 million people present a form of disability (15% of the population).

These numbers, especially in Europe, reflect the aging population, which means it is necessary to consider whether investing in more and more accessible environments, including mountain ones, means satisfying the needs of a slice of the population that is far from negligible and is constantly increasing, as is proven by demographic projections (Figure 1.1).
Alongside this, making mountain environments accessible and usable means above all offering advantages to the local population, also avoiding the phenomenon of abandonment, which is becoming increasingly accentuated.
To conduct evaluations and engage in actions, it is fundamental to involve figures with roles of administrative responsibility who are capable of having a transversal vision of the entire resort. It is not only a matter of knowing the individual services, but of knowing how to interpret the concepts of accessibility and usability in all their complexity, including infrastructures, processes and people, in order to provide a complete and realistic overview.

It is therefore necessary to work in the area to ensure that it is not only the operators of the ski facilities that are involved, but also all those who, for various reasons, are involved in hospitality within it (accommodation facilities, restaurants and bars, transport, personal care services, cultural sites and other associated services), without neglecting the involvement of the local population in the creation of cohesive, inclusive and fair societies.

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## Ski-Ability: The accessibility and usability of ski resorts

### Premise

The mountains have always been among the most evocative and at the same time most complex spaces for the human presence. A fragile, inhospitable and powerful context, they impose a direct relationship with nature, mediated by unique morphological, climatic and cultural conditions. In recent decades, the increasing interest in wellbeing deriving from contact with nature has prompted the scientific world, the institutions and civil society to consider the fair and sustainable usability of natural environments for all people, including those with disabilities.
From this perspective, snow-covered mountain areas represent symbolic locations in which to analyze the relationship between accessibility, inclusion and rights of citizenship.
Inequalities in access to nature – as shown by the literature within the sphere of *public health and disability studies* – are the result of the interaction between individual limitations and environmental factors (Bowen, Lynch, 2017; Hartig et al. 2014).
The mountains, with their extreme conditions and limited infrastructures, accentuate these inequalities, making necessary a reflection that transcends the concept of physical barriers to embrace a broader, cultural and design-based vision of accessibility.
The Ski-Ability project, promoted by the Arge Alp Working Community and led by the Lombardy Regional Authority, falls within this perspective: not merely a technical intervention, but a laboratory for experimenting with inclusive practices in alpine skiing contexts. Mountains are frequently idealized as spaces of liberty, contemplation and adventure, but at the same time they still remain to a large extent among the most excluding locations for people with disabilities.

In the context of inclusive planning, the mountains can represent a testing ground for the most advanced integration strategies, overcoming the challenges imposed by topography, isolation and harsh seasonal weather conditions. Despite the emphasis placed on sustainable development and ecotourism in recent decades, the prevalent models of alpine use and enjoyment continue to privilege a standardized use, often neglecting the requirements of those possessing differing mobility, sensory or cognitive abilities. It is from this that there derives the need for a paradigm shift, oriented not only towards compensation for but also towards the valuing of human diversity as a design resource. This approach also finds confirmation in the more recent global policies, such as Agenda 2030 for Sustainable Development (particularly goals 3, 10, 11 and 17), which references the need to 'leave no one behind', also in the use and enjoyment of natural and cultural assets.

**1. Accessibility and usability: conceptual bases**

The distinction between accessibility and usability is fundamental for the inclusive designing of snow-covered environments. Accessibility concerns the objective characteristics of a space and is an objective response to regulatory standards – such as the presence of routes without architectural barriers – while usability concerns the actual possibility of the individual to use that space in relation to their own capacities and expectations (Iwarsson, Ståhl 2003). In the mountain context, a path or a technically accessible refuge may prove not to be usable by a person with impaired mobility if an adequate route or transportation service, on-site assistance or comprehensible information are not envisaged.

This distinction is significant in the light of the International Classification of Functioning, Disability and Health (ICF), according to which disability is the result of the interaction between personal and environmental factors (WHO, 2001; Day et al., 2012). The relational approach is contrasted with purely medical or technical-engineering-related views of disability, proposing a model in which the context takes on an active role in the defining of the possibilities of participation.

*«Accessibility is a relative concept, implying that accessibility problems should be expressed as a person-environment relationship. In other words, accessibility is the encounter between the person's or group's functional capacity and the design and demands of the physical environment. Accessibility refers to compliance with official norms and standards, thus being mainly objective in nature.*

*Whenever using the concept of accessibility, statements must be based upon valid and reliable information gathered in three steps:*

*(1) The personal component (description of functional capacity in the individual or group at target, based on knowledge on human functioning).*

*(2) The environmental component (description of barriers in the environment at target, in relation to the norms and standards available).*

*(3) An analysis juxtaposing the personal component and the environmental component (description of accessibility problems).*

*The concept of usability implies that a person should be able to use, i.e. to move around, be in and use, the environment on equal terms with other citizens. Accessibility is a necessary precondition for usability, implying that information on the person-environment encounter is imperative. However, usability is not only based on compliance with official norms and standards; it is mainly subjective in nature, taking into account user evaluations and subjective expressions of the degree of usability. Usability is a measure of effectiveness, efficiency, and satisfaction. Most important, there is a third component distinguishing usability from accessibility, viz. the activity component.*

*Whenever using the concept of usability, statements must be based upon valid and reliable information gathered in four steps:*

*(1) The personal component (description of functional capacity in the individual or group at target, based on knowledge on human functioning).*

*(2) The environmental component (description of barriers in the environment at target, in relation to the norms and standards available, but also based on user evaluation).*

*(3) The activity component (description of activities to be performed by the individual or group at target, in the given environment).*

*(4) An analysis integrating the personal, environmental, and activity components (description of usability problems, i.e. description of the extent to which human needs, based on individual or group preferences, can be fulfilled in terms of activity performance in the environment at target)». (Iwarsson, Ståhl 2003).*

This implies that each project-based intervention must start not only from the removal of physical obstacles, but also from the analysis of cultural, informational, organizational and social factors.

**2. Universal Design and inclusive planning**

Universal Design (UD), introduced and theorized by Ronald Mace in the 1990s, has represented a design approach intended to include the broadest variety of users right from the initial planning phases. As an alternative to post-project adaptation according to individual disabilities, UD proposes environmental, architectural and communicative solutions that are usable without the need for modifications, improving the overall quality of use (Story et al., 1998).

In the context of snow-covered environments, UD must be interpreted in a flexible and strategic way, being adapted to suit the morphological and climatic specificities of the territory. Design in the high mountains requires solutions that cannot always follow standardized rules, but must consider seasonality, meteorological instability and the need for specialist equipment. In this regard, inclusive planning represents a dialogue with participatory design, recognizing users' central role in the identification of needs and the most effective solutions (Da Silva, Almendra, 2007).

Experiences such as the 'Alto Adige for all' project, in which the accessibility of tourism structures and nature trails is assessed by experts with disabilities, highlight the effectiveness of integrated approaches. These approaches include technical-objective, but also experience-based and communicative evaluation, providing transparent tools for aware choices by users. Inclusive planning is not limited to the technical level but is extended to an ethical, cultural and relational dimension, where access to the mountains represents the expression of a right to nature and active citizenship. The concept of universal design has also been progressively recognized in the regulatory sphere: the U.N. Convention on the Rights of Persons with Disabilities (UN, 2006)

expressly references article 2 of the Universal Declaration (UD), and the European Accessibility Act (EU, 2019) on the accessibility of products and services gives formal structure to its role in the sectors of tourism, transport and communication.

**3. Accessibility and winter sports**

Sports, particularly those practised in natural environments, play a significant role in the promotion of psychophysical wellbeing, socialization and inclusion. Nevertheless, access to winter sports such as skiing, cross-country skiing or snowboarding, is often limited by barriers, whether physical, information-based, economic or cultural. People with disabilities encounter obstacles associated with the shortage of usable infrastructures, the lack of trained personnel, the absence of accessible information and a public image of winter sports that is still prevalently normotypical.
The good practices developed in Canada and the USA (by organizations such as the Canadian Adaptive Snowsports Association) demonstrate that effective sporting inclusion requires the presence of a complex ecosystem: specialist equipment, qualified instructors, access to transport, hospitality services, network associations and institutional support. It is therefore necessary to move beyond the idea of accessibility as a precise or merely material condition, and to adopt a systemic perspective in which the entire context – logistic, relational, territorial – is rendered functional to participation.
The international guidelines, such as those produced by the Active Living Alliance for Canadians with a Disability (2020), underline co-planning and the involvement of users with disabilities in decision-making processes, as well as the need for coordination between public, private and third-sector bodies. At European level, the European Pillar of Social Rights (Hacker, 2023) also expressly recognizes the right of all people, including those with disabilities, to participate in cultural and recreational activities, contributing to full social inclusion. Numerous international studies (Mannella et al. 2023; Abraham et al. 2010) highlight the positive impact of open-air sport on mental health and on relational wellbeing, particularly for people with disabilities

who live in congested urban contexts without accessible green spaces. Nevertheless, although activities on snow are often associated with experiences of individual freedom and enhancement, their accessibility is limited to a minority of users with significant personal, economic and social resources.
The obstacles not only concern sporting structures, but also the overall sequence of experiences: from the arrival in the mountain location to orientation on-site, to access to the accommodation, to post-activity social involvement. An overall rethinking of the concept of winter hospitality is therefore necessary, in order to consider the entirety of the adaptive tourism experience. The concept of 'accessibility chain' may prove useful in analyzing and intervening in the various pivotal points of the mountain experience, identifying the critical issues of access and participation throughout the entire itineraries of users with disabilities.

The economic models must also evolve: inclusion must be considered not only as an ethical obligation, but also represent an opportunity for territorial and economic development. This vision imposes an evolution of traditional economic models, prompting them to consider inclusion as a genuine engine of growth. Traditionally, accessibility has been perceived as a cost or a regulatory requirement, necessary in order to avoid sanctions or to respect ethical principles. The adoption of an inclusive approach can produce tangible and measurable benefits, particularly for sectors such as tourism, with positive repercussions for the entire local economy.
Investment in accessibility can be a strategic *driver* of the sustainability of entire localities, as in the case of ski resorts. Opening up to a broader, more diversified public translates into:

1. Expansion of the user base: the elimination of barriers enables people with disabilities, the elderly, families with small children or anyone who has specific requirements to use and enjoy services and structures. This brings about an increase in the potential number of visitors or customers.

2. Deseasonalization of services: many activities, especially tourism activities, are

subject to significant seasonal variation. Making an offer accessible can attract visitors even during low season, contributing to distributing tourism flows and stabilizing revenue. People with specific requirements may prefer less crowded periods for a better experience.

3. Loyalty creation among new *targets*: a welcoming and functional environment for all produces a positive experience, which is translated into increased satisfaction and, consequently, into an increased likelihood of returns and positive word-of-mouth. This contributes to the formation of a loyal clientele that values the attention devoted to inclusion.

The growing attention devoted to accessible tourism at European level is showing signs of this evolution. Initiatives such as the EDEN project (European Destinations of Excellence), which recognizes European destinations that distinguish themselves for their sustainable and innovative tourism increasingly include accessibility as a fundamental criterion of evaluation. This underlines the fact that inclusion no longer represents a marginal aspect, but rather a key factor in travellers' choices of destination. The locations that invest in accessibility will be positioned more competitively in the marketplace, attracting growing segments of demand and reinforcing their image as innovative and responsible destinations.
In short, it is necessary to overturn the perspective on accessibility: from a mere cost to a strategic investment that produces economic, social and territorial value, promoting more inclusive and sustainable development (Almici et al., 2019).

## 4. The Ski-Ability project: a methodological laboratory

The Ski-Ability project was launched with the aim of exploring the accessibility and usability of snow-covered environments for people with disabilities, adopting a systemic and comparative perspective. The project has been developed as research-action based on instruments of qualitative and quantitative analysis. Through a self-assessment questionnaire provided to seven pilot ski resorts (three Italian, two German, one

Swiss and one Austrian), data has been gathered concerning infrastructures, services, internal organization, personnel training, the presence of collaborative networks and cultural sensitivity with respect to themes of inclusion.
The results have highlighted a heterogeneous picture, with elements of structural excellence in some cases, but also significant shortcomings on the level of relations, information and training. The comparison between territories has highlighted the importance of integrated approaches, in which good practices emerge where there is cooperation between public bodies, associations, tourism destination managers and local communities. The distinctive element consists not only in the presence of accessible facilities, but also in the capacity of the territory to build an inclusive tourism offer.
The project has also contributed to the preparation of operational Indications, conceived not as rigid standards, but as flexible and contextualizable instruments.
These indications, based on a universal and participatory approach, are intended to orient territorial policies, landscaping and architectural planning, professional training and tourism communication, according to the principles of Universal Design, usability and social justice.
Their aim is to bring about change, not only in physical locations, but also in the representations and relationships that make up the experience of the mountains. The method adopted has not been restricted to a technical evaluation of locations, but has also included listening to local communities, people with disabilities and the resort operators, through interviews, *focus groups* and participant observation. This has made it possible to build up a qualitative picture of the culture of inclusion in the alpine sphere, highlighting both good practices and the barriers and prejudices that are still present.
On the operational level, the investigation has contributed to mapping out not only the physical barriers, but also those limiting organization and communication. Among the main obstacles that have emerged: the fragmentation between services, the shortage of accessible multilingual information, the rigidity of models of management of facilities and the lack of shared protocols for welcoming people with disabilities. On the other hand, in some territories the presence is noted of innovative local initiatives,

promoted by voluntary associations or social cooperatives capable of building inclusive experiences, also in inadequate infrastructural contexts.
The ultimate goal of the operational Indications, the result of this process, is a double one: on one hand, to provide practical and flexible indications to improve the accessibility and usability of snow-covered environments; on the other, to promote a collective reflection on the ethical and social dimension of alpine planning. The aim is for these instruments to be able to nurture a new culture of mountain tourism, focusing on the universal right to experience and enjoy natural beauty, irrespective of the physical or sensory condition of the individual.

**5. Research questions**

On the basis of the preliminary theoretical and methodological suppositions delineated up to this point, the research began by formulating certain fundamental questions that have oriented the entire path of the Ski-Ability project:

- How do the specific geographical and climatic challenges of mountain environments influence the application of the principles of Universal Design and the achieving of equivalent accessibility within ski resorts?
- What are the most effective strategies for promoting inclusive sports initiatives in natural environments?
- What are the main barriers and the facilitating factors in the adoption and implementation of UD strategies, inclusive sport and planning in natural environments, and how is it possible to tackle such challenges in order to promote an equivalent accessibility for people with different abilities?
- How do specific socio-economic and cultural contexts influence the effectiveness of accessibility initiatives and how can such contextual factors be utilized to improve the inclusivity and usability of ski resorts and the communities that visit them?
- Which examples can be analyzed and adopted? Do sustainable solutions exist in a systemic sense?

