



2021
FIS Alpine
World Ski
Championships

PRESENTED BY



**ASSESSMENT OF ECONOMIC,
PSYCHO-SOCIAL AND ENVIRONMENTAL
IMPACTS OF THE OPENING CEREMONY
OF THE 2021 ALPINE WORLD SKI
CHAMPIONSHIPS IN CORTINA**



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1. INTRODUCTION

The aim of this research is the assessment of **the economic, social and environmental impact of the Opening Ceremony of the 2021 Alpine World Ski Championship in Cortina**, commissioned by Fondazione Cortina 2021, carried out with the contribution of the Government – Sports Department and produced by Triumph Group International with the artistic direction of Roberto Malfatto.

Future and sobriety were the key words of the 75 minutes broadcasted worldwide on Rai2 on 7 February 2021 at 6:00 p.m.

The numbers of the first world sports event in the pandemic era are those allowed by the strict safety protocols: : 300 people on stage supported by a production of 200 people and about 500 spectators.

The event was designed to be accessible only in remote mode.

Under heavy snowfall the atmosphere was warmed up by **Quartetto Effe** playing Vivaldi's "Estate", followed by **Francesco Montanari** with his monologue that brightened up the entire Ampezzo valley gathering everyone's words, which solemnly took their place in the air.

The flags of the 71 participating countries were waving on the notes of **We are the champions** performed by **Jacopo Mastrangelo**, **Francesco Gabbani** sang **Futura** by Lucio Dalla followed by the notes of the young singer **Alfa** and the lightness of **Elisa Barucchieri's** and **ResExtensa** aerial dance to symbolise the journey through the beauties of our country accompanied by **Andrea Casta** with his electric violin. **Meravigliosa creatura** was the homage paid by **Gianna Nannini** to the Dolomites.

Together with music and dancing to pay homage the local tradition and to our country.

The institutional moments and the tributes to two great symbols of the art of Veneto, well-known worldwide, were also impressive. The tenor **Piotr Beczala** sang Puccini's Nes-

sun dorma in the magical atmosphere of the Arena di Verona and **Antonia Sautter's** enchanting costumes render homage to the Venice Carnival.

The share of the broadcast of this event on Rai2 was 8.1% against 4.7% which is the average share recorded on this TV channel at the same viewing time.

The Alpine World Ski Championships and Cortina

Cortina was initially a summer tourist destination which became famous thanks to the first pioneers of mountaineering, but it was with the spread of skiing and winter sports that it became an internationally known resort. The territory of Cortina is divided into three ski areas:

- Faloria-Cristallo-Mietres;
- Tofana;
- 5 Torri-Lagazuoi-Giau.

These three areas include 70 alpine ski runs, 35 blue runs, 29 red runs, 6 black runs, for a total of 115 km, all served by 38 lifts. In addition to classic alpine skiing, which is undoubtedly the most attractive sport activity, Cortina also offers Nordic skiing, with 60 km of pistes running through the Natural Park, ski mountaineering, Telemark, snowboarding and off-piste skiing.

The Alpine World Ski Championships are a sports competition held every two years that is governed and managed by the International Ski Federation (FIS).

The first edition of this event was held in 1931

and afterwards it was held annually until 1939. After the interruption due to the outbreak of the World War II, starting from 1948 the competition was resumed every two years. In 1985 the International Ski Federation decided to hold the Championships in the odd-numbered years, so as to avoid that the event coincides with the Olympic Games which are held every four years.

Under increasingly heavy snowfall and with strict security protocols for athletes and authorised personnel, this year the Opening Ceremony of the 46th edition of the World Ski Championships was held with the participation of young artists and high-calibre talents from Italian music and performance, including also local and regional outstanding features and the twinning with Venice and its Carnival



2. THE METHODOLOGY

2.1. The evaluation methodology adopted to assess the impacts

The social impact concerns mainly the change in people's habits as a result of an "income effect" (financial impact, deriving for instance from allied activities; or environmental impact with consequences, for example, in terms of health).

In the case under examination, the social impact was estimated quantitatively (through documentary analysis) and then validated with qualitative methodologies (semi-structured interviews) to confirm quantitative data that often are not sufficient to understand the phenomenon being examined.

In order to estimate quantitatively an intangible effect, comparison variables - known as proxies - were outlined, as well as other comparison variables which basically aim to express **how much a person would have paid or could have paid to obtain a similar benefit** (the so-called "willingness to pay").

This method makes it possible to quantify at social and individual level intangible values that often individuals perceive in a different way, such as: benefits to health, well-being, personal satisfaction, improvement of skills and work skills. Whereas negative externalities, environmental costs or increased stress levels are quantified in a negative sense.

Moreover, **the social impact made was compared with the resources invested to generate it.**

In this regard, the framework known as **Social-ROI** (or S-ROI) can be used to assign an evaluation parameter for the generation of social, economic and environ-

mental effects and impacts of a project, a path or a strategy, as well as of a company or organization as a whole. It is the **evaluation of the difference between costs and benefits and, hence, of the monetary and intangible value produced in favour of stakeholders which is assessed through the direct involvement of the main key players.**

Benefits usually include time savings, income effect, improvement in health or psychological/relational status; changes in the propensity to consume cultural goods, improvement in one's independence, strengthening of skills and networking, confidence, goodwill, as well as other intangible effects. On the other hand, negative effects generally include the worsening of health and living conditions, increased time to devote to certain activities, hidden costs, loss of opportunities, reduced competitiveness, corruption, bribery, maladministration and other crimes related to the mismanagement of an entity and the ensuing costs related to justice, hospital and law enforcement.

Moreover, the endorsement by the stakeholders makes this indicator particularly suitable for providing a solid measure of the creation of social value generated by an organization. This evaluation process is made up of the following stages:

- a) involvement of the stakeholders in the evaluation;
- b) definition of a number of "proxies" together with the stakeholders (by means of focus group or other methods) and through the analysis of the documents. Proxies are variables expressing the monetary value of an intangible effect, by choosing relevant comparable parameters that can express in the best way a social value generated;

- c) choice of evaluation parameters, an attempt is made to maintain a profile of "realism", without seeking challenging measurements that are difficult to substantiate;

- d) maximum transparency and scientific rigour (hence, citation of sources of the proxies and use of possibly validated tests including psychometric ones);

- e) data collection;

- f) data analysis and verification of results;
- g) internal and external disclosure.

(Arvidson, Lyon, McKay and Moro, 2010; Nicholls, 2012; Millar et al. 2012; S-ROI Network, 2015; Whelan 2015).

A mix of methods is used in this type of analysis in order to be able to combine a qualitative, quantitative and financial information in a systemic way, aimed at better estimating the amount of value, of wellbeing of physical or mental health generated or destroyed (Nicholls 2012; Padon et al. 2014; Whelan 2015).

More in detail, the S-ROI provides a quantification expressed in monetary terms, specifying how many "euros" (or other currency) have been produced for each euro invested in the project.

By way of illustration, an S-ROI equal to "4" expresses an evaluation according to which for every euro invested in the initiative assessed 4 euro were generated. This value produced refers to what has been obtained by the stakeholders and, hence, it does not specify an amount of money or benefits included in the financial statements of the party making the impact.

The "Theory of change" (TOC) is the reference theoretical framework on which the S-ROI analysis is based. This theory was created to explore the ways in which

social change is achieved and to estimate how a change can be demonstrated and presented, in order to show positive values, costs and negative externalities generated to external third parties (Arvidsson, Lyon, McKay and Moro, 2010). The challenge of applying this method and its innovative scope lie in attempting to quantify elements that are difficult to measure, such as the value of the trust generated by the work carried out by an institution; the effects of an activity in terms of psychophysical wellbeing, for instance in relation to employees or family members or users; modified skills, soft skills, propensities to consume or changes in behaviour (Whelan 2015).

Moreover, the S-ROI analysis starts with the examination of costs and revenues of the "statutory" financial statements, covering the time frame of one year. It can also be applied to longer periods and to individual projects and initiatives. **An ex-post (so-called "evaluative") calculation and/or a "predictive" evaluation can be carried out. In the latter case, this calculation allows the valuer and/or the board of an organization to obtain a strategic dashboard that is useful for choosing the allocation of scarce resources or for fundraising or to strengthen areas identified for improvement.**

There are different methodologies for the calculation of change and S-ROI. One of the most common is the "counterfactual" method, namely a comparison of variables is scheduled ex ante (before treatment) and ex post (after treatment) and then the result is calculated in both "treated" and in other "untreated" cases.