Such questions are intended to provide an overall understanding of the dynamics that characterize accessibility in natural environments, and particularly in ski areas, and to identify realizable strategies to promote an equivalent accessibility and inclusivity in heterogeneous landscapes, as well as offer practical indications and recommendations to the political decision-makers, planners, designers and users involved in the planning, development and management of recreational spaces and structures (Arenghi et al., 2024).

## 6. Conclusions

The accessibility and usability of ski resorts may be improved through a two-pronged approach: on one hand, the adaptation of the person to the environment through technical aids and targeted supports; on the other, the evolution of the environment itself in organizational, information-based and social terms, so that it becomes more welcoming and usable for the largest possible number of people, irrespective of their abilities. The degree of accessibility is in fact dynamic and depends on the complex relationship between individual, context and local culture.
Among the strategies that have emerged, the following are highlighted: the availability and correct use of specific equipment, adapted to meet the requirements of participants with disabilities; the creation of community partnerships between resorts, economic operators and social networks; the activation of inclusive communication strategies, through social media and accessible marketing instruments; access to dedicated financing for the purchasing of equipment and the training of personnel and specialist volunteers.
In conclusion, the direct involvement in the planning process of the local communities – including institutions, associations and citizens – reinforces the sense of belonging and promotes cohesion and resilience. Collaborative efforts in the management of ski resorts can contribute to generating inclusive spaces that are favourable to good health, as well as sustainable from a social and economic point of view (Almici et al., 2019).

Predazzo. Detail of the accessible terrace of the restaurant.

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Ski-Ability. Map of the 'pilot' resorts.

## Ski-Ability: On-site inspections of the 'pilot' areas

### Introduction

The on-site inspections were conducted in the seven 'pilot' ski resorts selected from the regions, cantons, provinces and *Länder* that are members of the Arge Alp Working Community: Piani di Bobbio, Colere and Predazzo in Italy, Madrisa–Klosters in Switzerland, Kaunertaler Gletscher in Austria and Söllereckbahn–Oberstdorf and Großer Arber in Germany. The sites selected in Italy are not the same ones that will host the Olympics and Paralympics 2026, a choice prompted by the need to guarantee broader representativeness.

These 'pilot' sites present marked differences from each other in terms of their morphological characteristics and distance from population centres (where the accommodation facilities are located), the ways in which they interpret and satisfy accessibility criteria and, consequently, the services offered to people with disabilities, the level of awareness and the methods adopted in responding to the various needs (there are some who have been operating on this basis for many years now, often in close collaboration with the association sector, and those, on the other hand, who have only embraced the issue more recently).

Such differences are representative of most of the alpine ski resorts as regards accessibility, and therefore offer a useful point of reference in order to understand the current state of affairs in cultural terms, in relation to the solutions proposed and their management, to the expectations with respect to future implementations, to the links with other operators in the location concerned (tourist-hotel accommoda-

tion, dining, transport services, etc.), to the involvement of the association sector and local contexts with a social vocation.
In order to avoid misunderstandings, it is necessary to specify that the observations from the on-site inspections conducted, both under conditions of snow coverings and not, which are shown on the pages that follow, are not intended to be a classification of the degree of accessibility and usability of the resorts.

Rather, they are results that are useful for understanding how to organize the topic in the most objective way possible, both with reference to good practices for the accessibility of locations and services, usually referring to non-mountain environments, and in order to understand (as explained in Chapter 1) how to organize the concepts of accessibility and usability in locations – ski resorts – that by their very nature are not accessible if not through a 'compromise' of adaptability of contexts to people, and vice versa.

Shown for each resort visited are:

- a description of the resort, provided by the relative managers;

- a map showing the extent of the population centre, the distance from the ski-runs and the sections covered by the installations;

- for each section of installation that has been the object of the on-site inspection (from the starting skiing facility to the intermediate and final ones, where present), coloured 'stamps' are shown corresponding to what is shown below:

**Information access**
Complete and up-to-date information on the website and on-site.

**Parking**
Car park close to the departure point of the facility, perfectly level and possibly covered.

**Access points**
The absence of turnstiles (or dedicated routes) and the presence of gates with sliding doors.

**Lift system**
Access route and floor of the gondola on the same plane (with movable ramp available) and the presence of *synthetic snow surface*.

**Support staff**
Trained support personnel on arrival, at the facilities and in the ski lodges.

**Dedicated devices**
Availability of devices for assistance, the possibility of equipment hire and meeting with an instructor.

**High-altitude structures**
Accessibility/usability of intermediate/upper facilities and services along the ski-run.

It is appropriate to specify here that, if a car park does not appear, this does not mean that there is not one present, but that it has been assessed as unsuitable on the basis of objective criteria, perhaps because it is not completely level (see the specifications in Chapter 3).

## PIANI DI BOBBIO AND VALTORTA I.T.B. S.p.A. (ITALY)



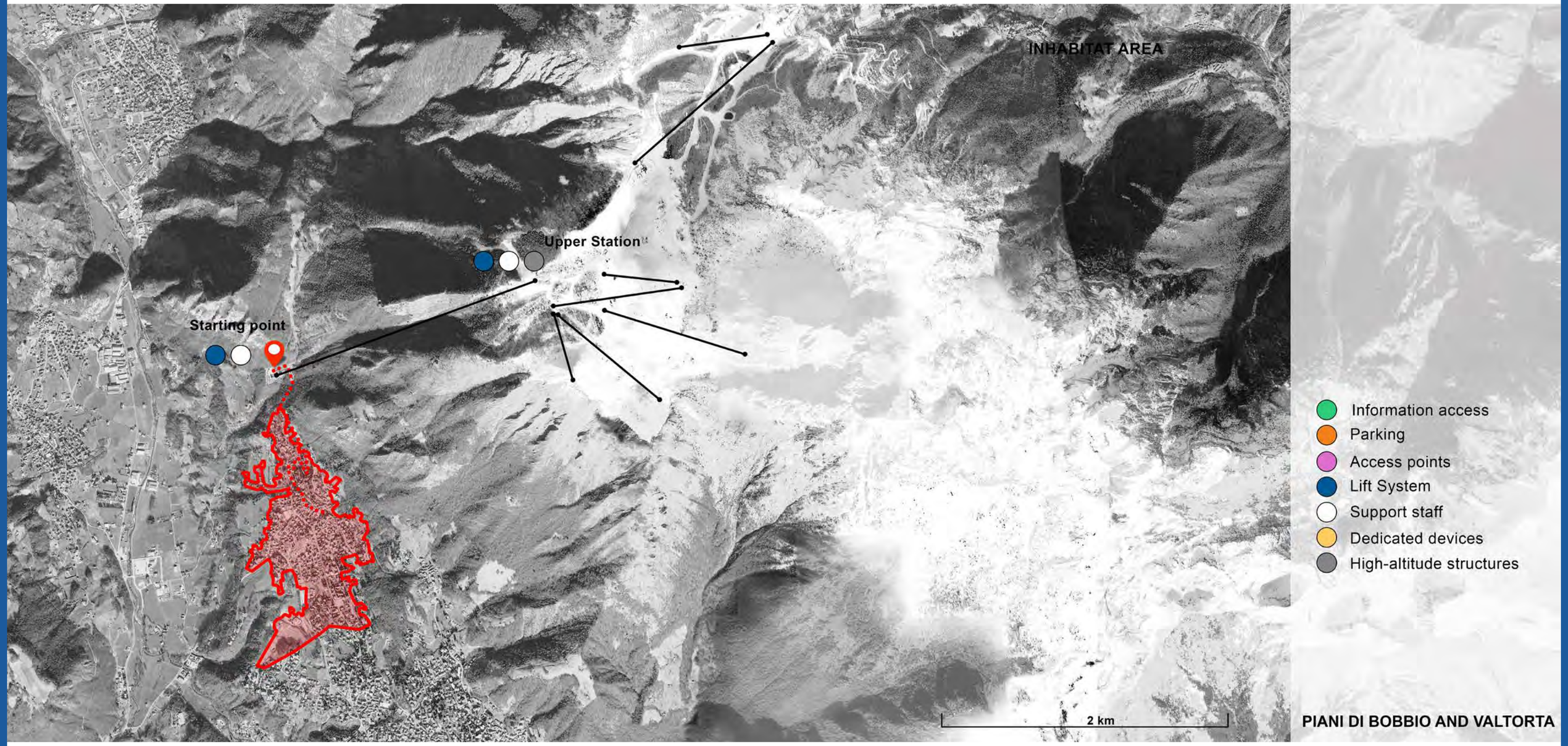

Piani di Bobbio. View of facilities.

**RESORT:**
**PIANI DI BOBBIO AND VALTORTA (ITALY)**

*"In the heart of Lombardy, between the Valsassina and the Val Brembana, the Piani di Bobbio and Valtorta ski resort is one of the best loved destinations for skiing and mountain holidaying, just a few kilometres from Milan. Comfortably reachable via the gondola lift from Barzio, it combines access facilities, spectacular panoramas and an authentic atmosphere.*
*With over 35 km of ski-runs winding their way down between 1,340 and 1,950 metres, it offers descents to suit every skill level: wide, panoramic slopes for beginners and families, red runs for intermediate skiers and more technical variants for the more expert skiers.*
*The lift system includes a gondola lift, five four-seater chairlifts and two ski-lifts connecting the slopes of Bobbio and Valtorta smoothly. The ski area is covered in its entirety by scheduled snowmaking, always guaranteeing perfectly prepared runs throughout the season.*
*Completing the offer are ski schools with qualified instructors, areas devoted to children and a snowpark for lovers of freestyle. In summer, the locality is transformed into an oasis for trekking, 'vie ferrate' (fixed-aid climbing routes) and mountain biking, with cosy ski lodges and breathtaking panoramas. Less than an hour from Milan and from Brianza, Piani di Bobbio and Valtorta offer the mountains within easy reach: sport, nature and relaxation in a familiar, welcoming environment".*

[Piani di Bobbio and Valtorta I.T.B. S.p.A.]

Piani di Bobbio. Departure ski station.






Piani di Bobbio and Valtorta. Map.

Piani di Bobbio. Arrival for transport.

Piani di Bobbio. Link ramp between car park and entrance level.




Piani di Bobbio. Link ramp between entrance level and ski-lifts.

Piani di Bobbio. Details of entrance to facilities, turnstiles, gondola lift: departure and arrival.

## DESCRIPTION SHEET – PIANI DI BOBBIO AND VALTORTA SKI RESORT

**1. Functional overview and type of users**
The resort **does not possess accommodation facilities** and is prevalently a destination for **daily users** coming to a large extent from the metropolitan area of **Milan**, who go to enjoy the snow for a day.

**2. Arrival area and car park**
On arrival there is a **large car park** present, characterized by a **significant downward gradient**.

The following are located on the **right edge of the access area**:

- the **ticket office**,
- **offices**,
- the **departure station of the gondola lift**.

**Two reserved bays** are present in the proximity of the ticket office, located in a flat area, which are the only accessible solution for stopping.

**3. Functional distribution of services at the lower level**
At a lower level with respect to the ticket office there are:

- a **bar-restaurant**,
- **the ski and mountain bike hire service**.

The two levels are not directly connected by accessible routes. A vehicle ramp is present, an integral part of the car park. This has a steep gradient, so it cannot be considered accessible for the purposes of autonomous use by people with disabilities.

**4. Gondola lift departure station**
The gondola lift departure station is located at an **altitude that is generally without snow covering**. For this reason, embarkation takes place **without skis on the feet**, a situation that simplifies access to the facility, yet without compensating for

the critical issues that are present in the distribution of the spaces at the lower level.

**5. Arrival at high altitude and organization of spaces**
The point of arrival of the gondola lift at high altitude opens up onto a **large square**, which fulfils the function of a main hub for the skiing area.

- A **service structure** is present **on the left side**, including restaurant and toilet facilities.
- The route towards the **upper ski-lift installations (chairlift)** is to be found on the right side.

It is in this zone that the following operations take place:

- **ski fitting**,
- **transfer from wheelchair to monoski**, for users with impaired mobility who practise adaptive skiing.

**6. Considerations on accessibility**
The resort possesses favourable conditions at the upper level, associated with the large size of the spaces and the clarity of distribution of the arrival square. However, **significant critical issues** remain at the lower level, particularly:

- the **lack of accessible connections** between the various functional levels;
- the **significant slope of the car park**,
- the **limited availability of reserved bays**.




Colere. Upper station: details of the arrival of the chairlift.

**RESORT:**
**COLERE (ITALY)**


*"The Colere Infinite Mountain resort is located in the heart of the Bergamasque Alps, in a natural basin at the foot of the Presolana massif. Known for its technical slopes and breathtaking views of the Queen of the Orobie Alps, Colere is an ideal destination for skiers and mountain lovers seeking an authentic experience. The ski-lift system includes:*

*- A ten-seater gondola lift connecting the locality of Carbonera (1050m) with the locality of Malga Polzone, where the Chalet Plan del Sole is located (1500m);*

*- A six-passenger chairlift (Malga Polzone – Cima Bianca);*

*- A three-passenger chairlift (Corna Gemelle – Ferrantino);*

*- A two-passenger chairlift (Capanno);*

*- A moving walkway in the area of the school slope.*

*The gondola lift and six-passenger chairlift are also active in the summer, making it possible to reach the higher altitudes comfortably for excursions, trekking or simply for moments of relaxation at high altitude.*

*Colere offers over 20 kilometres of slopes between 1,050 and 2,250 metres, with varied and stimulating descents. Challenging black runs are ideal for expert skiers and competition training; the red runs, wide and panoramic, offer the right balance for intermediate skiers. Beginners can count on a blue run at the arrival of the gon-*

Colere. Departure station.

*dola lift, which is also perfect for the skiing school.*

*All the slopes are FISI and FIS approved and host competitions, training and official events. The offer is completed by services devised to meet every need: three ski schools with qualified instructors, also for people with disabilities; two hire points (at the lower and upper levels); food courts at the upper level with typical local cuisine.*

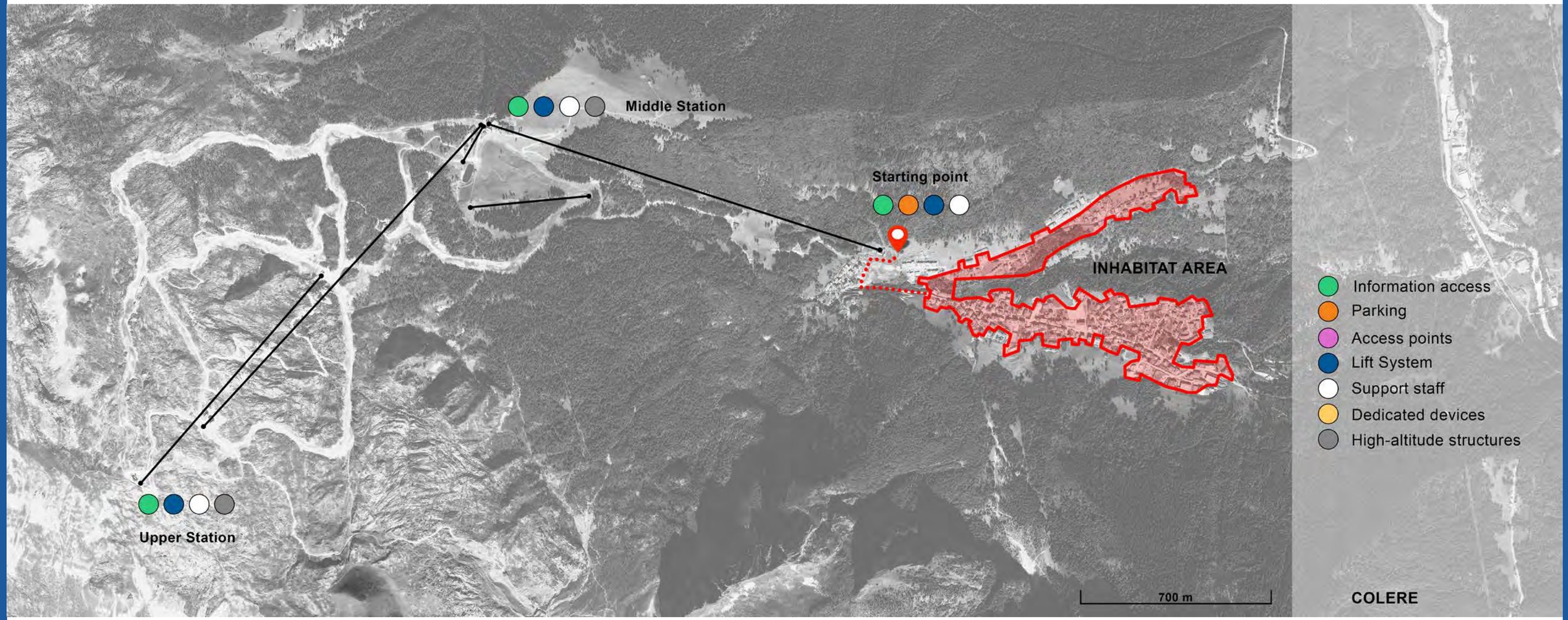
*Colere and the nearby towns offer various accommodation solutions, including hotels, B&Bs and hostels, a number of which accredited by the resort, for an experience on the snow that is even more convenient and complete.*

*The resort regularly holds events and promotional activities, including federation competitions, group courses and skiing beginners' days, as well as promotions for groups and schools with personalized packages.*

*The main facilities, including the gondola lift, are accessible to people with disabilities. The "Plan del Sole" ski lodge, currently in the restructuring phase, will be completely accessible by December 2025, with dedicated routes and facilities".*

[Colere Infinite Mountain]

Colere. Service building at the intermediate station.


Middle Station
Starting point
INHABITAT AREA
Upper Station
Information access
Parking
Access points
Lift System
Support staff
Dedicated devices
High-altitude structures
700 m
COLERE



Colere. Map

Colere. View of the chairlift system at the level of the intermediate station.



Colere. Detail of the lift at the level of the gondola lift installation.

Colere. Detail of the gondola lift arrival with a flush landing.

Colere. Upper station: details of the arrival of the chairlift.

**DESCRIPTION SHEET - COLERE SKI RESORT**

**1. Territorial organization and geographical accessibility**
The Colere ski resort is located around **60 km from Bergamo, 75 km from Brescia and 110 km from Milan**, in a position of intermediate accessibility with respect to Lombardy's main urban centres.
The road network has **critical issues as regards access from the Brescia side**, particularly along the **Via Mala**, which represents an element of difficulty when it comes to reaching the site.

**2. General state of the site**
During the on-site inspections, the area was affected by **significant work renovating the ski-lift installations**, which has brought about a **practically complete rebuilding of the infrastructures** of the ski resort. This work is evidence of a phase of significant upgrading and improvement of the offer.

**3. Parking area**
The area for use as a car park has **ample dimensions** and is **predominantly level**, a situation that is favourable from the perspective of accessibility. However, as things stand, **the quantity of car parking spaces reserved for people with disabilities has not yet been defined**, so this is an aspect to investigate and regulate.

**4. Access to facilities and usability**
Access to the ski-lift facilities is characterized by a **height difference**, which can be overcome by means of a **new construction element** including:

- a **staircase**,
- a **ramp** to move over the base,
- a **lift unit**.

The **ticket office** and the **entrance to the facilities** are inside this structure.
From the point of view of accessibility, the **presence of turnstiles exclusively** is a potential critical element, particularly for some types of users.

**5. Ski-lift facilities**

In the **Carbonera – Polzone** section, the previous two-passenger chairlift has been replaced with a **detachable 10-seater gondola lift**, fitted with a **ground-level entrance**, a solution that allows direct access and is designed for use in snowy conditions.

In the **Polzone – Cima Bianca** section, the existing installation has been replaced with a six-passenger chairlift.

Further interventions have involved:

- the **reopening of the Capanno area**, with the installation of a **repositioned two-passenger chairlift**,
- the **general overhaul of the Ferrantino three-passenger chairlift**.

**6. Ski lodges and accommodation facilities**

The complete restructuring is planned of the two ski lodges (intermediate and mountain), with the purpose of:

- expanding the accommodation offer,
- improving the quality of the communal areas,
- guaranteeing environments that are more **accessible and diversified** based on the various forms of use.

The accessibility of the structures is currently **favoured by the presence of snow**, which enables the differences in altitude existing between the springing lines and the levels of use to be bridged.

**PREDAZZO S.I.T. BELLAMONTE Spa (ITALY)**



Predazzo. View from the departure station.

**RESORT:**
**PREDAZZO (ITALY)**

*"The Alpe di Lusia skiing area, in Trentino, consists of two communicating slopes: Predazzo-Bellamonte, facing south and located in Val di Fiemme, and Moena-Ronchi, facing north and located in Val di Fassa. Both departure points for the ski-lift facilities can be reached via a ski bus service connecting them to the local accommodation sites and possess car parks and toilet facilities for people with disabilities. Two sports associations are active in the skiing area, offering activities for people with physical, sensory and intellectual disabilities.*
*They are the ASD (Amateur Sport Association) Sportabili APS (www.sportabili.org), with its head office in Predazzo, which also has a logistical support structure in the immediate proximity of the gondola lift down to Bellamonte, with car parking spaces reserved for people with disabilities; and Fiemme Fassa Sport Inclusivo (www.fiemmefassasportinclusivo.it) with its head office in Castello-Molina di Fiemme, established more recently.*

*Ten of the resort's twenty ski-slopes wind their way down (6 blue, 3 red, 1 black) on the Bellamonte side, which has been the subject of the research, In addition, there are a snowpark with structures for freestyle lovers, a fan slope for the younger ones and two boardercross slopes.*
*The area as a whole is served by 8 modern ski-lift installations with a capacity of 2200-2600 people per hour. The following are available on the Bellamonte side: a 10-seater gondola lift, an 8-seater gondola lift and two detachable four-passen-*

Predazzo. Departure station.

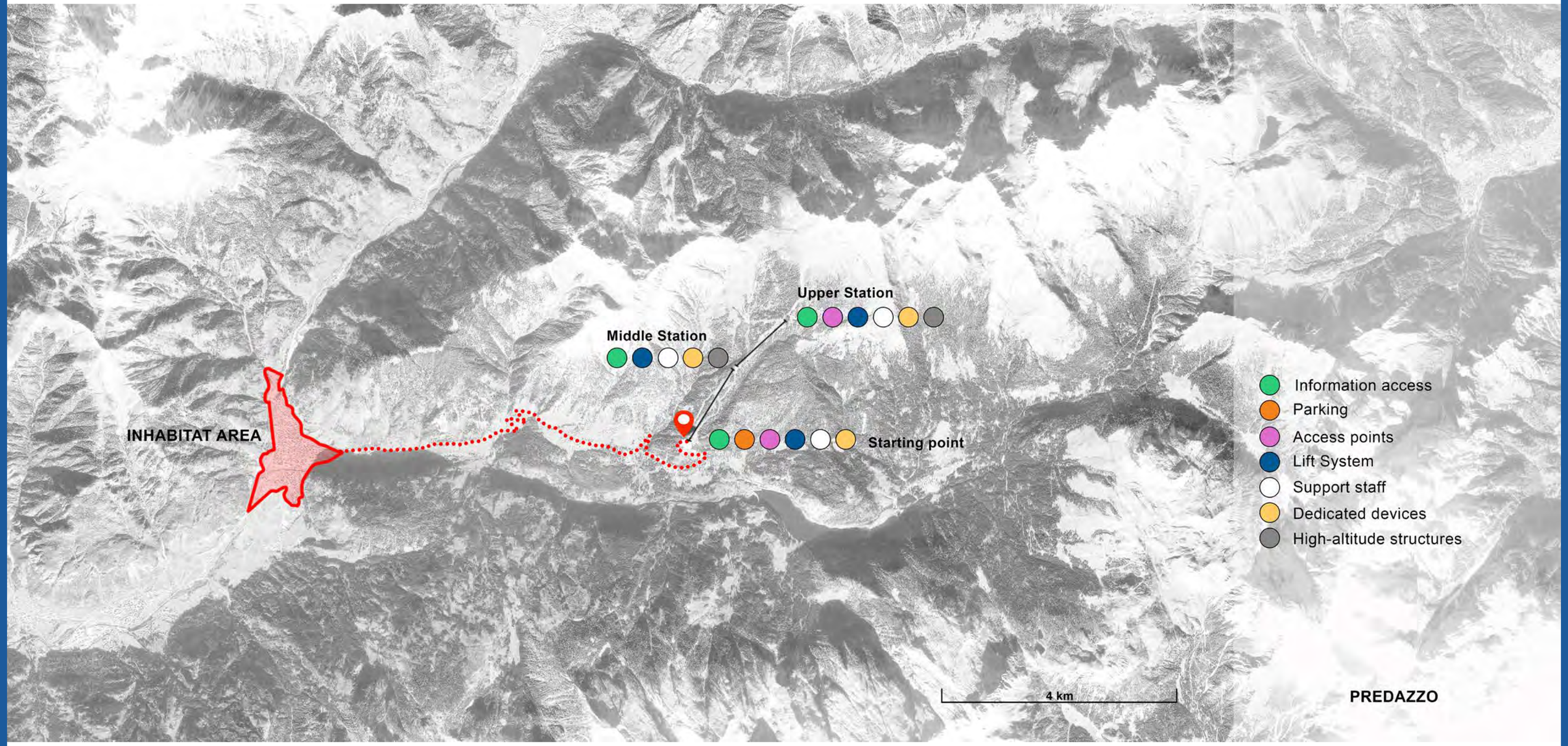
*ger chairlifts. People with disabilities are guaranteed access via reserved lanes and automatic gate opening, with assistance provided by the ski-lift personnel at both the embarkation and disembarkation points, as well as by the helpers of the Sportabili and Fiemme Fassa Sport Inclusivo amateur sport associations.*

*Bellamonte also offers alternative activities to skiing. A charming 4.5-kilometre beaten nature path, to be travelled on foot or with snowshoes, in the tranquil heart of the Paneveggio Nature Park, with spectacular views of the Pale di San Martino group (Unesco Dolomites) and the Lagorai chain. A 2.1-kilometre toboggan slope in the snow-covered woods guarantees fun in safety for all ages.*

*ASD Sportabili, Fiemme Fassa Sport Inclusivo, the School of the Finance Police of Predazzo and the Ski School have teachers and instructors who are qualified to work with people with disabilities, who are also provided with skiing aids on request. Accommodation facilities of various types (hotels, B&Bs, apartments, camp sites), cultural and sporting activities and events and local foods and wines complete the offer to tourists".*

[Predazzo S.I.T. Bellamonte Spa]

Predazzo. Accessible spaces at the base of the installation.






Predazzo. Map.

Predazzo. Car park area and access ramp to the departure station.

Predazzo. Accessible space near the ticket office.


Predazzo. Turnstiles and dedicated access.

Predazzo. Devices for use of monoskis and dualskis with dedicated entrance.

Predazzo. Assistance personnel and “level” access to the gondolas.

**DESCRIPTION SHEET - (AREA DI PREDAZZO) SKI RESORT**

**1. Territorial and accommodation organization**
The ski resort is located around **6.5 km from Predazzo**, the town where the **main accommodation facilities** for the resort are concentrated. The location allows easy daily use, with the support of an accommodation system that is external but adjacent.

**2. Arrival area and car park**
On arrival a **car park on level ground is present**, a favourable aspect from the standpoint of accessibility. The **bays reserved for people with disabilities** are **managed flexibly**, with quantities that are adjustable based on requirements, through the use of mobile barriers.
The **headquarters of the SportABILI association of Predazzo** is located at the same level as the car park, and this also fulfils the role of a structure of reference and operational support for people with disabilities.

**3. Vertical connections and accessible routes**
The main ski-lift installation (known in Italian as an **ovovia**, meaning an enclosed ski-lift) is located at a **higher altitude than the car park** and is connected to it via a **system of ramps**, enabling the problem of different levels to be overcome in a continuous and accessible way.
From the level of the ovovia it is possible, again via a sequence of ramps, to access the following services:

- **toilet facilities**,
- **ski equipment deposit** for people with disabilities.

**4. Dedicated services and support equipment**
To support internal mobility, **artisan trolleys** are available, designed for **moving with monoskis and dualskis**, which facilitate transfer operations and preparation for sports activities.

**5. Ski-lift facilities**

The access to the **embarkation zone for the ovovia** is fitted with an accessible turnstile, which also allows controlled passage for people with disabilities, guaranteeing a higher level of inclusivity in the use of the installation.

**6. Considerations on accessibility**

The ski resort has an **organizational plan oriented towards accessibility,** characterized by:

- car parks on level ground and flexible management of the reserved bays,
- the presence of a specialist structure of reference (SportABILI),
- continuity of the accessible routes via ramps,
- specific aids provided for adaptive skiing.

Overall, the site presents a **significant example of integration between skiing infrastructures and services devoted to people with disabilities**.




Madrisa-Klosters. View of the ski-lift system.

**RESORT:**
**MADRISA - KLOSTERS (SWITZERLAND)**

*"The Madrisa ski resort is located in the region of Davos Klosters, in the Canton of Grison, in Switzerland. With an altitude of between 1,137 and 2,617 metres above sea level, the area offers a vast range of winter sports over 45 kilometres of slopes and paths. Madrisa is known as the region's mountain for families and leisure time and has established new standards in Swiss alpine tourism with its concept of accessibility without barriers.*
*One particular feature is the Schaffürggli 6-passenger chairlift, Switzerland's first accessible chairlift for children and wheelchairs. Sensors automatically detect the presence of children in the group, while the adjustable entrance height guarantees safe and comfortable access to all guests.*

*Facilities:*
*- 4-passenger gondola;*
*- 6-passenger chairlift;*
*- 2-passenger chairlift;*
*- 4 ski-lifts;*
*- 4 wonder carpets (240 m)*

*Madrisa offers 30 kilometres of ski-slopes of various types, a 7.7-km toboggan slope, panoramic winter trekking trails and a snowshoe route for lovers of nature. In the Madrisa-Land practice area, children and beginners can take their first steps*

Madrisa-Klosters. Intermediate station.