Another strong point of the S-ROI framework lies in the contribution it can offer in terms of organizational learning, as

well as tool for transparent reporting and communication. For instance, it is useful to dialogue with stakeholders in cases of NIMBY¹ syndrome or in other contexts characterized by strong information skewness.

An impact assessment and a S-ROI evaluation allow to:

- **foster participated learning processes**, capable of suggesting corrective measures aimed at increasing the potential of social impact of its programmes;
- **demonstrate their ability to generate socio-economic value** and to contribute to the well-being of the community within which they operate;
- **integrate the traditional accounting disclosure with forms of reporting that accounts for the results achieved**, their compliance with the institutional mission pursued, as well as for the effective and efficient use of the resources the organization uses to achieve them.
- **integrate the assessment of S-ROI with statistical evaluations** such as sensitivity analysis (scenario simulations with incremental and decremental variations of certain variables), aimed at increasing the soundness of the study carried out.

An operational difficulty lies in the need to obtain costs and investments from the accounts, in order to be able to include properly the “inputs” of the S-ROI ratio. This may be difficult if management control is not in place.

Therefore, the keyword of this study is **“impact”, namely the assessment of the consequences of a project and path that generates positive and negative externalities, with fall-out effects on internal and external stakeholders².**

After all, reasoning in terms of impact

does not only mean finding the right (qualitative and quantitative) indicators (i.e., that are consistent, appropriate and measurable) to observe the change made. This step is not enough to cover entirely the reflection on the matter. Instead, it is necessary for people to look at their own organizations and at what they achieve from a different perspective, asking themselves: “Which is the long-term change we want to generate or have generated through our activity? And to the benefit of whom?” These questions are linked to the need - on the part of the organization - to work first of all on the nature of its value, namely those specific traits that define and set the boundaries of their identity and that, linked to the ultimate goal of their action and the organizational model chosen to do it, necessarily affect their ability to contribute to the production of social impact.

More in detail, the S-ROI methodology consists of five essential stages:

1. Definition of the field of analysis, identification and involvement of the stakeholders. The stakeholders for the S-ROI calculation can be defined as all the parties that live the change or that influence - positively and negatively - the activity. The S-ROI is used to understand if we can create or destroy value and towards whom.

2. Construction of a map of the impact. A snapshot of the path is outlined by involving the parties concerned that are internal and more marginal to the project (namely the “stakeholders”). It describes how the activities that we intend to examine use certain resources (costs or inputs) to produce activities (outputs) that in turn will result in an effect and, more in detail, a change (outcome) for the sta-

keholders themselves. The map of the impact envisages a delimitation of the project, an analysis of the relevance of the themes for each social organization (so-called “materiality”) and for its creation international standards - such as GRI and AA1000SES - are applied.

3. Evidencing outcomes and assignment of a value. Stakeholders play an essential role in this stage, being those who have undergone or brought a change. In this stage the stakeholders are “heard” through qualitative approaches such as “interviews” and/or “focus groups”, in parallel with quantitative data collection carried out by means of questionnaires that usually include both descriptive behavioural and psychometric variables (in this case validated by WHO or otherwise found in official tests). The aim of assigning a value to changes (outcomes) goes through the identification of adequate financial values that help demonstrate to stakeholders the importance of the changes in their experiential sphere. Therefore, this stage of the analysis involves the definition of economic “proxies” namely comparable values so as to assign a value to situations that often do not have a definite market value. Moreover, it is to be considered that an objective cost does not exist for some goods, since such evaluation is the result of the subjective perception of those who either use or not use them.

4. Calculation of positive and negative externalities. This stage is extremely important as - by using proper indicators - it manages to reduce the risk of underestimating and, above all, to overestimate the analysis carried out, thus bringing back the value of the impact to a real and precautionary measure. In particular, the

calculation goes through three further steps:

- **Estimation of *deadweight/displacement*:** the deadweight is defined as the measure of the amount of outcome that would have occurred also even if the activity had not taken place. It is calculated as a percentage. For its calculation, reference is made to comparison groups. The relationship between deadweight and outcome is inverse: as the deadweight increases, outcome decreases
- **Attribution:** it is the assessment of the extent of the outcome coming from the contribution of other organizations or people. It is also calculated as a percentage.
- **Displacement:** it represents the percentage assigned for each change to negative externalities that are generated and not foreseen.
- **Drop off:** it is the estimation of the reduction of the effect or the impact across time. It also decreases the outcome value.

5. Calculation of S-ROI. The final stage of the methodology consists in determining a quantitative impact which, in turn, derives from the sum of the effects quantified by proxies, i.e., the equivalent variables expressing the value of effects and phenomena similar to those investigated, when an accurate value of the same is not available. For instance, a proxy expressing the hourly value of time saved consists in determining how much a person would be paid for an hour of time, so that they would perform certain activities of our daily life in our place. In this case, we usually assign at least a value of € 10 for each hour saved.

In this stage some other sub-parts are included, in particular:

- The value of the outcome in the future is estimated.
- The Net Present Value (NPV) of the

¹ NIMBY is the acronym that stands for “Not In My BackYard”, an expression that is used by people to show disapproval when they do not want a particular project since it interests or is envisaged in areas that are too close to their home.

² Cf. also the report of the President of the Italian National Anti-Corruption Authority (ANAC) presented to the G20 anticorruption working group (ACWG) and of the Anti-Corruption G2Q/OECD Conference held in Rome from 9 to 12 June 2014. See also the ANAC Annual Report for 2015 presented at the Senate of the Republic on 14 July 2016, in the part on the outcomes of some surveys carried out in the sector of services and supplies (“Extensions and renewals of services in the health sector”), pages 191 - 195.

project is calculated which consists in discounting the sum of present and future costs and benefits (in the event of multiyear duration) at a certain discount rate (“r” or WACC).

- Finally, the “S-ROI ratio” is calculated, namely the ratio between:

PRESENT VALUE OF OUTCOMES / VALUE OF INPUTS.

2.2. Analysis of psychological and social effects

At the outset of the process leading to the calculation of the S-ROI a clear theory of social impact is presented detailing the differential contribution of the project in a given area or for certain categories of subjects (Perrini and Vurro, 2013).

Such theory known as **Theory of Change (ToC) is a specific methodology applied in the social field to plan and evaluate projects that promote social change through participation and involvement.**

It is a strict and participatory process in which during a planning activity different groups and stakeholders present their long-term objectives (impact) and identify the conditions that according to them must be fulfilled in order to achieve these objectives. These conditions are outlined in the outcomes they want to obtain and are graphically organized in a causal structure (Taplin and Clark, 2012).

Upon completion of the bibliographic collection phase on the basis of the information found, the next step was the processing of a reduced amount of data in order to identify the effects that are of interest in the case under examination.

To that end, the 8 constituent domains of the LEQ (Life-Effectiveness Questionnaire - Neill J. T., 2001) were taken as methodological reference. The LEQ has been adopted, among other studies, also by Brewster (2014) to measure social and psychological effects of theatre activities carried out in prisons. **LEQ is a multidimensional measurement tool that is generally used to quantify the effects of psychosocial intervention programs.** It is based on constructs pertaining to the individual’s cognitive and emotional spheres (for instance, self-concept, self-efficacy and coping strategies) which, taken together, constitute the so-called “soft skills” that are necessary for the achievement of personal fulfilment in the personal, social and work spheres. The LEQ has been used in several research studies to date, and it has gained increasing attention from the scientific society as a promising tool for research and evaluation of intervention programmes in the psychoeducational field.

In creating the questions related to the psychological effects on the public the following LEQ domains were taken into consideration:

- **“IF” (Intellectual Flexibility)**
- **“SO” (Social Competences**, including communication skills, positive relation, cooperative work, family relationships, conflict resolution skills)
- **“AM” (Achievement Motivation)**
- **“EC” (Emotional Control**, stress management)

The Social Return on Investment (S-ROI) represents one of the most established social impact evaluation framework, as it is an indicator that meets the main requirements of social impact assessments, namely (Watson, 2017):

- the ability to measure results rather than to track them;
- the ability to compare the value of different types of benefits;
- the evaluation of counterfactual evidence in generating impact;
- the ability to steer towards effective and consistent funding decisions.

In recent years, the use of S-ROI has expanded into a variety of fields, such as health and social care, humanitarian initiatives, cultural activities and museums, rural development, environmental sustainability, sports activities and implementation of new technologies.