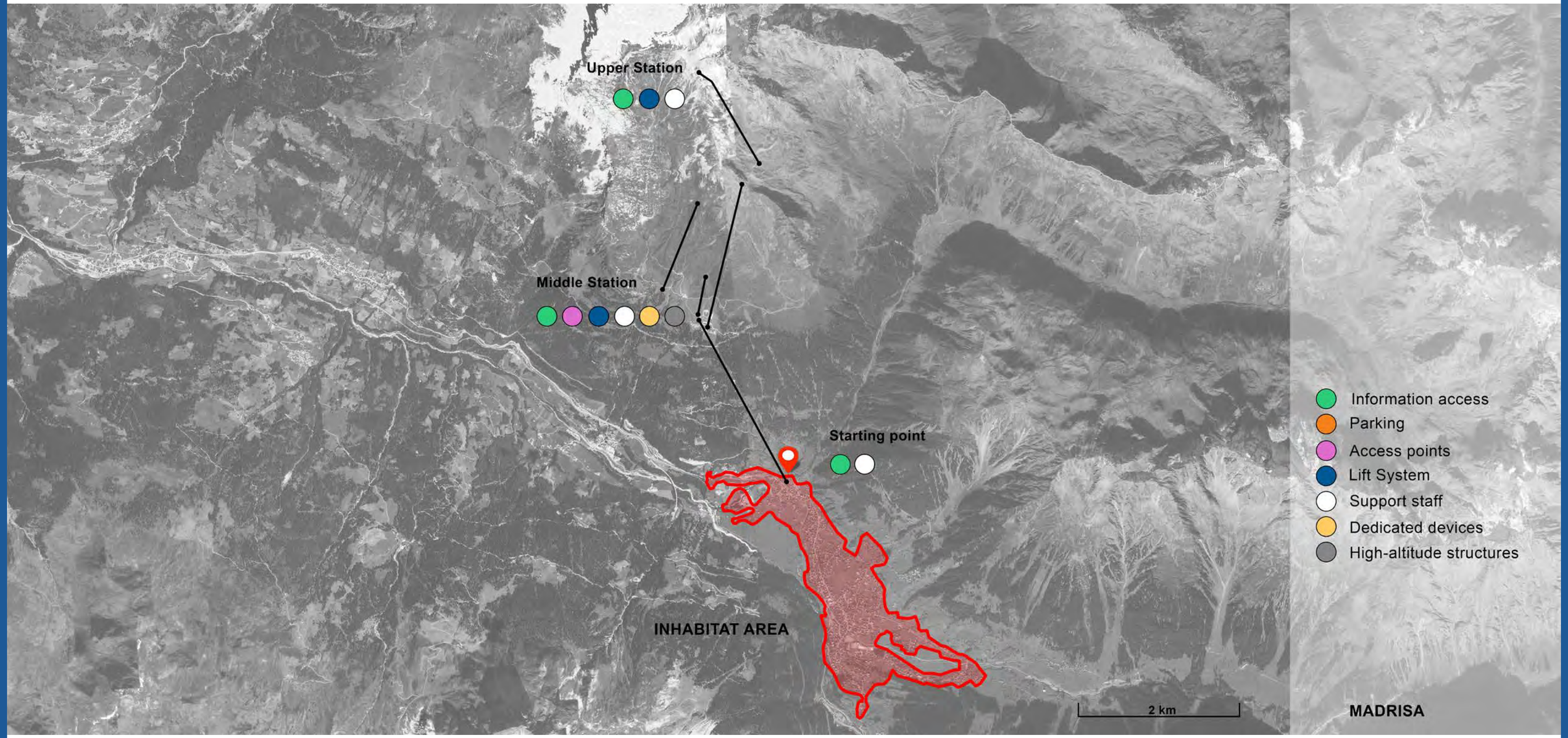
*on skis, while expert skiers can enjoy the wide sunny slopes. The attention is clearly directed at families, fun and accessibility.*

*Culinary delights await visitors throughout the locality: the Madrisa-Alp self-service restaurant at the upper level facility serves regional specialities and has panoramic views, while the Madrisa-Hof offers warm hospitality and table service. At the lower level facility, the Pizzeria Madrisa-Mia invites guests to taste Italian classics, while the welcoming Zügenhüttli ski lodge offers authentic alpine charm directly on the slopes. Spacious sunny terraces on the plateau invite visitors to relax and enjoy the mountain atmosphere.*

*Ski schools and a sports goods shop with a ski deposit are also available. Regular public events further enrich the varied offer. With its sunny location, modern structures and sincere commitment to inclusion, Madrisa is truly a winter jewel for all".*

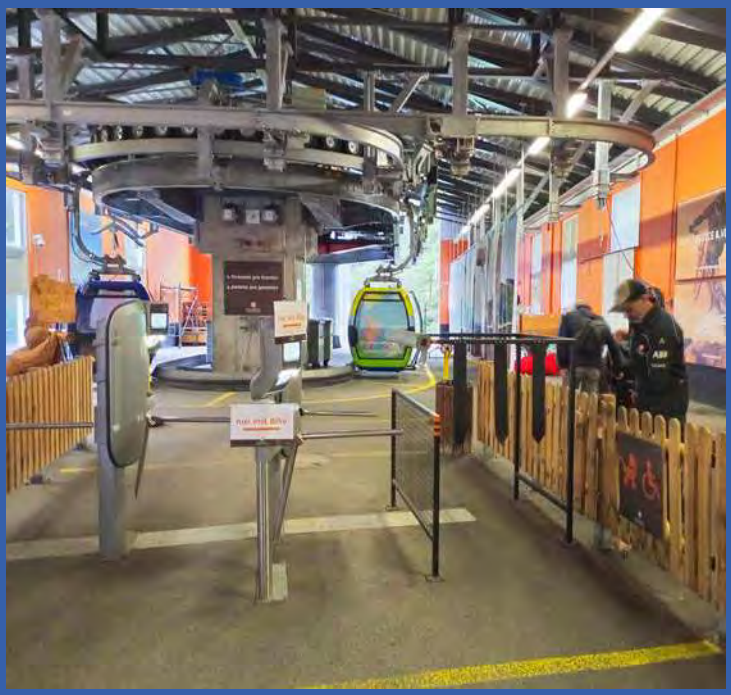
[Madrisa]

Madrisa-Klosters. Accommodation with “level” access to the intermediate station.




Madrisa-Klosters. Map.



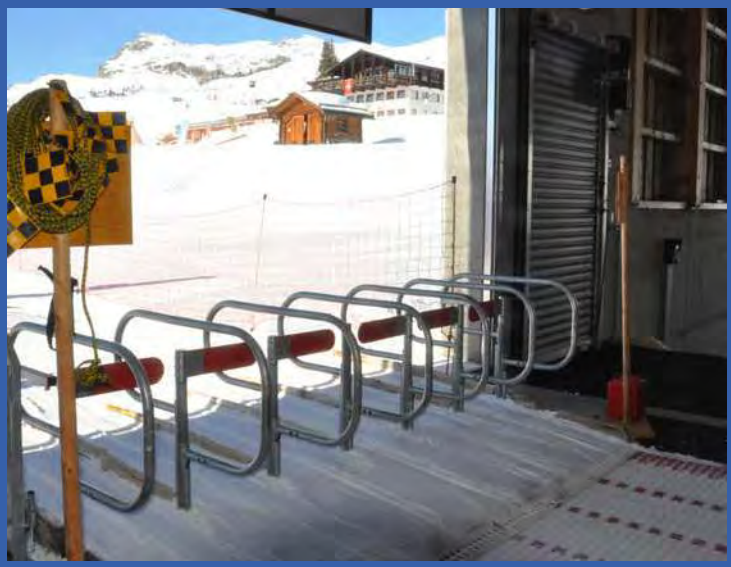


Madrisa-Klosters. Parking area immediately adjacent to the lift installation entrance.

Madrisa-Klosters. Spaces and route near the ticket office.

Madrisa-Klosters. Turnstiles and dedicated access.

Madrisa-Klosters. Assistance personnel provided with a mobile ramp for the gondola lift.

Madrisa-Klosters. Equipment for the use and transport of monoski.

Madrisa-Klosters. Access gates at the entrance to the intermediate station.

Madrisa-Klosters. Skier using a monoski at the gate and while boarding the chairlift.

**DESCRIPTION SHEET - MADRISA SKI RESORT (KLOSTERS DORF – DAVOS)**

**1. Territorial organization and location**
The **Madrisa** ski resort is located in the proximity of the town of **Klosters Dorf**, in the area of **Davos**, is easily accessible and integrated into the local urban fabric.

**2. Arrival area and car park**
The car park in front of the **departure station of the gondola lift** is **reserved for people with disabilities** and is characterized by a **slight downward slope**. The area is kept **constantly clear of snow**, guaranteeing conditions of safety and usability, even in periods of heavy snow cover.
The facility can be accessed **without wearing skiing equipment**, a situation that facilitates approaching and embarkation operations.

**3. Gondola lift and methods of embarkation/disembarkation**
The gondolas have an access height of around **30 cm with respect to the ground level**. People in wheelchairs enter and exit via a **mobile ramp**, steered by resort personnel, guaranteeing active and safe support. **The same configuration** is also adopted in the **upper level arrival station**, ensuring continuity in the disembarkation method.

**4. Spaces and services at the facility on the upper level**
The following are located at the **disembarkation level**:

- access to the **toilet facilities**,
- a **spacious restaurant**,
- the exit towards the **external spaces**.

The **passage from wheelchair to monoski** takes place on the same level, as the **snow is positioned at the same height as the floor**, eliminating differences in level and facilitating transfer operations. Access is gained to the chairlift from this level.

**5. Area for embarkation on the chairlift**
The flooring of the embarkation zone is made of a **plastic material** that is suitable for **transit with skis**.
For **monoski** users, **direction marks are shown on the floor**, enabling the correct positioning in the embarkation phase. The operation takes place between two seats, after the operator has removed the **dividing handrail**.
A further design feature makes it possible to **adjust the height of the embarkation level**, making it easier for **children** to climb on.

**6. Solutions for seasonal accessibility**
The solution making the platform of the **arrival station accessible in the summer period** is also important. In the absence of snow, the difference in level between the platform and the exterior is around **40 cm**; this difference is overcome thanks to **permanent ramps**, which in winter are **covered by snow**, becoming an integral part of the level of use.

**7. External mobility aids**
A **wheelchair with four drive wheels** is available, enabling people with disabilities to **travel on the trails of the area**, even handling **significant slopes**, extending the possibilities of use of the surrounding territory.

**8. Considerations on accessibility**
The Madrisa ski resort is distinguished by an **advanced and integrated approach to accessibility**, characterized by:

- continuity of the routes between car parks, facilities and services,
- specific technical solutions for adaptive skiing,
- qualified operational support by personnel,
- attention devoted to winter and summer usability.



Kaunertaler Gletscher. View of the car park and the entrance structure to the cableway.

## RESORT:
## KAUNERTALER GLETSCHER (AUSTRIA)

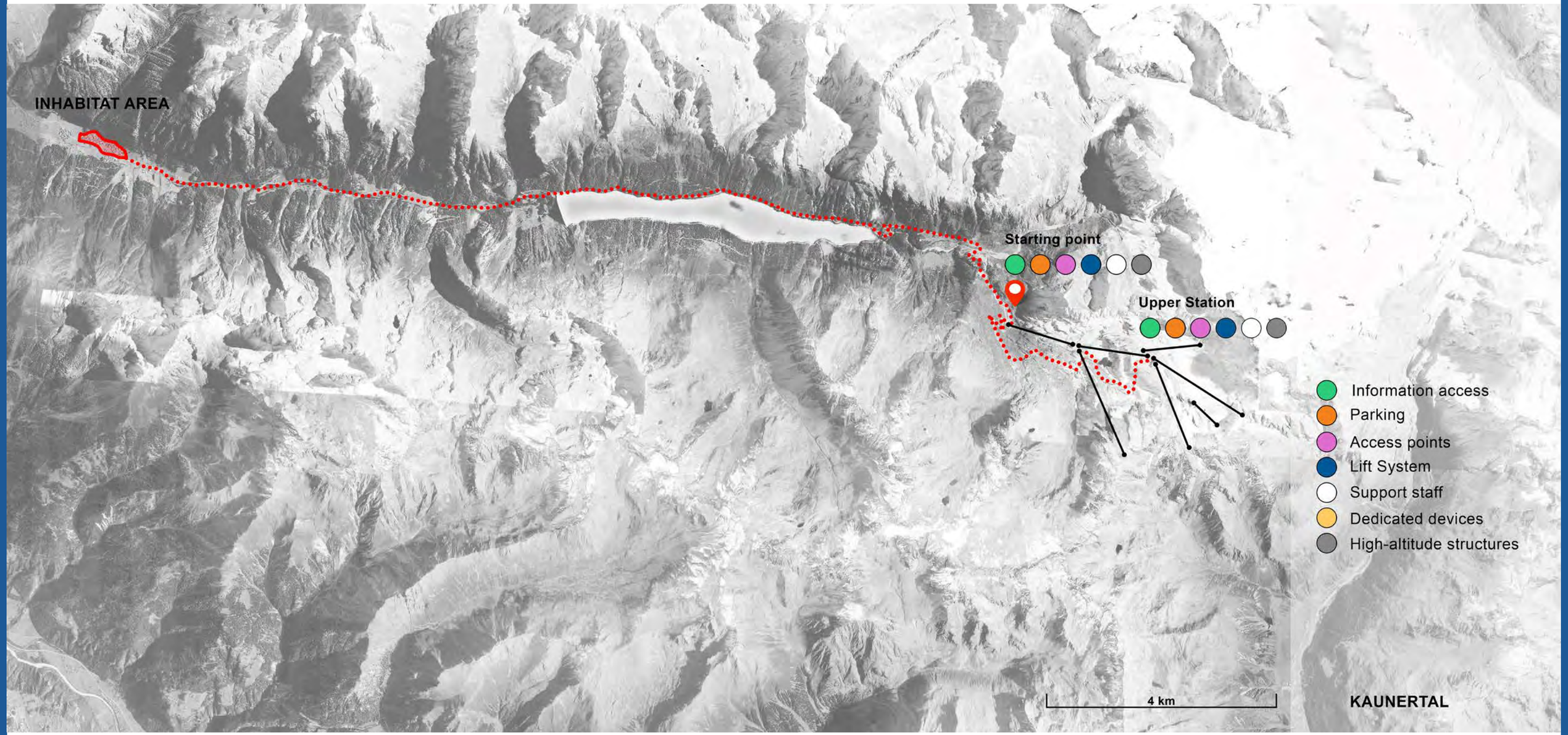

*"For a little while you can escape civilization and be enchanted by a white mountain world with vast snow-covered natural ski-runs, slopes of fresh untouched snow and the best skiing fun imaginable. An altitude of between 2,150 m and 3,113 m guarantees perfect snow conditions. The skiing area covers the whole basin of the valley behind Kaunertal, at the end of the path of the glacier. Three modern gondola lifts take you to the most beautiful mountain passes above 3,000 m, on the frontier with Italy. Falginjoch, Karlesjoch and Weißseejoch offer a magnificent mountain panorama.*

*The innovation for his winter: Sonnenlift – the perfect ski-lift for children and for those returning to skiing! Skiers who love the sun can enjoy 55 kilometres of slopes, which have been awarded the Tyrol seal of quality. Included among the standout elements are descents of up to 1,000 m, the Black Ibex, the steepest slope in Austria, and the Kaunertal Snow Park (open throughout the spring) with a 2-km long "nature run" and plenty of major events.*

*It is always wise to book in advance: if you purchase the skipass for the Kaunertal Glacier online, you can obtain up to 30% as an early bird discount. The earlier you book, the cheaper the skipass is".*

[Kaunertaler Gletscher]

Kaunertaler Gletscher. Entrance to the installation.





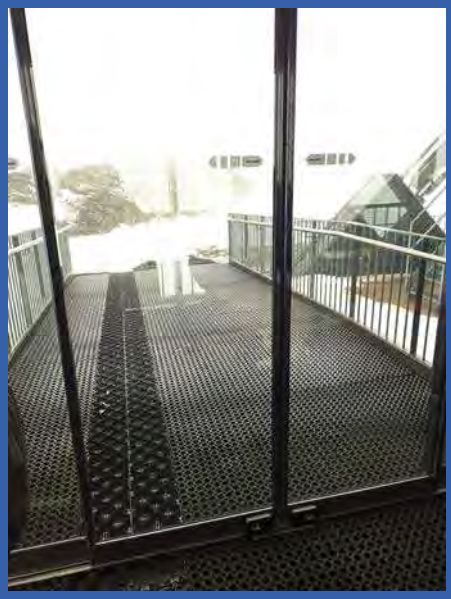

Kaunertaler Gletscher. Map.



Kaunertaler Gletscher. Entrance from the car park to the structure and snow-covered route towards the gondola lift.

Kaunertaler Gletscher. Entrance gates to the gondola lift facility.

Kaunertaler Gletscher. Detail of the “level” access to the cableway.

Kaunertaler Gletscher. Service structure (restaurant): external view from the car park and interior space.

Kaunertaler Gletscher.  Synthetic flooring; details along the spaces of the installation.

Kaunertaler Gletscher. Advanced experience with use of the fully equipped PistenBully (“snowcat”).

**DESCRIPTION SHEET - KAUNERTALER GLETSCHER SKI RESORT**

**1. Territorial organization and accessibility**
The ski resort, situated on the slopes of the **Kaunertaler Gletscher**, is located **around 30 km** from the **town of Kaunertal**. You access it via the **Kaunertaler Gletscherstrasse**, a private toll road around **25 km** long, characterized by significant panoramic views, taking you up to the altitude of **2,500 m above sea level**, where the vehicle arrival area is located.
During the winter season, the car park can also be reached via **chairlift from lower levels** located along the panoramic road.

**2. Arrival area and car parks**
At the altitude of 2,500 m there is a **car park on a slight incline**, directly connected to the service spaces and the ski-lift installations. The location and the continuity of the routes allow direct access to the main structures without overly complicated crossings.

**3. Service structures at the lower level**
From the car park you access an extensive accommodation facility, which includes:

- **bar-restaurant**,
- **toilet facilities**,
- direct connections to the ski-lift systems, consisting of a **large-capacity cableway** and a **chairlift**.

Both installations take you up to an altitude of around 3,200 m above sea level, guaranteeing access to the high-altitude skiing areas.

**4. Cableway – accessibility solutions**
The **cableway** presents significant solutions from the point of view of accessibility and the management of flows.
Access for people with disabilities on monoskis takes place along a **snow-covered route** on rubber flooring, structured into two separate and distinct routes:

- a **dedicated route for people with disabilities on monoskis**, characterized by **dedicated plastic flooring** to facilitate sliding,
- **a separate rubberized route** for users entering **who are not wearing skis**.

The dedicated route leads directly to the gondola, inside which a **mat is positioned centrally**, to ensure the stability and manoeuvrability of the monoski during embarkation.

**5. Complementary ski-lift facilities**

In addition to the cableway, a **chairlift** is present that contributes to guaranteeing back-up for the ski-lift system and the distribution of flows towards the skiing areas at high altitude.

**6. Mobility aids and operational support**

To support the mobility of people with disabilities, a **PistenBully** ("**snowcat**") is available, the **spacious cabin** of which has been equipped with **straps for anchoring wheelchairs**, allowing safe transportation even on snow-covered terrain with significant inclines.

**7. Considerations on accessibility**

The Kaunertaler Gletscher ski resort is characterized by a **specialist approach to accessibility in high-altitude environments**, highlighting:

- integration between road infrastructures, installations and services,
- dedicated design solutions for adaptive skiing,
- defined separation of user flows,
- availability of specific means for mobility on snow.

## SÖLLERECKBAHN - OBERSTDORF (GERMANY)


Söllereckbahn-Oberstdorf. Detail of the entrance structure at the gondola departure station.

**RESORT:**
**SÖLLERECKBAHN - OBERSTDORF (GERMANY)**


*"Söllereck is a ski and excursion resort made-to-measure for families in the Allgäu Alps, located at the north-western end of Oberstdorf, in the most southern part of Germany, on the border with Austria.*

*As part of the Oberstdorf-Kleinwalsertal Bergbahnen (OK Bergbahnen) network, together with Fellhorn/Kanzelwand, Nebelhorn, Ifen, Walmendingerhorn and Heuberg, it is a fundamental component of the regional mountain tourism infrastructure. Thanks to its topography, its wide range of recreational opportunities and its constant attention devoted to families, Söllereck is considered a highly accessible mountain experience, without barriers and without thresholds.*
*This commitment is deeply rooted in the OK Bergbahnen trademark identity and is also reflected, for example, on the Nebelhorn, where the Nordwandsteig trail without architectural barriers at 2,224 metres offers access to the heart of the alpine landscape.*
*The area of Söllereck extends around the 1,706-metre-high peak. It is characterized by moderate differences in level and a slightly sloping terrain, offering a wide range of activities in both summer and winter. In winter, visitors can enjoy a number of different easy and intermediate level ski-slopes, which are ideal for beginners and families.*
*The facilities include ski schools, an educational area for children and a modern artificial snowmaking system guaranteeing highly reliable snow.*

Söllereckbahn-Oberstdorf. Intermediate station of the gondola lift.

*In summer, Söllereck is transformed into a popular destination for excursions, with well developed paths that are suitable for families, including themed and adventure trails.*
*Other attractions include rope trail in the forest, the Söllis Kugelrennen, a large-dimension wooden ball track, and the Allgäu Coaster, an alpine coaster that is open the whole year round irrespective of the weather conditions, which is particularly appreciated by children and families.*

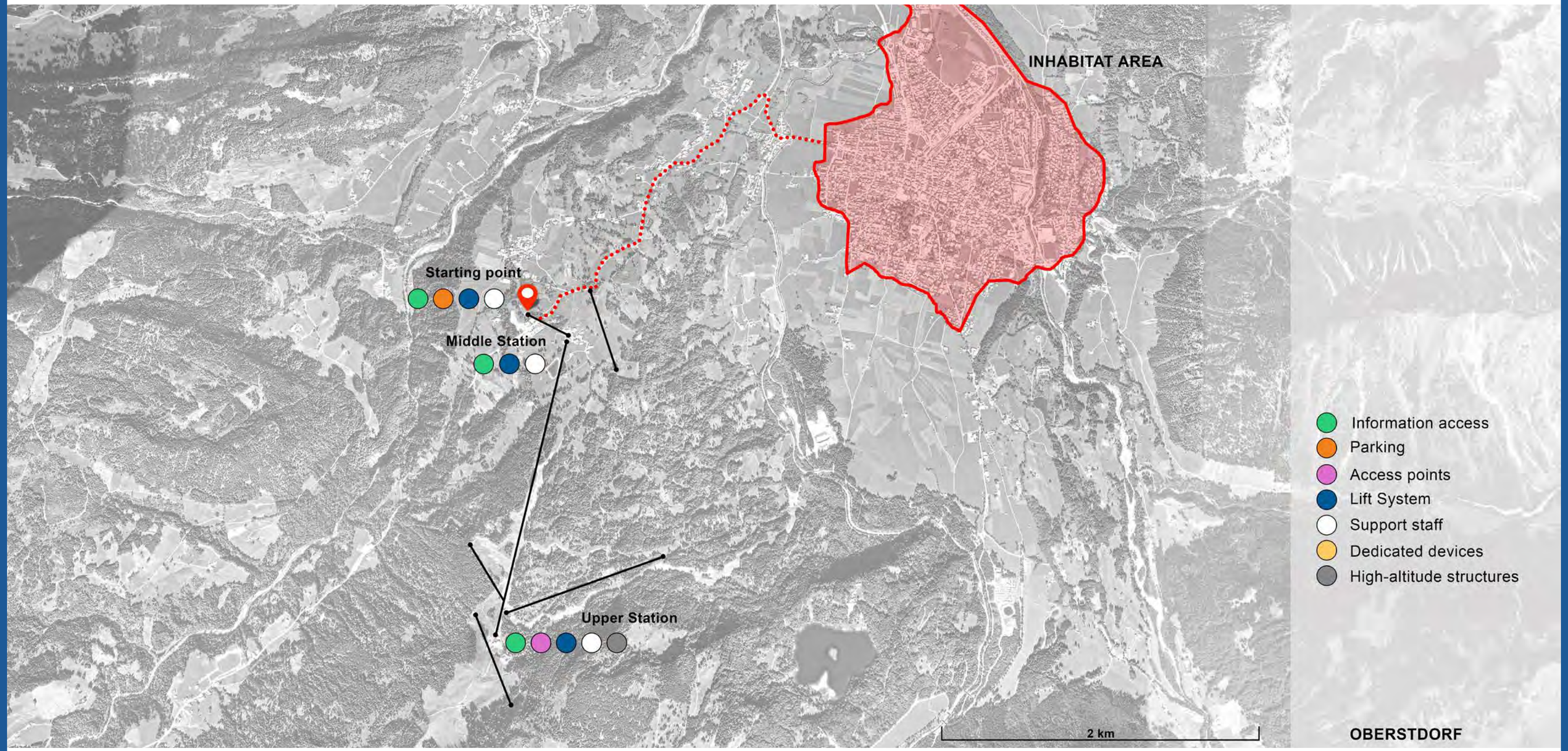
*The main access point to the zone is the Söllereckbahn, an avant-garde 10-passenger gondola lift built in 2021. It is completely without architectural barriers and offers comfortable access to the mountain for visitors with mobility difficulties or with pushchairs.*

*Other infrastructures include a six-seater chairlift with canopy for protection from bad weather and heated seats, three ski-lifts, lift facilities for beginners and a number of refreshment points, including restaurants at the upper and lower levels offering regional cuisine.*

*Söllereck is particularly appreciated for its reduced dimensions, its reliable snow-making conditions and the high quality of its services. For families it offers an authentic experience in alpine nature without being oppressive: an "introductory mountain" that is perfect for the world of alpine sports, which nevertheless retains the genuine character of the Alps".*

[Söllereckbahn-Oberstdorf]

Söllereckbahn-Oberstdorf. View of the chairlift lift facility.






Söllereckbahn-Oberstdorf. Map.



Söllereckbahn-Oberstdorf. Dedicated parking areas next to the ticket office at the departure station.

Söllereckbahn-Oberstdorf. Entrance to the lower ski lifts, entrance turnstiles.

Söllereckbahn-Oberstdorf. “Level” access to the gondola lift at the base station.




Söllereckbahn-Oberstdorf. New service facilities near the intermediate station.

Söllereckbahn-Oberstdorf. Intermediate station: turnstile access to the gondola lift.

Söllereckbahn-Oberstdorf. Accessible service spaces to the upper station.

**DESCRIPTION SHEET - OBERSTDORF SKI RESORT**
**(Söllereckbahn case study)**

**1. General organization of the resort**
The **Oberstdorf** ski resort comprises **five ski-lifts**, each belonging to a separate company; however, in recent years, a **single service company** has coordinated the marketing activities of the entire system.
During the on-site inspection, the local operators highlighted that **attendance in winter by skiers with disabilities is limited**, also due to the presence in the proximity of resorts considered more suitable for adaptive skiing. In contrast, **strategies and future projects on the subject of accessibility** are predominantly oriented towards the **summer season**, the period when a **significant presence of people with disabilities** is recorded, attracted by outdoor activities and enjoyment of the alpine landscape.

**2. Location of the Söllereckbahn installation**
The **Söllereckbahn** installation is located around **5 km from the centre of Oberstdorf**. Access to the facility takes place via three separate points:

- **two accesses** located in the area of **car parks along the road**, situated at **different altitudes**,
- a **third access** located a few hundred metres higher up, in the proximity of an intermediate station.

This latter access is **rarely used by people with disabilities**, mainly due to the absence of dedicated car parks.

**3. Car parks and connections to the departure station**
It is possible to reach the **departure station of the ovovia** from the car parks along the road:

- **directly in the car park** located at the lower altitude, via a route with a slight incline;
- from the upper car park via an **enclosed walkway**, which enables the road to be **bypassed**, guaranteeing the continuity and safety of the route.

The access solutions are functional from the logistical perspective, even though these were not designed specifically for users with disabilities.

**4. Methods of using the ovovia for adaptive skiing**
In all the cases observed, **people with disabilities on monoskis** access the **ovovia in wheelchairs**, while the **monoskis are loaded onto the next gondola**.
This method of operation enables the critical issues associated with direct embarkation with skiing equipment to be overcome, entrusting the management of operations to the personnel.

**5. Arrival at high altitude and organization of the descent**
After reaching the arrival station, the person with disabilities **moves over from the wheelchair to the monoski**. The **wheelchair is then sent to the intermediate station**, the point where the ski-slopes finish. Such an approach makes it possible to:

- complete the descent to the intermediate station,
- be reunited with the wheelchair at the end of the slope,
- travel along the same stretch for a second descent, allowing the cyclical use of the installation.

**6. Service structures**
The service structures are prevalently concentrated near the **upper level arrival station**, where an **accommodation facility with bar-restaurant** is present.
The **accessible toilet facilities** are located inside the **stations of the recently renovated installation**, and are of the most up-to-date elements from the point of view of accessibility.