3. THE RESULTS OF THE RESEARCH

3.1. Results of the questionnaires

In order to measure the effects of the event, **specific questionnaires have been prepared**, made available on online platform, **administered to the various categories of stakeholders identified**, namely:

- Spectator of the event (from home via TV or web)
- Local inhabitant
- Local entrepreneur
- World Championships' Athlete
- Artist
- Organizers, Sponsors and Partners
- Worker of the event

The first questionnaire for the measurement prior to the Opening Ceremony was completed by 323 people.

Category	% on total	Number of respondents
Spectator of the event (from home / via TV or web)	54,35%	175
Local inhabitant	3,42%	11
Local entrepreneur	6,83%	22
World Championships' Athlete	0,31%	1
Artist	9,63%	31
Organizers, Sponsors and Partners	17,70%	57
Worker of the event	7,76%	25

The second questionnaire, after the opening ceremony, was completed by 81 people, belonging solely to the spectators' category.

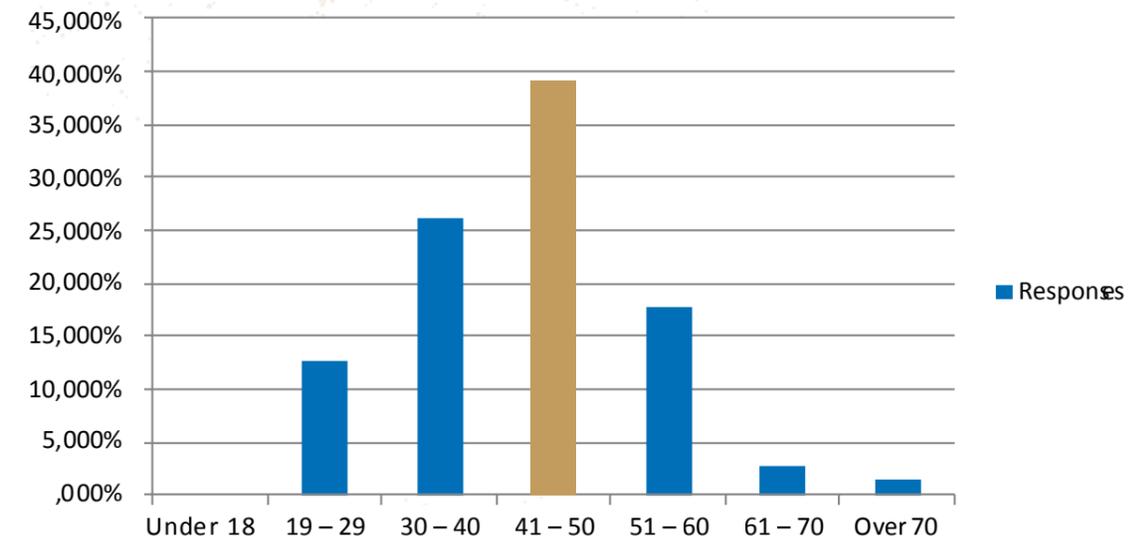
The most relevant results of the research carried out with the questionnaires, divided by stakeholder examined are reported below.

Spectators

With regard to spectators being the main stakeholders of the research, the following results are pointed out.

In this regard, first of all the statistical representation describing the sample of respondents, divided by gender and age is shown below.

Gender	%
Female	56,03%
Male	43,97%



The first questionnaires examined show an improvement in wellbeing resulting from the event.

The questionnaire also included a question on the download of the APP dedicated to the event. The objective was to monitor the trend of downloads thanks also to the inputs received during the Opening Ceremony of the World Ski Championships.

Question: "Have you downloaded the Cortina 2021 App?
Link <https://cortina2020.sportxp.net/>"

Answers	Pre-event	Post-event
Yes	23%	31%
No	77%	69%

As it can be seen in the table, between the pre- and post-event **an 8%-increase of APPs downloaded is recorded, meaning that even just watching the ceremony was a vehicle to increase the use of the dedicated App.**

With regard to the expectations for the use of the application, 60% of the spectators fully agree that the APP will allow them to keep up to date with the preparation of the slopes and the athletes' courses, as well as to view the race calendar in an optimal way.

Excellent results for the Cortina 2021 Official App, which during the period of the World Championships was the second most downloaded APP in the various in stores, with about 9,000 downloads, and those relating to the Cortina 2021 website, which on Sunday, February 7, 2021 only - on the occasion of the Opening Ceremony of the World Ski Championships - has recorded over 59,000 unique user accesses.

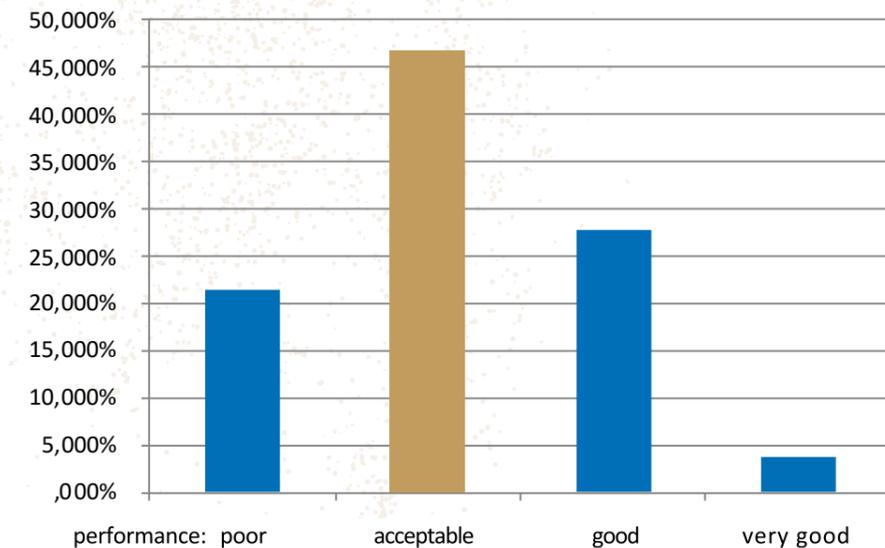
With reference to the expectations for the virtual viewing of the Opening Ceremony of the Cortina 2021 World Ski Championships (and of the competitions) instead of the traditional in-person modes, about 87% of the sample agree on the statement that in any case the digital mode will allow to experience the emotions of the event and to have the possibility to enjoy an event that was at risk to be postponed for this year.

These expectations were confirmed also after the opening ceremony; according to only 5% of the sample the fruition of the event from home was "limited", whereas for 86% of the respondents the duration of the ceremony was right.



During the ceremony some broadcast technical issues were experienced, due to a heavy snowfall, which characterized the opening ceremony. The effects of these issues were mentioned also in the answers to the questionnaire. In fact, when asked for feedback on audio and video quality, 21% of the sample reported poor audio/video performance. On the other hand, for 47% of the sample the video performance was acceptable.