**7. Considerations on accessibility**
The Oberstdorf resort, and particularly the Söllereckbahn installation, has **accessibility that is functional but not prevalently oriented towards adaptive winter skiing**.
The main characteristics observed include:

- operational solutions to also allow the use of facilities by people with disabilities,
- limited specialization of the infrastructures for adaptive skiing,
- greater strategic attention devoted to the **summer season** and the inclusive enjoyment of the territory in the absence of snow.



Großer Arber. Detail of the lift tower overlooking the valley. (ArberWoidlife161121mf192).

**RESORT:**
**GROßER ARBER (GERMANY)**

*“Großer Arber is the central ski resort of the Bavarian Forest and is particularly characterized by its clear structure, high degree of ease of use and strong orientation towards families.*
*During the inspection what clearly emerged was how compact and easy it is to travel across the various sections. The slopes around the peak and on the mid-mountain plateau offer a wide range of routes designed particularly with families, beginners and intermediate-level skiers in mind. Constant inclines, generous widths and clearly structured lines guarantee a high level of safety and orientation.*

*A key element of the area is ArBär Kinderland, which has separate learning zones, conveyor belts made-to-measure for children and easily accessible practice slopes. These sections, structured in an educational way, facilitate younger guests’ first contacts with skiing and offer an organized learning environment.*
*The adjacent slopes for families have also been specially designed to allow fluid skiing movements, at the same time offering sufficient variety for the different ability levels.*

*The altitude and the artificial snowmaking system guarantee reliable snow conditions for the entire season. Thanks to the prevalently northward orientation of the slopes, the quality of the snow is constantly high.*

Großer Arber. Lift tower for access to the facilities. (ArberWoidlife161021mf122).

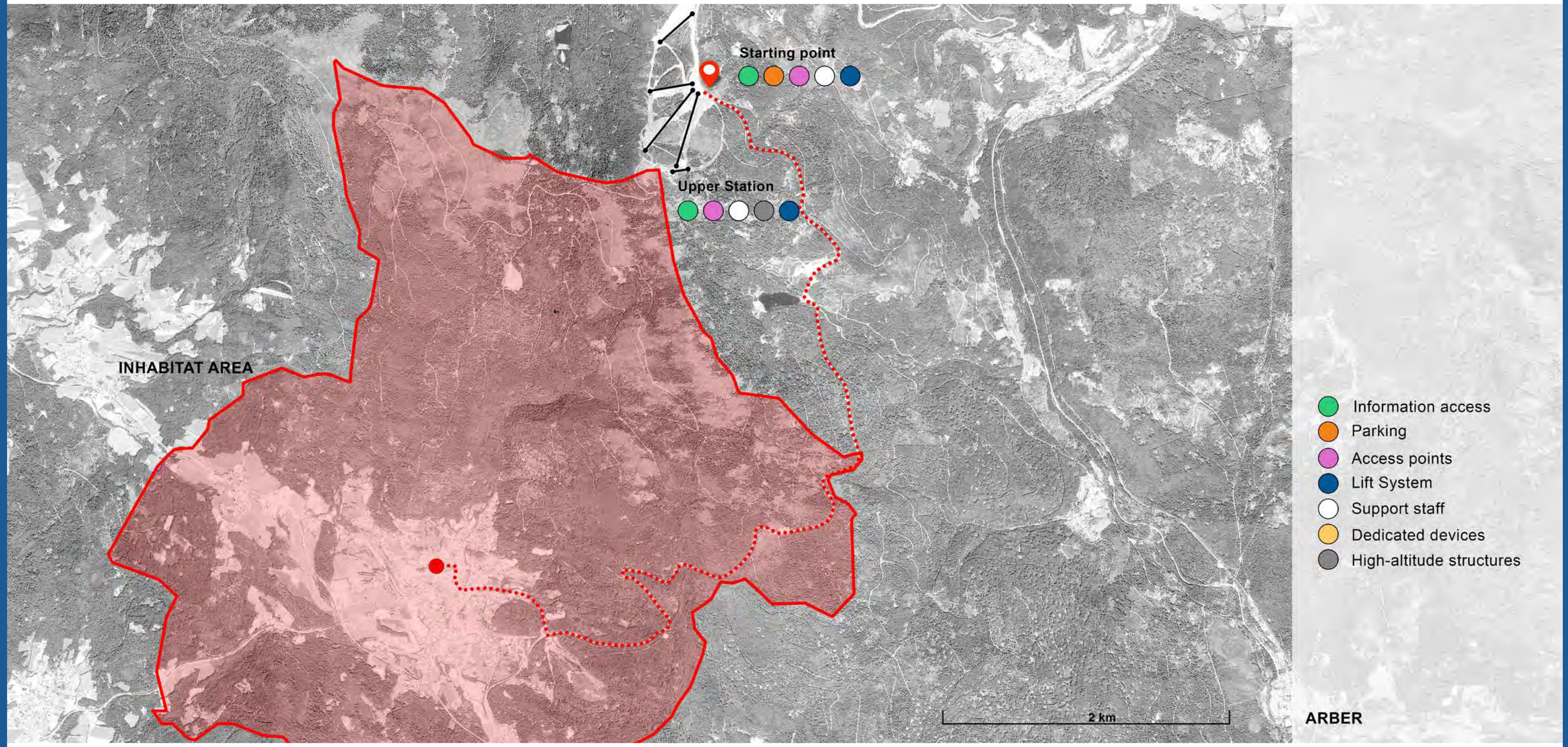
*The ski-lift installations, including modern gondola lifts and various chairlifts, offer efficient transportation that is suitable for families, with short waiting times and comfortable embarkation.*

*The overall offer is completed by various mountain restaurants offering comfortable refreshment points in situ and rest places suitable for families. Furthermore, two ski hire stations and modern ski deposits make access to the ski resort particularly comfortable.*

*A number of skiing schools operate in the zone, offering a wide range of courses for children, teenagers and adults. In addition to the ski-slopes, a dedicated toboggan slope and signposted winter excursion paths further extend the range of activities, enabling families and guests to enjoy the Arber even without skis".*

[Großer Arber]

Großer Arber. View of the gondola system (ArberWoidlife161021mf148).






Großer Arber. Map.


Großer Arber. Arrival area and parking near the departure station.

Großer Arber. Detail of the bus stop and direct elevator access to the gondola lift.




Großer Arber. Entrance turnstiles and a mobile ramp system for the gondola lifts.

Großer Arber. Gondola lift exit (departure station) and detail of the elevated lift tower.

**DESCRIPTION SHEET – GROßE ARBER SKI RESORT**
*(Bavarian Forest National Park)*

**1. Territorial organization and general accessibility**
The **Große Arber** ski resort is located inside the **Bavarian Forest National Park** and is characterized by a **good integration with the public transport system**. The **scheduled bus stop** is located **directly in front of the entrance to the station at the lower level**, forming an intermodal access system that reduces dependence on private vehicles and favours inclusive enjoyment of the site.

**2. Access to the station at the lower level and overcoming differences in level**
The entrance to the station at the lower level is equipped with a **lift** that enables the **difference in levels** between street level and that of the facility, **including the ticket office**, to be overcome.
A **second lift**, located in the proximity of the area called "*Spielplatz an Bergstation Großer Arber*", connects the **lower car park** with the **upper level of the station**, guaranteeing the **continuity of the routes without architectural barriers** throughout the area of access.

**3. Access to the gondola lift and method of embarkation**
The entrance to the **gondola lift** is via **turnstiles that are not directly usable by people in wheelchairs**; however, a side lane is provided that can be **opened by the personnel** to allow assisted access.
Embarkation into the gondola takes place via a **mobile ramp**, enabling the difference in level between the ground and the threshold of the gondola to be negotiated. During embarkation and disembarkation operations, the equipment is **slowed down by the resort personnel**, guaranteeing appropriate safety conditions for users with reduced mobility.

**4. Upper level arrival station and organization of spaces**
Arrival at the upper level takes place at the **summit station of the gondola lift**, located in a **raised position with respect to the area of the ski lodges**. A **dedicated lift** connects the arrival station to the lower level, where the following are present:

- a **pre-existing structure**,
- a **new service structure**, built according to **universal accessibility** criteria.

The new construction, without architectural barriers, allows:

- **ground-level access**,
- availability of **accessible toilet facilities**,
- **internal spaces that are suitable for manoeuvring and turning wheelchairs**,
- **heated** environments that are also **usable in the winter season**.

The inclusion of this structure has enabled the **critical issues of accessibility of the original building to be overcome**, substantially improving the enjoyment of the rest and refreshment area for people with reduced mobility.

**5. Regulatory framework and design approach**

The resort has adopted the **regional checklist for "Reisen für Alle" certification**, promoted by the **Bavarian Ministry of Tourism** as reference, using it as the **guidance framework for the inclusive designing** of infrastructures.
The solutions adopted take account of both **horizontal and vertical mobility**, involving **progressive interventions** calibrated in relation to **seasonal flows** and the **complex topography** of the site.

**6. Equipment that is lacking and remaining critical issues**

Despite the high level of overall adaptation, **no system** for the hire and storage of adaptive equipment has been identified at the lower or upper level stations. The management of personal equipment therefore requires **autonomous planning on the part of users**, which is an area for possible future improvement.

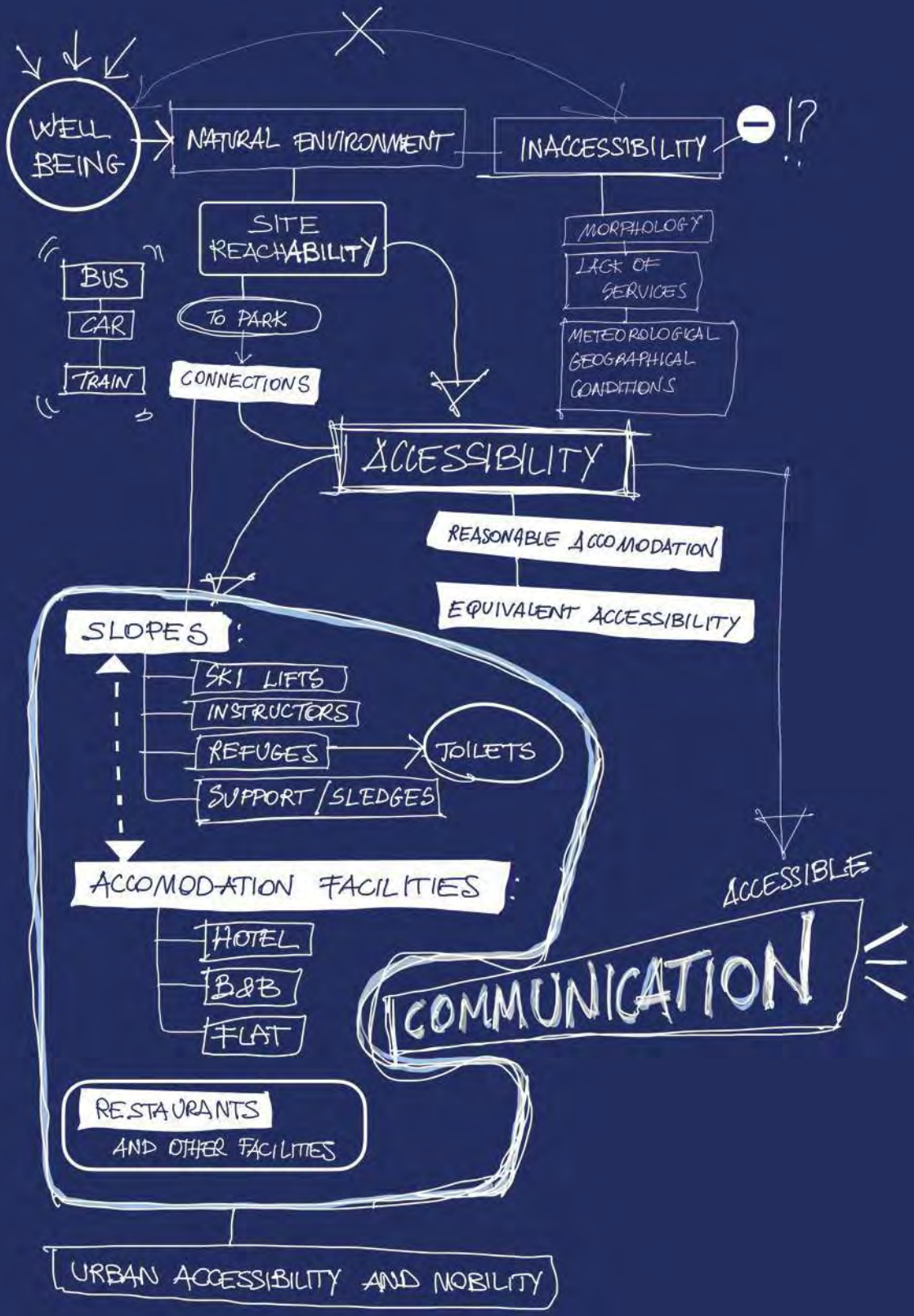
**7. Summary of the accessibility solutions adopted**

The Große Arber ski resort has developed an **integrated accessibility project** that complies with the "*Reisen für Alle*" regional checklist, which is structured into the following key elements:

1. **Easy access** via lifts and routes on level surfaces,
2. **Embarkation in a certified gondola lift**, with mobile ramp and support by personnel,
3. **Accessible services** at the lower and upper level, in compliance with the regulatory standards,
4. **Effective intermodality** between public transport and ski-lift systems.

**8. Concluding considerations on accessibility**

The Große Arber resort represents a **consolidated case of systematic application of the principles of universal accessibility** in the alpine skiing sphere. Although in the absence of specialist services for adaptive skiing, the interventions realized and those in progress highlight **a progressive alignment with European inclusivity standards**, making the site a significant reference for accessible planning in complex natural contexts.






Ski-Ability diagram.

## 1. Accessibility and usability in ski resorts: which operational indications?

*1.1 Premise*

The accessibility of ski resorts cannot be approached using the same paradigms that are applicable to construction or to urban public spaces. As underlined by the on-site inspections conducted within the sphere of the Ski-Ability project, the geographical, morphological and climatic conditions of mountain contexts require a specific organization of the concept of accessibility. The approach according to the principles of Universal Design also requires investigation – to the point of reformulation – when the theme of the accessibility and usability of ski resorts is considered, since the conditions of natural and snow-covered environments require a perspective involving planning, organization, information, training, specific equipment and accessible communication.

In such contexts, intervention on the environment is often limited or marginal, due to the need to preserve the natural landscape and to the difficulties associated with the presence or absence of snow. In this regard, accessibility constitutes a predominantly organizational and communicative, more than infrastructural challenge. The concept of usability, understood as the relationship between the characteristics of the environment and the subjective requirements of the person concerned, takes on a key role in such contexts.

Given these initial considerations, the present operational indications are not to be understood as a prescriptive document providing recommendations or procedures, by following which an accessible ski resort can be achieved; rather, they are a guide to help the manager(s) of same to pose the question of accessibility in a cor-

rect and complete way, in other words, they are to be understood as an instrument to enable all the issues and the correlations between these to be expressed in order to tackle these correctly without omitting any. In effect, as shown in Chapter 2, the variables are so numerous that it would be necessary to provide differentiated recommendations and indications on a site-by-site basis.