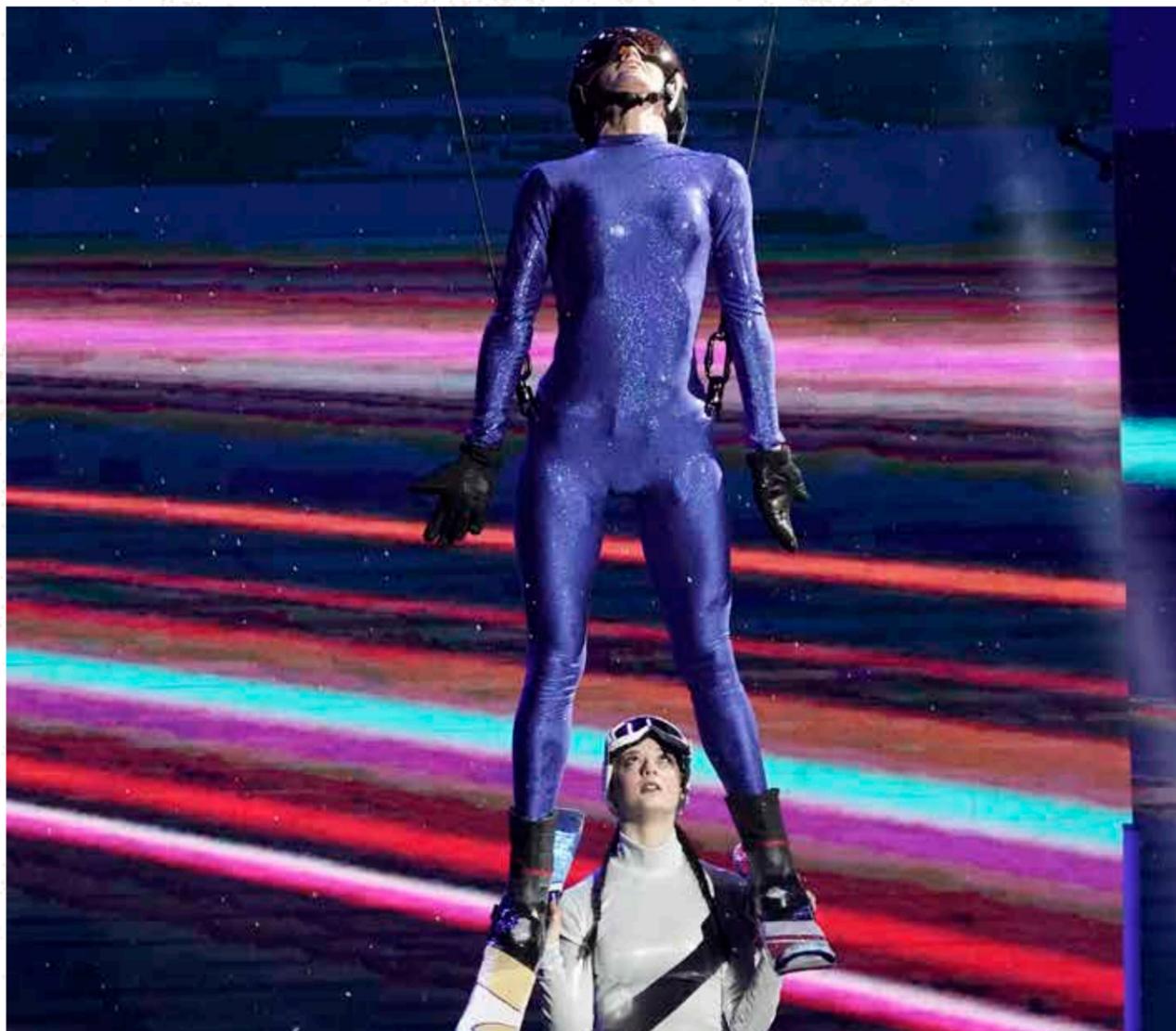
Audio and video performance



A further area of analysis concerned the relationship of spectators with the mountains. The objective was to investigate the change generated by the event towards those who stayed at home and their future willingness to go to the mountains to live their experiences directly.

Question: "After watching the Opening Ceremony, state to what extent the following statements represent your idea."

Answers	Strongly agree	Agree	Disagree	Strongly Disagree
I felt a desire to prepare myself physically to the best of my ability, renewing my ski equipment to be able to return to skiing as soon as it is possible	16,00%	41,33%	26,67%	16,00%
I felt a desire to be able to try activities alternative to skiing in the mountains in the event lifts do not reopen (sky slow, snowshoeing, ski mountaineering, cross-country skiing, other)	16,00%	44,00%	29,33%	10,67%
I felt the same excitement as ever because I've never followed the World Championships live	19,48%	46,75%	22,08%	11,69%
I thought I would go and follow the next edition of the World Championships live	10,53%	34,21%	38,16%	17,11%



In the sample surveyed prior to the event regarding the ability to modify one's viewpoint, 34.6% of respondents strongly agreed with the statement. In the post-event survey, the percentage rises to 39%, reducing by 4.88% those who disagreed with the statement.

This means that the event has produced positive psychological effects, regarding the generation of inner mental flexibility.

Question: "Specify to what extent you agree with the following statements"

	Answers	Strongly agree	Agree	Disagree	Strongly Disagree
Pre	I consider myself capable of modifying one of my points of view	34,62%	55,13%	10,26%	0,00%
Post	I consider myself capable of modifying one of my points of view	39,02%	56,10%	4,88%	0,00%

Data relating to the quantification of perceived stress also indicate a trend that can be attributed to a reduction in the perception of the level of stress and worry detected between the time prior to the ceremony and the subsequent one, upon its completion.

Results decrease from 41.77% of respondents who agree in considering themselves stressed and worried (in the first sample before the event) to 33.61% of the second post-event survey, meaning that the event itself has produced positive psychological effects.

	Answers	Strongly agree	Agree	Disagree	Strongly Disagree
Pre	I am feeling stressed/worried or nervous right now	15,19%	41,77%	36,71%	6,33%
Post	I'm feeling stressed/worried or nervous right now	13,11%	33,61%	44,26%	9,02%

Further data confirming the generation of positive externalities concern the intentions and willingness expressed by respondents to watch events remotely.

A possible concern mapped was related to the fact that a remote event was not able to convey the same emotions felt in a physical event attended in person. This concern is confirmed by data: in the pre-event questionnaire 44.92% of respondents disagreed with the statement “I think it will give me the same emotions I feel when I attend similar events in person”.

The post-event questionnaire shows interesting data. For the same question, the percentage of people who disagree is reduced to 22.08%, while the percentage of people who agree that the event has transferred the same emotions as an event in presence, has increased from 30.51% to 46.75%.

Question: “Specify to what extent the following statements represent how you feel about the carrying out of the Cortina 2021 Opening Ceremony”

	Answers	Strongly agree	Agree	Disagree	Strongly Disagree
Pre	I think it will give me the same emotions I feel when I attend similar events in person	16,95%	30,51%	44,92%	7,63%
Post	I think it will give me the same emotions I feel when I attend similar events in person	19,48%	46,75%	22,08%	11,69%

Local inhabitants and entrepreneurs

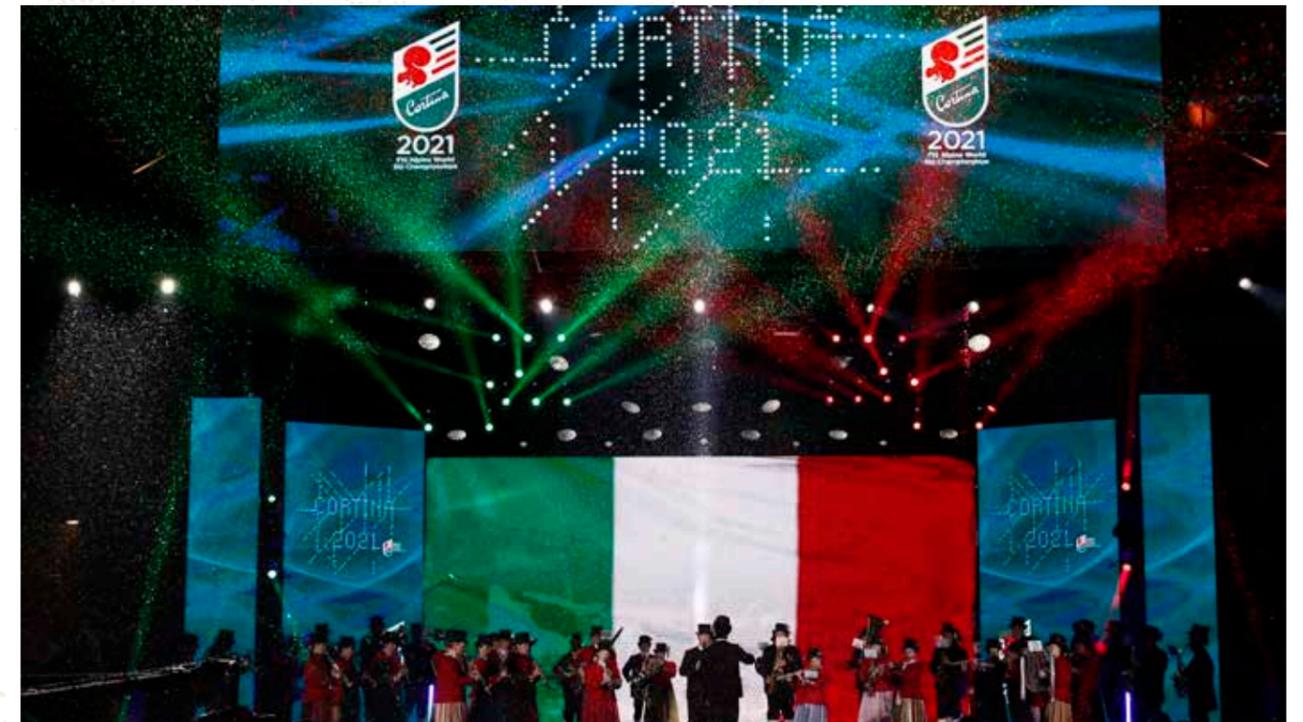
One of the objectives of the research was to monitor the actions and activities related to the World Championships in Cortina, with the aim of improving the visibility of the territory and enhancing the natural capital of the Alps by monitoring the community viewpoint. In particular, the viewpoint of the local community was monitored and analyzed, in order to develop the strategic framework of the mountain with a “multi-stakeholder” vision.