To this we may add that accessibility is a dynamic process that is continually evolving and cannot be appraised by means of a simple checklist. The levels of accessibility will be able to be defined more correctly, being expressed through an objective description of the services offered, so that a person with disabilities can judge whether they are satisfactory or not, in consideration of their capacities and the conditions in which they reach the site.
It is clear that every skier, irrespective of their abilities (as an athlete or a beginner), has to adapt their own clothing and above all equip themselves with the instruments, the skis, to enable them to move on the snow, or to go down a snow-covered slope. If this is undoubtedly true for anyone, it is all the more so for a person with disabilities.

With reference to the various disabilities (motor, sensory and cognitive), skiers with sensory disabilities (sight impaired) and with cognitive disabilities are always accompanied and ski with a trained guide to accompany them. For this reason, the operational Indications have been mainly focused on skiers with impaired mobility, who, in contrast, can be completely autonomous. In particular, the skiers of reference are represented by those with impaired mobility who reach the resort independently for a day on the snow in autonomy (therefore excluding paralympic athletes or organized groups).

For all the types of disabilities, it is essential for the communication and information to be available in accessible format and to provide precise and updated indications on services and on the accessibility and usability of the facilities.

*1.2 The role of accessible communication*

Access to information, from the booking of services to organizational support and accompaniment, are fundamental in order to guarantee inclusive experiences. The topic, which traverses all forms of disability (motor, sensory, cognitive), takes on a key role in anticipating a fully accessible tourism offer. For people with sensory or cognitive disabilities, who are often accompanied by instructors, the clarity and availability of information represent the first level of access to the experience. The adoption of inclusive technologies, such as accessible websites in conformity with the European Accessibility Act, the presence of content with audio description or the availability of cognitive mediators and visual instruments, are elements that are essential for the user's autonomy.

*1.3 Social sustainability and accessibility at ski resorts*

The subject falls within a broader theoretical framework referable to the principles of social sustainability, as enunciated by Goals 3, 10, 11 and 17 of Agenda 2030, which promotes the development of cities and human settlements that are inclusive, safe, resilient and sustainable. The extension of this paradigm to alpine contexts requires an integrated and multi-scale interpretation of sustainability capable of bringing together ecological, socio-economic and cultural dimensions, with particular attention devoted to the geo-morphological and climatic peculiarities of these territories.

From this perspective, the application of the principles of inclusion and resilience in mountain environments implies the recognition of alpine areas not only as decentralized or recreational spaces, but also as complex locations, characterized by dynamic relationships between people and the environment, which require territorial policies oriented towards equal access, towards the active participation of local communities and the showcasing of local identities.

Guaranteeing a genuine usability of spaces and activities — also in the presence of critical environmental conditions — means adopting design and administration ap-


Ensuring good health and wellbeing for all and for all ages.


Reducing inequality within and among nations.


Making cities and human settlements inclusive, safe, lasting and sustainable.


Reinforcing the means of implementation and renewing the worldwide partnership for sustainable development.



Sustainable development goals of Agenda 2030.

proaches that are inclusive, capable of responding to the requirements of a plurality of subjects, reducing inequalities in terms of access to services, natural resources and cultural and recreational opportunities.
In conclusion, this involves a critical reflection on the role of ski resorts within the sphere of the agendas of sustainable development, promoting management models that integrate environmental values, social concerns and long-term sustainability, with a view to social justice and territorial cohesion.

## 2. The flow-chain for accessibility: structure and aims

*2.1 Definition and purposes of the flow-chain*
To frame and define the variables, and the interdependences between them that contribute to defining the accessibility and usability of a ski resort, it has been deemed useful to define a *flow-chain* expressed graphically. This is an analytical and design instrument used to represent, in sequential and logical form, a set of activities, conditions, actors and interactions that are functional to the achieving of a given goal or the enjoyment of a service. This model is configured as an operational map of the process, which is useful in order to identify critical issues, optimize resources and guarantee cohesion between the various phases of the user's experience, especially in complex and multi-sector contexts.

In the specific case of accessibility in the tourism-mountain sphere, the *flow-chain* has been used to represent systematically and operationally the series of passages, actions and conditions that are indispensable in order to guarantee the enjoyment of a ski resort by people with disabilities.
This methodological instrument enables the entire user experience to be displayed in a sequential and integrated manner, from the phase of planning of the experience to the actual engagement in the sporting activity, underlining the critical issues along the route, the Organizational and Operational Efficiency Indicators (KPI) that may be present.

Through this representation it is possible to define progressive levels of accessibility, which enable differentiated design and administration interventions to be oriented based on the degree of inclusivity that is achieved or anticipated. The *flow-chain* is therefore configured as a strategic instrument to support inclusive design, which is useful both in appraisal before the event and in the monitoring of the conditions of actual access to spaces and services.

*2.2 Structure of the flow-chain*
The *flow-chain* is structured into three main phases:
- Phase 1: Pre-trip info
- Phase 2: Arrival and reception
- Phase 3: Access to facilities and use of the slopes

Each phase requires detailed planning, including the availability of equipment, services, training of personnel and technological solutions.

**3. Phase 1: Pre-trip info**

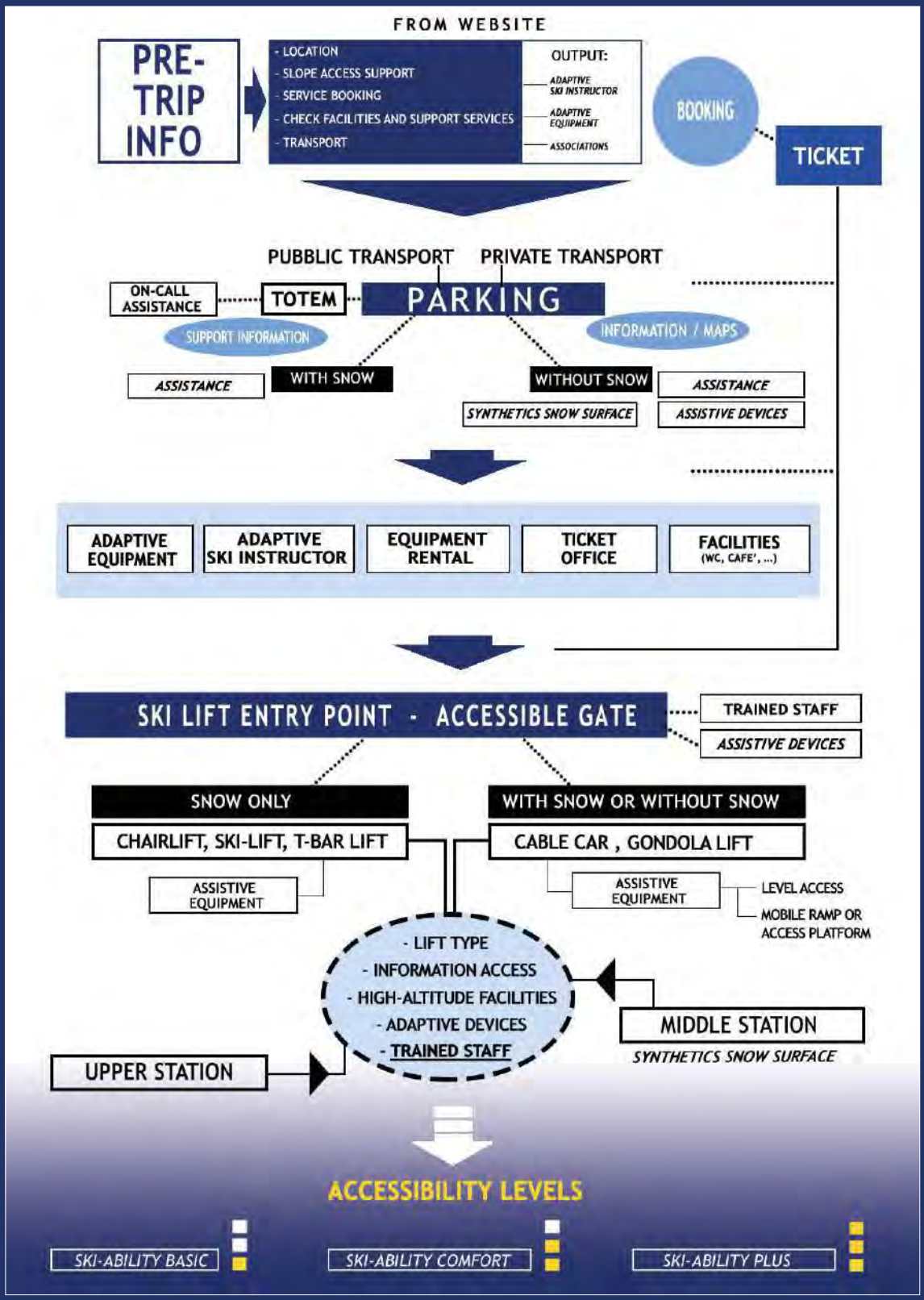
*3.1 Accessible information*
The preliminary phase of the sport and tourism experience, which is often neglected in the planning of the offer, is a crucial moment as regards inclusion. The search for information and the planning of the trip are activities that condition the possibility of enjoying the experience, especially for people with disabilities, who need information that is reliable, detailed and verifiable.
From this perspective, the quality and accessibility of digital information channels – first and foremost the websites of ski resorts – take on a fundamental role. These instruments must be in compliance with the European Accessibility Act.

The contents must also be usable by people with visual, auditory, motor or cognitive disabilities, by means of correct semantic structuring involving alternative texts,

PHASE 1

PHASE 2

PHASE 3




The *flow-chain.*

compatibility with screen readers and navigation via keyboard.
In addition to the form, the contents must also meet inclusivity criteria, providing clear, up-to-date and complete information as regards:

- accessible forms of transport, including shuttles with amenities, reserved parking and continuity of pedestrian routes;
- availability of instructors qualified to teach skiing to people with disabilities and their relative contacts;
- the presence of adaptive equipment, such as mobility aids or instruments to support balance;
- accessible routes, both inside the structures and on the slopes;
- toilet facilities, refreshments and communal areas without architectural barriers;
- simplified online booking methods, supported by assistance, possibly involving filters for specific requirements.

From this perspective, accessibility of information must be understood not only as the elimination of the technological obstacles, but as the right to knowledge and self-determination, consistent with the principles expressed in the U.N. Convention on the Rights of Persons with Disabilities, particularly articles 9 and 21.

*3.2 Personalization of the experience*

Accessible information forms the basis upon which to build inclusive tourism planning, capable of valuing the diversity of people, and offer routes and experiences that are truly adaptable to the specific needs of the largest possible number of users. In this regard, the principle of personalization runs alongside that of universality, configuring an approach that – consistent with Universal Design – does not aim to standardize the experience, but to make it flexible, modular and open.
Applying this approach to the enjoyment of a ski resort means preparing a system capable of responding to individual requirements in a precise, timely and cohesive manner, not only in terms of physical access to facilities, but also with respect to the forms of relations, information and organization of the entire experience.

For example, a visually impaired or blind person should be able to:

- book in advance an instructor-guide who specializes in communication during skiing;
- define a meeting point that is assisted and safe, and easily locatable on arrival;
- receive information by voice or Braille regarding the routes, facilities and services available.

Likewise, a person with impaired mobility could require:

- dedicated spaces for changing equipment;
- ski-lift installations that are compatible with the help used;
- trained personnel for support in ascent and descent, in accordance with codified procedures.

With regard to this, personalization must not be understood as exception or subsequent adaptation, but as an original criterion of planning, anticipating and preventing exclusion. This proves consistent with international recommendations expressed by organizations such as U.N. Tourism, which promotes a view of tourism as a universal right, and encourages practices oriented towards the active inclusion of people with disabilities.

**4. Phase 2: Arrival and reception**

*4.1 Reception on site*

Once the ski resort is reached, the experience of users with disabilities enters the phase of reception on site, in which logistical, relational and environmental aspects are interwoven.

This phase represents a central element in the construction of an inclusive and positive experience, in which the perceived quality of the services depends on the continuity of the accessibility between transport, infrastructures and support services.

Physical access to the skiing area is an initial element of attention. Whether the user arrives by public transport or dedicated shuttles, or by private means, immediate and safe conditions of usability must be guaranteed. Accessible car parks must be located in the proximity of the installations, have floors that are level, stable and without obstacles and, where possible, be covered, so as to offer protection in adverse weather conditions.
The meteorological variability that is typical of mountain environments directly affects local mobility: the presence of snow imposes solutions for the safe transportation of devices such as monoskis, snow wheelchairs or adaptive equipment; in the absence of snow, the use of *synthetic snow surfaces* or similar can guarantee the continuity of routes, avoiding barriers and risks of slipping.

Reception is not exhausted in the physical adaptation of spaces. It is expressed above all through a structured system of support services, designed to respond flexibly and precisely to individual requirements.

Listed among these are:

- totem signs or call devices to request assistance;
- the possibility of meeting with the instructor or specialist guide at a location that is agreed, accessible and easily identifiable;
- fully equipped infopoints without barriers, with trained personnel who are proficient in communication with people with various disabilities;
- toilet facilities, bars, ticket offices, waiting and refreshment areas that are fully accessible and well signposted;
- the hire of adaptive equipment, with the possibility of personalization depending on the abilities and preferences of the user concerned.

The reception phase is an interface between landscape and individual, in which built environment and human factor contribute to guaranteeing the continuity of the experience, autonomy in decision-making and perceived safety.


Madrisa-Klosters. Accessibility and usability in a refreshment area.

This approach is consistent with the criteria of universal accessibility, as delineated by the U.N. Convention on the Rights of Persons with Disabilities (art. 9), and falls within the recommendations of Universal Design, which aim to make every phase of the tourism experience inclusive, flexible and high-quality.
In short, reception implies the creation of empowering conditions capable of transforming the stay in the mountains from a mere technical possibility into an experience of belonging and participation, even in contexts that are climatically and topographically complex.

**5. Phase 3: Installations and ski-runs**

Access to the installations is a crucial moment in the course of the skiing experience for people with disabilities, as it marks the transition from the departure environment to the operational dimension of the sporting activity. This phase requires integrated planning from many perspectives: infrastructural, organizational, human and environmental.

*5.1 Entry to the installations*
Accessibility must be guaranteed from the very first point of contact with the infrastructures. The entry lanes must be without traditional turnstiles or replaced by automatic systems with sliding doors, or else openings that are sufficiently wide to enable wheelchairs, monoskis and other devices to pass through. A level surface between the pavement and the access floor or, alternatively, the presence of mobile ramps, are fundamental elements in order to avoid obstacles in the embarkation phase.
An indispensable element is the presence of trained personnel who are capable of providing assistance in the critical moments – embarkation, disembarkation, orientation – and mediating between the requirements of users with disabilities and

"Level" accessibility with synthetic flooring.

the technical characteristics of the installations. The training of personnel must be continuous and specific, with reference to the main types of disability and inclusive practices.

*5.2 Types of installations and relative forms of access*
The variety of installations significantly affects the methods of use:

- Open snow-covered facilities (e.g. ski-lifts, t-bar lifts, chairlifts) are generally only accessible with the use of snow devices such as monoskis. They require the presence of natural snow or, alternatively, the use of suitable *synthetic snow surfaces.*
- Covered facilities (e.g. gondola lifts, cableways) offer a higher level of accessibility, enabling direct embarkation by wheelchair. In such cases, the continuity of the ground surface is decisive.

*5.3 The influence of weather conditions and transition between devices*
The snow and weather conditions are a key factor. In the presence of snow, the use of monoskis, dualskis or snow-karts allow mobility on the slopes; in the absence of snow, on the other hand, access must be guaranteed via *synthetic snow surfaces*.

The flexibility of the system is therefore fundamental, and this must envisage fully equipped, covered and heated device changing points, in which users can move from the wheelchair to the monoski, or vice versa, in comfortable and safe conditions. The presence of fully equipped areas for assisted transfer is a decisive element in this phase.

*5.4 Intermediate stations and ski lodges*
Intermediate stations, alpine ski lodges and refreshment areas along the route are indispensable points for resting and socializing. However, their accessibility is often limited for those using snow aids.


Skier preparing a monoski near the Madrisa–Klosters intermediate station.

We recommend the providing of courtesy wheelchairs at these strategic points, to enable users to move from snow-covered surfaces to internal floors without having to abandon the experience.
Such temporary devices, if appropriately managed, improve autonomy, reduce the requirement for assistance and favour full inclusion even in spaces not directly linked to sporting activities.

*5.5 Adaptive equipment and technical support*
Finally, full accessibility implies the availability of adaptive equipment such as monoskis, dualskis, snow-karts, stabilizers or sensory aids, all personalizable based on the user's requirements. Equipment hire centres must guarantee not only the availability of these devices, but also a quality technical service for adaptation, maintenance and possible repair.

This is accompanied by the central role of specialist instructors, trained according to the protocols envisaged by bodies such as the International Paralympic Committee (IPC). Their presence makes it possible to structure individualized, safe and progressive routes, valuing the mobility, cognitive and relational abilities of each person.
From the regulatory point of view, in addition to systematic recourse to the principles of Universal Design, as understood and delineated in Chapter 1, ISO 21902:2021 (Tourism and related services – Accessible tourism for all) also provides useful indications on equipment and services in order to guarantee autonomous, safe and enjoyable use by every person, irrespective of their disability.

In short, making installations and equipment accessible implies the transformation of the mountains into a space capable of welcoming all forms of corporeality, offering solutions that are not restricted to enabling access, but that empower the experience and the relationship with the natural environment in a full and dignified manner.

*5.6 Transition between devices*

One of the fundamental aspects of accessibility concerns the movement between the various aids used during the activity. The return to installations may require, for example, transfer from monoski to wheelchair, an operation that must take place in protected, level and well equipped spaces, preferably with the presence of qualified personnel to guarantee comfort and safety.

Where necessary, courtesy devices or support posts must be available for changing aids.

*5.7 Returning to communal spaces*

The return to communal spaces (car parks, ticket offices, refreshment areas) must take place via routes that are accessible, signposted and heated or cleared of snow, guaranteeing the maximum continuity of the experience.

This aspect must be perceived not as a residual phase, but as a moment when the person concerned can reflect on their lived experience, share it with others and conclude their path in a positive way.

*5.8 Post-experience services*

The presence of post-activity support services is also fundamental; these could include:

- areas for physical recovery (with benches, roof coverings, drinking water);
- accessible and heated changing-rooms;
- showers and baths that are usable and without barriers;
- assistance for loading aids onto the transportation;
- information points to provide *feedback* or request further support.

Such elements, which are often neglected, contribute substantially to the overall quality of the experience and the possibility of transforming sporting activities into a repeated, safe and gratifying routine.

*5.9 Appraisal and continuity*
The phase of returning home should include opportunities to appraise the experience: accessible questionnaires, short interviews or moments of informal discussion with the personnel can provide precious elements to facilitate the continual improvement of the service. Furthermore, where possible, it is useful to offer proposals for a future return, reinforcing the sense of belonging and continuity.

*5.10 Rendering and communicating the experience*
The final phase of the accessible skiing experience is not exhausted with the physical return home, but ideally continues through the symbolic rendering and narrating of the activity carried out. Documenting, reporting and sharing what has been experienced all make it possible not only to appraise the individual experience, but also to contribute to a broader culture of accessibility and inclusion.

For many people with disabilities, the possibility of experiencing a significant sporting activity in the mountains offers a moment of great emotional, physical and relational impact. Promoting telling about the experience – through images, videos, journals, posts on social media or interviews – enables self-respect to be reinforced, a sense of positive identity to be nurtured and inspirational models to be offered to other potential users. From this perspective, it is appropriate for ski resorts to offer virtual or physical spaces for the sharing of testimonies, encouraging accessible, plural and authentic forms of narrative.

*5.11 Participatory appraisal*
Post-experience communication is also a key moment for gathering observations, suggestions and assessments by users, their relatives and companions. Instruments such as inclusive questionnaires (written, verbal or visual), guided interviews or *focus groups* can facilitate a participatory appraisal of the quality of the experience. Such data is fundamental in order to monitor services and identify recurring critical issues, but also to showcase existing good practices.


Some examples of dedicated applications. Accessible routes, synthetic surfaces, mobile ramps, extra services.

*5.12 Visibility and advocacy*
The rendering of the experience can have a broader impact at a social and institutional level. Stories of successful accessibility, when well documented and disseminated, stimulate the public demand for inclusion, reinforce the role of the territories committed to social sustainability, and encourage other actors to follow similar paths. In this regard, communication is not only a concluding phase, but also becomes an instrument of *advocacy*, cultural exchange and participatory planning.

**6. Levels of accessibility: Ski-Ability Basic, Comfort, Plus**

The mountain system, with its specificity in geographical, climatic and infrastructural terms, is a privileged sphere of verification in order to evaluate the degree of maturity of policies of inclusion, accessibility and sustainability.

In this context, the Ski-Ability project is configured as an innovative and operational paradigm, oriented towards the construction of ski resorts that are truly open to all people, irrespective of the physical, sensory or cognitive conditions of users.

Through the development of the *flow-chain*, an instrument for the reading and planning of the entire skiing experience, it has been possible to identify and analyze every phase – from access to information to going down the ski-slope – highlighting the technical, relational and environmental conditions necessary to guarantee full use and enjoyment.
This systemic approach enables a fragmentary view of accessibility to be overcome, placing the continuity of the experience, the quality of services and the dignity of the people involved front and centre.

It is within this perspective that the proposal of a classification in three levels of accessibility falls; this enables the commitment of the ski resort to be graduated and a path of continuous improvement to be favoured, also through self-assessment:

• **Ski-Ability Basic** identifies the minimum level of accessibility, with at least one usable section and the presence of essential services in the preliminary phases (information, assistance, toilet facilities and accessible car park).

• **Ski-Ability Comfort** extends the experience with a number of accessible sections, increased availability of courtesy wheelchairs, reduction of changes of devices, the presence of trained personnel and the possibility of access in after-hours period.

• **Ski-Ability Plus** represents the most advanced level, in which accessibility becomes an integral part of the resort's identity: technologically evolved equipment, innovative architectural solutions, active involvement of local communities and inclusion strategies rooted in the territory.

This classification is not solely a ranking grid, but a strategic instrument of *governance*, capable of orienting design choices, public investments and training paths. It reflects a vision in which accessibility is no longer considered a marginal obligation, but a *driver* of local development, social justice and territorial cohesion, aligned with the Goals 3, 10, 11,17 of Agenda 2030, which invites the construction of inclusive, safe, resilient and sustainable human settlements.

In conclusion, the Ski-Ability model highlights how sport and the mountain landscape, and the alpine one in particular, can be places of active citizenship, capable of welcoming the plurality of bodies and needs, of promoting wellbeing, a sense of belonging and self-determination.



A delightful view for a wide-ranging experience at Söllereckbahn - Oberstdorf.

## Appendix: Summary of operational Indications and checklist for accessibility of ski areas

This section is an integrated summary combining the operational Indications with a practical *checklist*, to provide an overall framework of the actions necessary to make a ski resort accessible to people with disabilities.
It is based on the **flow-chain**, which structures the user experience into three main phases: preliminary information, reception and use of facilities.

### 1. Phase: Pre-trip info (preliminary Information)

**Operational indications**: The preliminary phase is the point of departure of the inclusive experience. Often underestimated, it proves crucial as it enables users with disabilities to plan their trips independently and safely. It is therefore necessary for the information channels, the website first and foremost, to be compliant with the **European Accessibility Act**. This means that the contents are usable by people with visual, auditory, motor or cognitive disabilities thanks to correct structuring, alternative texts and compatibility with screen readers.

In addition to the form, the content must also be detailed and complete, providing specific information on **accessible modes of transport, the availability of qualified instructors and adaptive equipment.**

The approach must be consistent with the principle of **Universal Design**, which does not aim to standardize the experience, but make it flexible and adaptable to the various requirements.

For example, a blind person should be able to book a specialist instructor-guide in

advance, while a person with impaired mobility would need dedicated spaces for changing equipment.
Information accessibility is configured as the right to knowledge and self-determination, as established by the U.N. Convention on the Rights of Persons with Disabilities.

*Action-by-Action Checklist:*

- Verify that the ski resort's website respects the **European Accessibility Act**.
- Verify that the contents are compatible with **screen readers** and navigable by keyboard.
- Include on the website clear information on:
  - **accessible modes of transport and reserved parking**;
  - **availability of qualified instructors**;
  - **presence of adaptive equipment**;
  - **accessible routes** on slopes and in the structures;
  - **toilet facilities** and communal areas without barriers.
- Make **online bookings** simple and supported by assistance.
- Envisage the possibility to personalizing the experience, for example, by allowing a specialist **instructor-guide** or **dedicated spaces** to be booked.

### 2. Phase: Arrival and reception

**Operational indications:** Once they have arrived in situ, users with disabilities must be able to find a logistical and relational continuity between the various services. **Accessible car parks** must be located in the strategic proximity of the facilities, with **flat, stable floors without obstacles**.
In mountain environments, the variability of the weather is a critical factor; there-

fore, the car parks should preferably be **covered**, and alternative routes in the absence of snow must be guaranteed by the use of **synthetic surfaces** (e.g. **synthetic snow surface**).

Reception is not exhausted with the infrastructures. A structured system of **support services** is necessary, including: **totem signs or emergency call devices** for assistance, **fully equipped infopoints** with qualified personnel and the possibility of hiring **adaptive equipment**.
The reception phase forms the interface between environment and individual, where inclusivity and perceived safety are crucial for a positive experience.

*Action-by-Action Checklist:*

- Guarantee that **accessible car parks** are close to the facilities and have **stable, flat floors without obstacles**.
- Consider the installation of **synthetic surfaces** to ensure mobility in the absence of snow.
- Prepare **totem signs or emergency call devices** to request assistance.
- Organize meeting points with instructors that are easily identifiable.
- Train infopoint personnel to communicate with people with various disabilities.
- Guarantee that **toilet facilities, bars and ticket offices** are fully accessible and well signposted.
- Provide an **adaptive equipment hire service**, with the possibility of personalization.

### 3. Phase: Access to facilities and use of ski-runs

**Operational indications**: This phase represents the transition towards skiing practice and requires integrated planning on the infrastructural, organizational and human levels.

The accesses to the facilities must be without barriers: traditional turnstiles must be replaced by **automatic systems with sliding doors** or wide openings.

**Routes on the same level** or, alternatively, the presence of **mobile ramps** to overcome any differences in levels, are essential. The **presence of trained personnel** is an essential element in order to assist users during embarkation and disembarkation.

Flexibility in the system is necessary, as it must manage the transition between different aids (e.g. wheelchairs and monoskis). Aid changing points must be **fully equipped, covered and heated** in order to guarantee safety and comfort.

Along the route, the intermediate stations and ski lodges should be equipped with **courtesy wheelchairs**, enabling users to move from snow-covered surfaces to indoor flooring without any discontinuity. Full accessibility is configured through the availability of personalizable **adaptive equipment** and a **qualified technical service** for maintenance.

*Action-by-Action Checklist:*

- Remove traditional turnstiles and install **automatic systems with sliding doors** or wide lanes.
- Guarantee that the ground surface and the access to the facilities are **on the same level**, or else install **mobile ramps**.
- Guarantee the **presence of trained personnel** to assist with embarkation and disembarkation.
- Prepare **fully equipped device change points, which are covered and heated**.
- Provide **courtesy wheelchairs** in the ski lodges and intermediate stations.
- Make a range of **adaptive equipment** available (monoskis, dualskis, snow karts, stabilizers).

- Provide a **qualified technical service** for the personalization and maintenance of the aids.
- Collaborate with trained **specialist instructors** to teach people with disabilities.

### Classification of levels of accessibility

To evaluate and improve the commitment to inclusion, the **Ski-Ability** project proposes three levels of classification:

- **Ski-Ability Basic**: Minimum level. One single usable section and the presence of essential services (information, assistance, toilet facilities and accessible car parks).

- **Ski-Ability Comfort**: Intermediate level. Extends the experience with a number of accessible sections, increased availability of **courtesy wheelchairs**, reduction of changes of devices and trained personnel.

- **Ski-Ability Plus**: Advanced level. Accessibility is an integral part of the resort, with technologically advanced equipment and innovative architectural solutions.

This classification is not solely an evaluation, but a **strategic instrument of *governance*** orienting investments and training paths. Investing in accessibility implies configuring mountain contexts as places of active citizenship and promoting wellbeing and autonomy for all.



Madrisa-Klosters. Skiers on the snow-covered slope.

This study investigates the subject of the accessibility and usability of ski areas within the sphere of the Ski-Ability project promoted by the Lombardy Regional Authority in the context of the Arge Alp Working Community and co-financed by the same body.

The study has been structured starting with the analysis of how accessibility is recognized and handled in traditional construction and urban spheres at international level (Universal Design), to then be developed and adapted to suit skiing contexts. The on-site investigations in the pilot areas selected by the regions involved in the Arge Alp Working Community have provided a meaningful overview of the operating conditions to which the various areas are subject, in terms of accessibility and usability (in some cases already consolidated, in others in the development phase), highlighting differences referable to the morphological characteristics of the sites and the degree of experience accrued over time.

The analysis conducted has made it possible, through a *flow-chain*, to define a methodology capable of supporting administrators in the integrated reading of the overall situation, the variables in play and the relative interdependences, with the aim of orienting systemic – and not episodic – interventions intended to allow an aware increase in the level of accessibility

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