The identification of citizens’ expectations is essential in order to better understand the effects on the territory of a global event that this year was held digitally and “remotely”.

For about 83% of respondents - among local inhabitants and entrepreneurs - the

event represents a start to the operational recovery of local economic activities, offering to the event’s spectators the possibility to decide to organize a stay in Cortina as soon as it is possible. According to 85% of the sample the event represents an opportunity to develop alternative activities that will bring spectators/users closer to the mountains even if they will not be able to ski (snowshoeing, ski mountaineering, cross-country skiing etc.).

The whole sample does not point out negative effects and externalities since no decrease in people’s incentives to travel to the mountains in the future is recorded.



The results of the survey are in line with other independent research carried out on the 2021 World Championships in Cortina.

“According to eight out of ten companies of Veneto the Government investments made for works and infrastructure for major sports events - in this instance for the World Championships - are the right choice. Especially if these interventions are completed on time, such as the sports ones carried out in Cortina. This is the opinion of 78.7% of the 2,054 companies that took part in the survey promoted by the Government commissioner for the works of Cortina 2021, commissioned by Sose spa and carried out by Format Research”.

Artist

Cultural and creative sectors are important for their impact on economy and employment.

Moreover, they spur innovation throughout the economic sphere and help generate positive social impact in a number of other areas (wellness and health, education, inclusion, urban regeneration, etc.).

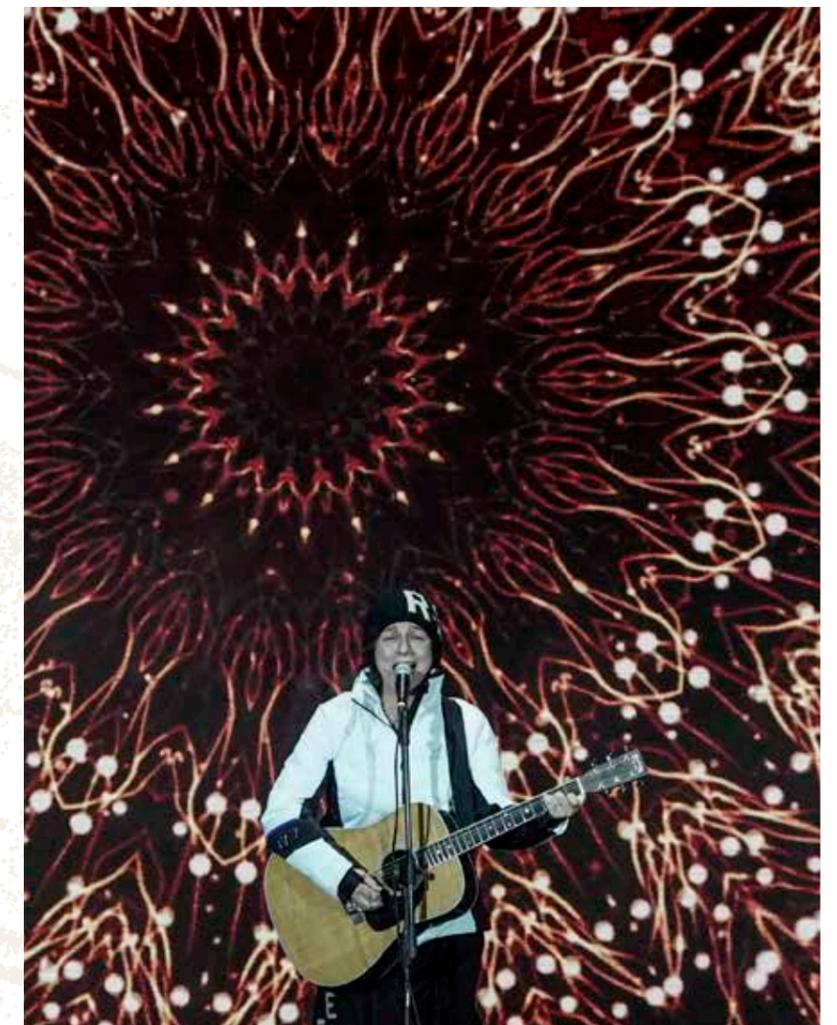
They are also among the sectors most affected by the pandemic, with most of the jobs at risk concentrated in large cities. For this reason, it was central to the analysis to include in the reporting scope also the effects and the points of view of the artists participating in the opening ceremony.



The results indicate the estimated effects linked to the possibility of being able to experience the emotions generated by the opening of the world championship, especially at a time when the event was likely to be postponed and there was a high organizational complexity deriving from strict health protocols. Having managed to safely organize the event has allowed many people working in the event sector to resume their jobs. According to 52% of respondents there is still a complexity related to the emotional involvement of people from home. **Offering meaningful experiences at a distance is not enough to guarantee full effectiveness also from an emotional viewpoint; therefore, there is still an emotional gap between the physical event and the totally digital remote event.**

Future is likely to be oriented to phygital events.

Phygital is the term coined to describe online and offline integration. The combination of the physical and digital experience aims at obtaining the best from both modes, with the ultimate goal of providing users with unique and highly personalized experiences that leave a lasting impression and allow for a new consumer experience.



With regard to stakeholders, the answers to the questionnaire of the “workers of the event” are reported below.

“Please indicate to what extent – considering your work - the following statements represent your idea about holding in virtual mode the Opening Ceremony of the 2021 Alpine World Ski Championships in Cortina.”

Answers	Strongly agree	Agree	Disagree	Strongly Disagree
This mode will make it possible to experience anyway the emotions of the world championships	14,29%	61,90%	14,29%	9,52%
This mode will allow me to do my work, even though I thought it would be postponed or cancelled	47,62%	52,38%	0,00%	0,00%
This mode will not change at all the work that I have to do	23,81%	52,38%	23,81%	0,00%
This mode may complicate the level of emotional involvement with people at home	9,52%	42,86%	47,62%	0,00%

Organizers, Sponsors and Partners

The impact of Covid-19, in 2020, has led to put off and, in many cases, to cancel many events worldwide, not only sports events. It is the case, for instance, of the Tokyo Olympic Games postponed for a year and scheduled for the summer of 2021. These postponements involved the whole event-management sector with companies that had to reorganize themselves choosing solutions to adopt the potential offered by the technology to access the events remotely. The results of the interviews to organizers, sponsors and partners of the Opening Ceremony of the Alpine World Ski Championships are shown below.

Question: “Please indicate to what extent the following statements represent your idea about the carrying out of the 2021 Alpine World Ski Championships in Cortina”

Answers	Strongly agree	Agree	Disagree	Strongly Disagree
It represents the beginning of the recovery for commercial activities	28,57%	36,73%	30,61%	4,08%
It will give the possibility to spectators to decide to organize a stay in the mountains as soon as it possible	24,49%	51,02%	18,37%	6,12%
It will support the development of activities to enable the spectators to organize their stay in the mountains even if skiing it is not available (snowshoeing, ski mountaineering, cross-country skiing)	36,73%	48,98%	10,20%	4,08%
It will give greater visibility to the event	43,75%	50,00%	2,08%	4,17%
It will reduce incentives o motivation to go to the mountains.	10,20%	10,20%	46,94%	32,65%

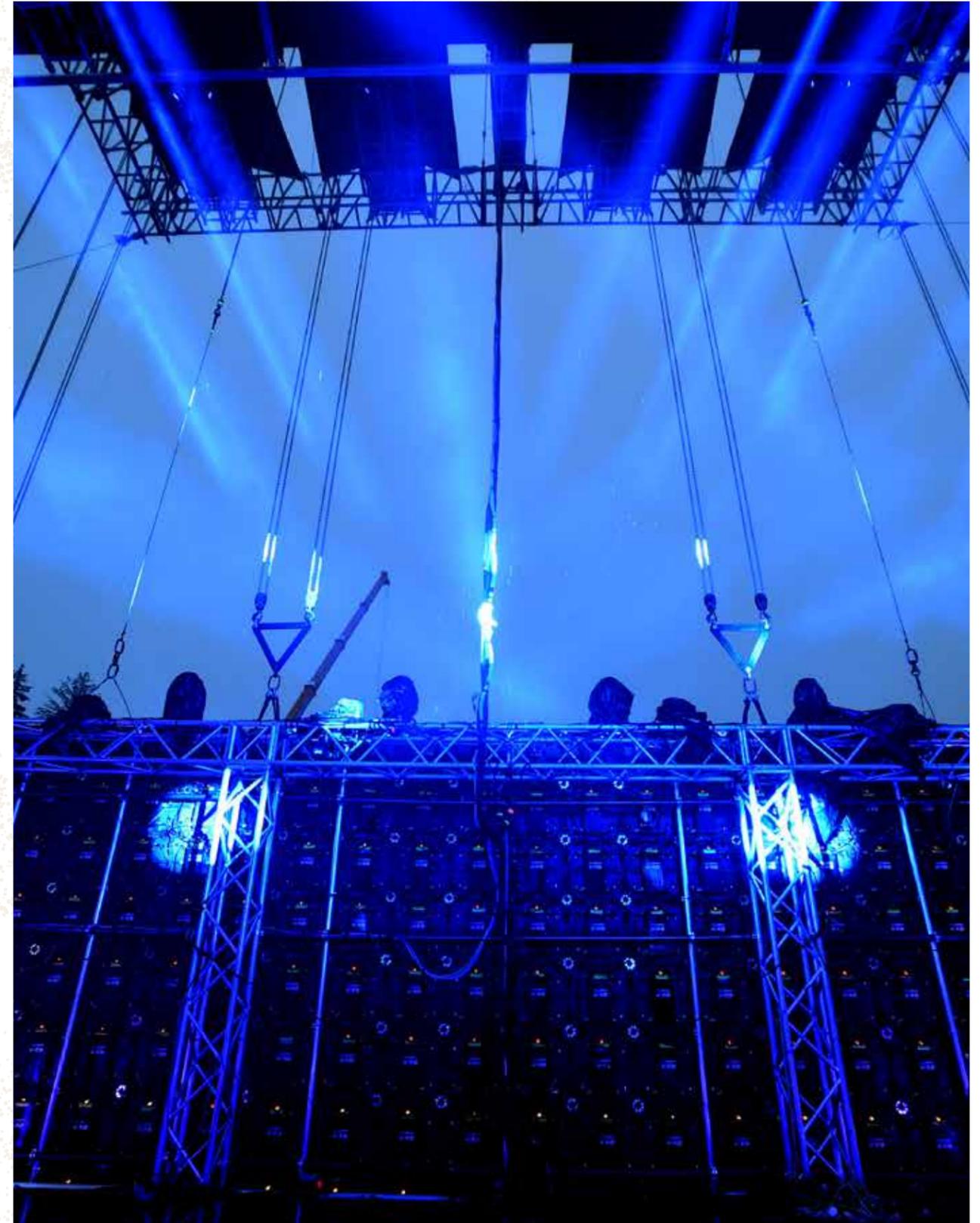
According to the results of the questionnaire, operators and organizers are more cautious than local community representatives on the possibility of business recovery. Approximately 31% disagreed with the statement that the Alpine World Ski Championships could be the beginning of a recovery for business. About 94% agree and strongly agree on the possibility that digital access will increase the event visibility.

Worker of the event

Workers play a central role as well in the mapping of the effects and impacts of an event such as the opening ceremony of the World Championships in Cortina.

The value produced internally in favour of the workers is fundamental as much as the value produced for the external stakeholders. Workers may be asked to exert influence on the decisions that must be taken influencing also the quality of the service offered.

With regard to the virtual mode to access the event, according to about 90% of the respondents before the event in any case, this mode will make it possible to experience the emotions of the world championship and to be able to carry out their own job. Substantial changes are also reported in the way in which the work will be carried out, but without making more complex the work itself.



4. RESULTS OF S-ROI ASSESSMENT

As described above, the Theory of Change is at the basis of the process that leads to impact calculation.

In the case of an analysis of impact assessment, the change to certain categories of users resulting from the Opening Ceremony of the Alpine World Ski Championships in Cortina D'Ampezzo was evaluated.

The analysis was carried out by getting data from the documentation provided by the organizers, through interviews - made available on the online platform - to privileged stakeholders and focus groups.

The methodology requires the participation of all the stakeholders involved in the organization and carrying out of the event, as precondition for conducting an impact analysis.

Thanks to the participation of a wide range of stakeholders the tool can provide important information, useful to monitor and improve the managements of the events.

The focus on several viewpoints underlines the sensitivity of the S-ROI tool to the role of composition of interests that characterizes the event sector made up of a complex network of actors and operators.

The stakeholders taken into consideration by the impact analysis were the spectators of the event who watched the opening ceremony from home via TV, App or web, local inhabitants and entrepreneurs, directly involved in the territory of the event. In the reporting scope national and international athletes, artists who have performed during the opening ceremony, organizers, sponsors, partners and staff working for the opening ceremony were also included.

With regard to the environment all the positive effects resulting from the reduction of CO2 emissions into the atmosphere due to reduced mobility and the negative effects related to the digital infrastructure are considered.

These parties and/or categories have been analyzed and interviewed with the aim of investigating the economic, psychological, social and environmental impacts resulting from direct and indirect participation in the activities related to the opening ceremony of the World Championships.

The results of the measurement of impacts and effects mapped for each stakeholder, as well as their assessment are explained in this paragraph. The topics of interest investigated for each group derive from the outcome areas investigated through the questionnaires, in terms of both economic and environmental - direct and indirect - effects

and impacts related to the psycho-social sphere of the people.

The data presented refer to 2021. The measurement of impacts provides for the quantification in monetary terms of changes, the so-called "outcomes". A further step is to understand what the inputs were, namely the costs and investments that are spent in order to achieve the mapped changes.

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The idea starts from a financial indicator, related to the return on investment (“ROI”), that is then extended by including social and environmental components in the calculation of discounted benefits.

In order to calculate the S-ROI, it is necessary to project the impact value of all estimated effects into the future.

The discounting process makes it possible to calculate to date the value of future impacts. A discount rate is used to discount the values of the effects. In the case under consideration, a discount rate of 3% was assumed.

From the analysis relating to the Opening Ceremony of the Alpine World Ski Championships, it was possible to make a conservative estimate of a psycho-social, environmental and financial impact of EUR 2,134,533, to be rounded off to EUR 2,100,00.

The result derives from the assignment of a monetary value to the main changes (outcomes) generated by the opening event in relation to all the stakeholders taken into consideration in the reporting scope.

In line with the approach of the S-ROI analysis, the choice of proxies was based on the need to find a monetary value for the changes identified or estimated.

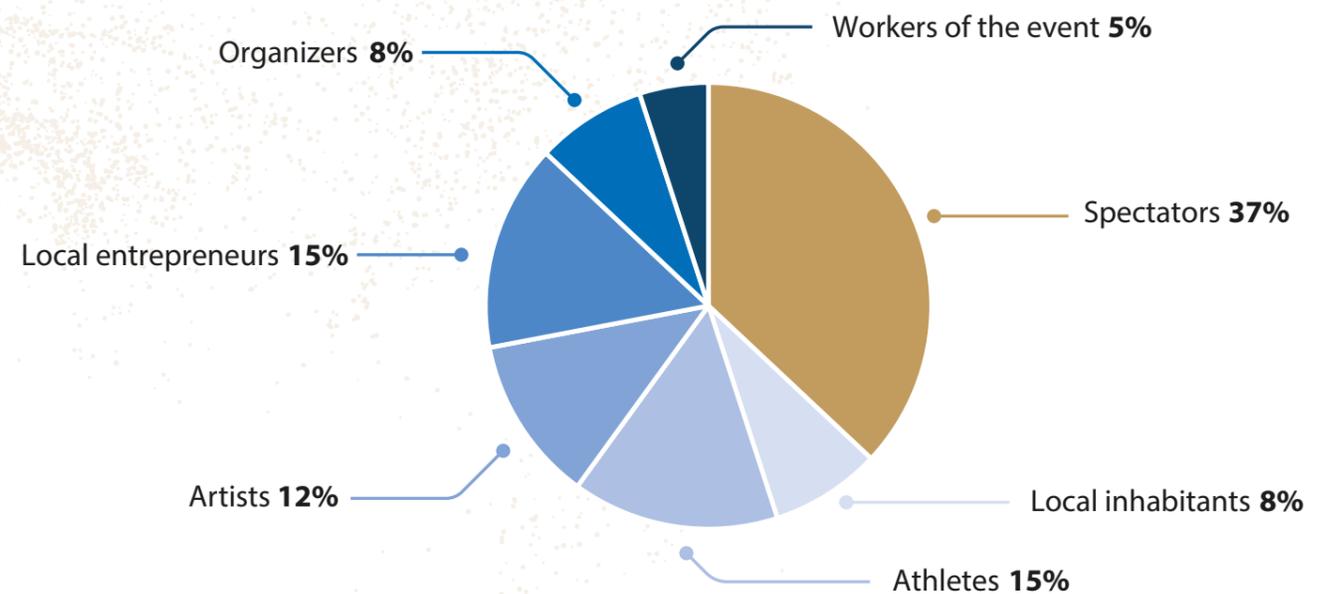
Direct costs borne by the organization for the carrying out of the Opening Ceremony are equal to EUR 450,00.

The definition of the inputs related to the management of the Network was based on estimates reported by the organizer.

The chart and the table of the breakdown of the impact among stakeholders are shown below.

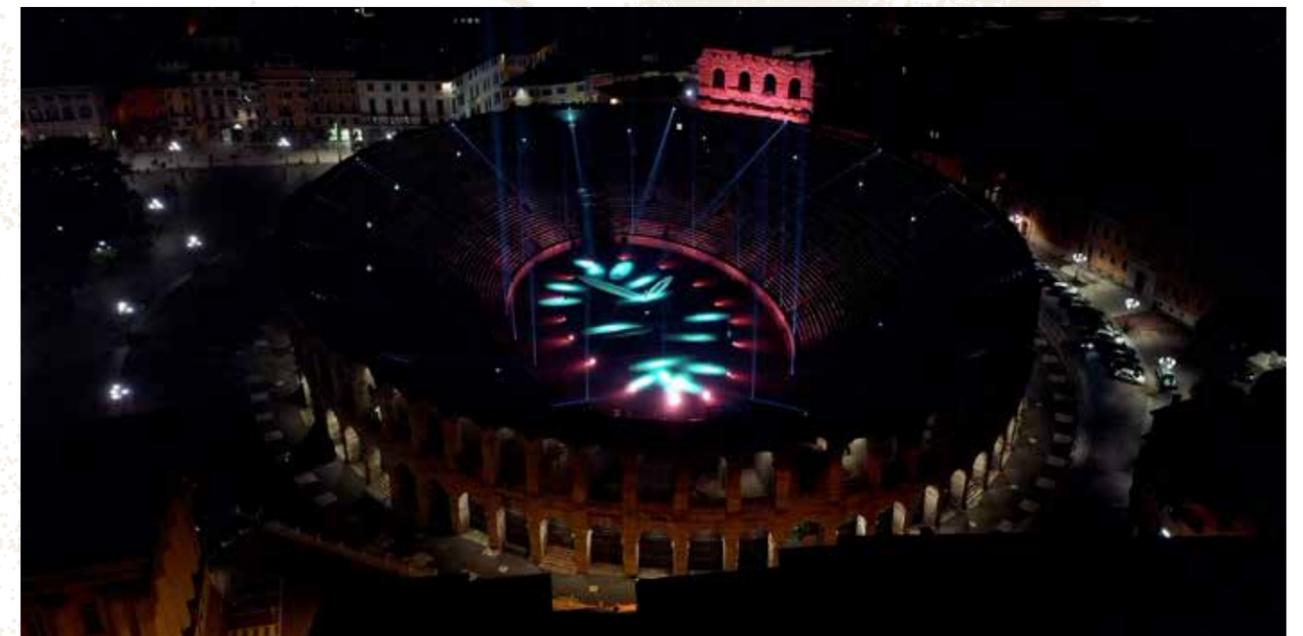
Stakeholder	Impact €	%
Spectators	789.777 €	37%
Local inhabitants	170.763 €	8%
Athletes	320.180 €	15%
Artists	256.144 €	12%
Local entrepreneurs	320.180 €	15%
Organizers	170.763 €	8%
Workers of the event	106.727 €	5%
Total	2.134.533 €	100%

Impact breakdown



The calculation shows that 37% of the positive impacts generated concern the spectators of the opening ceremony who were able to watch the event from home on TV or using the various web platforms.

According to estimates 1,664,000 spectators watched the opening ceremony from home with a very high media impact for this event, which allowed to show worldwide the beauties of Cortina, the Dolomites, Veneto and Italy.





The main effects reported concern the intentions and the willingness of the spectators to go to the mountains again expressed by the respondents with regard to the mountain sector.

A possible fear mapped was that an event at a distance could not convey the same emotions of a physical event, in presence. This fear is confirmed by data; in the pre-event questionnaire 44.92% of the respondents disagreed with the statement *"I think it will give me the same emotions that I feel when I attend similar events in person"*.

Interesting data come from the post-event questionnaire. For the same question, the percentage of people who disagree is reduced to 22.08%, whereas the percentage of people who agree that the event has conveyed the same emotions as an event in presence rises from 30.51% to 46.75%.

All the respondents involved agree that the event will play a major role in the restart of the activities in the territory and that the World Ski Championships will be the driving force for the repositioning of Cortina as international winter destination. It is important to consider that ski tourism is changing; in particular, following a complex winter season, due to the pandemic, during which new markets for mountain and alpine sport fruition have emerged.

The effects and benefits generated on the local community and local entrepreneurs were also estimated.

The estimates of the population in Cortina and in the nearby towns, taken into consideration by the research are as follows:

- Cortina d'Ampezzo: 6.000 residents

- Valle del Boite: 4.000 residents
- Valle Agordina: 2.000 residents
- Belluno (city): 35.000 residents

As far as the financial impact is concerned, an event can produce both positive multiplicative effects and negative consequences, both direct and indirect or induced.

The event organized behind closed doors has reduced considerably the influx of people in Cortina commercial fabric, in any case, the effects produced by all the people who have participated actively in the organization of the Opening Ceremony and who have spent a period of time in Cortina and nearby cities have been taken into account.

Direct effects include the revenues coming from the expenses made by athletes, accompanying persons, organizers, sponsors, volunteer participants and all the people involved at different levels, but they **occur only at the time of the event and therefore they do not create a lasting impact on the economy of the area.**

A monetary value has been assigned also to secondary effects, i.e., indirect and induced effects, which manifest themselves over time and in different environments. Indirect effects concern the suppliers of goods and services requested by organizers in terms of financial resources, manpower that cause direct effects on the local economy; the significance of these indirect effects increases when the resources necessary for the carrying out of the event come from the local productive fabric.

During the Opening Ceremony about 300 people were on stage.

The socio-cultural impact is the least studied because it is particularly complex and it is not easily quantifiable.

The research also assessed **the positive effects on the social fabric in terms of:**

- **strengthening of cohesion and social fabric;**
- **increased quality of life for residents thanks to public works and services;**
- **increase in civic pride, for the community and the territory;**
- **increased enthusiasm of the community and improved accommodation capacity.**

From a social viewpoint negative effects can be attributed to the attitude of residents who are unwilling and sometimes hostile to welcome visitors when they perceive the event as harmful during a pandemic disease.

As far as negative environmental impacts are concerned, it was calculated that on average one hour of video streaming in Italy, considering the viewing on a 50-inch TV in HD quality with Wi-Fi connection, pollutes about 0.08kg of CO2 for one hour of operation. Considering a 75-minute duration and the energy consumption for the carrying out the ceremony, it was possible to estimate, conservatively, about 280 tons of CO2 produced to watch the event from home.

The positive environmental and social effects of the Cortina 2021 Alpine World Ski Championships event as a whole, deriving from the recovery of surplus food produced and destined to social solidarity projects in the area, were also taken into consideration. Overall, it was possible to recover about 900 kg of bread, vegetables and fruit and about 1,406 portions of ready meals.

Destination	Prov.	Food recovered
Provincia Veneta dei Frati Minori Cappuccini Mensa dei Poveri Mussoi	BL	581 portions
CA' LETIZIA - S. VINCENZO MESTRINA ONLUS	VE	451 portions
CARITAS PARR.BEATA VERGINE DEL MONTE	TV	374 portions
Total	€ 256.144	1406 portions

Destination	Prov.	Food recovered
Rete Banco Alimentare Veneto (BAV)	VR	900 KG

With regard to the waste produced for the opening event, a monitoring system was set up. **For the organization of the Opening Ceremony of the World Championships 7300 liters of diesel fuel were used and 640 kg of bulky waste and 210 kg of wood were produced.** They are included in the total waste produced during the entire Cortina 2021 Alpine World Ski Championships event of which 79.7% was sorted.

In detail:

24,9% GLASS
23,9% ORGANIC MATTER
16,3% PAPER
14,6% PLASTIC
Unsorted waste generated was 20.3% of the total.

Results of the SROI calculation:

S-ROI= 1 : 3.74

Results to date show that the Opening Ceremony of the 2021 Alpine World Ski Championships in Cortina D'Ampezzo generated a social, economic and environmental return on investment (S-ROI) equal to 3.74.

This means that, **for every euro invested, almost four euros are generated.** Therefore, the resources invested through the opening event were essentially multiplied by four.

Being higher than "1" this value indicates the value creation. Whereas S-ROI values of less than "1" show a value destruction, from the socio-environmental viewpoint.

The analysis carried out has considered environmental parameters of pollution prevented as well as negative environmental impacts.

5. CONCLUSIONS

Conclusions of the assessment of economic, social and environmental impact (S-ROI)

In conclusion, the evaluation social, economic and environmental impacts estimated for the opening event of the Alpine World Ski Championships have been observed.

In summary, it can be concluded that for the event under consideration, **for every euro invested, at least 3.74 euros were generated; considering the psycho-social, environmental and economic effects.**

Limits of this study and its future developments

This work is part of a preliminary project to measure the economic, social and environmental impacts of all the activities linked to the 2021 Alpine World Ski Championships in Cortina.

Triumph Group International has played an active role in developing an evaluation process with the involvement of the stakeholders, contributing to the construction of a statistical sample to be analyzed and seeking a panel consisting of privileged and qualified witnesses, representing some categories of stakeholders.

In this first stage of evaluation, researchers have focused on the construction of an evaluation framework and on the preparation of a new data reporting model, to be applied to the monitoring of the externalities produced by all the events included in the programme.

In continuing the work of impact assessment one of the objectives is to expand the scope of the assessment so as to reach a larger number of stakeholders which constitute a more representative sample from the statistical viewpoint that can provide larger amount of data to process.

Likewise, with regard to future developments, one of the most interesting objectives concerns the structured integration of a set of impact indicators to be integrated into the system of management and risk assessment in the event sector.

BIBLIOGRAPHY

Aaronson, S.A.; Reeves, J.T.; James, T.; National Policy Association (U.S.). *Corporate Responsibility in the Global Village: The Role of Public Policy*; National Policy Association: Washington, DC USA, 2002; ISBN 0890681619.

Arvidson, M.; Lyon, F.; McKay S.; Moro, D. *Valuing the social? The nature and controversies of measuring social return on investment (SROI)*. *Volunt. Sect. Rev.* 2013, 4, 3-18.

Carande-Kulis, V.G.; Getzen, T.E.; Thacker, S.B. *Public goods and externalities: A research agenda for public health economics*. *J. Public Health Manag. Pract.* 2007, 13, 227-232.

Carroll, A.B. *Corporate Social Responsibility*. *Bus. Soc.* 1999, 38, 268-295.

Coase, R.H. *The Problem of Social Cost*. In *Classic Papers in Natural Resource Economics*; Palgrave Macmillan: London, UK, 1960; pp. 87-137.

Cozzio M, Lombardo G. (2020), *Un modello per la valutazione dell'impatto socio-economico delle misure anticorruzione nel settore pubblico e privato... e la sua applicazione*, in *Rivista Trimestrale degli Appalti*, Maggioli, n- 1-2020, pp. 36-57, ISSN [0394-8374].

Garriga, E.; Melé, D. *Corporate Social Responsibility Theories: Mapping the Territory*. *J. Bus. Ethics* 2004, 53, 51-71.

Harvey J. *Externalities and Cost-benefit Analysis*. In *Economics Revision Guide*; Macmillan Education: London, UK, 1994; pp. 62-64.

Laffont, J.-J. *Externalities*. In *Allocation, Information and Markets*; Palgrave Macmillan: London, UK, 1989; pp. 112-116.

Layard, R.; Glaister, S. *Cost-Benefit Analysis*; Cambridge University Press: Cambridge, UK, 1994; ISBN 0521466741.9.

Livermore, M.A.; Revesz, R.L. *The Globalization of Cost-Benefit Analysis in Environmental Policy*; Oxford University Press: Oxford, UK, 2013; ISBN 9780199934386.

Lombardo G., Cecchini, M., (2019), *Social ROI: l'impatto socio-economico degli strumenti anticorruzione nel bilancio delle aziende*, in Benacchio G.A, Cozzio M. (2019), *Azioni collettive, strumenti di integrità e trasparenza per il contrasto della corruzione nel settore pubblico e privato*, *Atti del Convegno di Trento del 18 maggio 2018*, pp. 163-182, ISBN 978-88-8443-866-9.

Lombardo G., Mazzocchetti A., Rapallo I., Tayser N, Cincotti S, (2019), *Assessment of the Economic and Social Impact Using SROI: An Application to Sport Companies*, *Sustainability* 11(13), 3612; <https://doi.org/10.3390/su11133612> [ISSN 2071-1050] Published by MDPI AG, Base, Switzerland, impact factor 2.592.

Lombardo G., Tayser N., Viganò F., (2019) *Cultura e Musei: la valutazione degli impatti psico-sociali e del Social Roi (SROI)*. *Il caso di MUSE Firenze*, in Del Gobbo G, Galeotti G, Pica V, Zucchi V (a cura di), in *Museums & Society. Sguardi interdisciplinari sul museo*, Pacini Ed, Pisa, ISBN 978-88-6995-684-3 e ISSN 2532-960X.

Lombardo G., Viganò F., (2019), *Calculating the Social Impact of Culture. A SROI Application in a Museum*. In: Luigini A., *Proceedings of the 1st International and Interdisciplinary Conference on Digital Environments for Education, Arts and Heritage*. *EARTH 2018 - Springer International Publishing*, vol. 919, pp.1-10, ISSN: 2194-5357, DOI: 10.1007/978-3-030-12240-9, [ISBN9783030122393]

Lombardo G., Vignano F., (2019), *Responsabilità sociale. Misurare gli impatti sulla comunità*, pp.28-37. In SVILUPPO & ORGANIZZAZIONE - ISSN:0391-7045 vol. Gennaio-Febbraio (fascia "A" sociologia)

Millar, R.; Hall, K. *Social Return on Investment (SROI) and Performance Measurement Public Manag. Rev.* 2013, 15, 923-941.

Nicholls, J.; Cupitt, S.; Great Britain. Office of the Third Sector *A Guide to Social Return on Investment.* 2009.

Perrini, F.; Vurro, C. *La Valutazione Degli Impatti Sociali: Approcci e Strumenti Applicativi*; EGEA: Milan, Italy, 2013; ISBN 8823843731.

Pigou, A.C. *The Economics of Welfare.* Econ. J. 1933, 43, 329.

Watson, K.J.; Whitley T *Applying Social Return on Investment (SROI) to the built environment Build. Res. Inf.* 2017, 45, 875-891.

Windsor, Duane. "The future of corporate social responsibility." *The international journal of organizational analysis* 9.3 (2001): 225-256.

Paddon, H. L., Thomson, L. J, Menon, U, Lanceley A. E., & Chatterjee, H J. (2014), "Mixed methods evaluation of well-being benefits derived from a heritage-in-health intervention with hospital patients", *Arts Health: An International Journal for Research, Policy and Practice*, 6, 24 - 58.

Whelan, Gayle. "Understanding the social value and well-being benefits created by museums: A case for social return on investment methodology." *Arts & Health* 7.3 (2015): 216-230.

Taplin, Dana H., et al. "Theory of change." *Technical papers: a series of papers to support development of theories of change based on practice in the field.* ActKnowledge, New York, NY, USA (2013).

Webliography

<https://www.cortina2021.com/>
<https://www.triumphgroupinternational.com/>
<https://www.dolomiti.org/>

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