SUSTAINABILITY REPORT 2021

Associazione Italiana
Società Concessionarie
Autostrade e Trafori

Aiscat

INTRODUCTION BY THE PRESIDENT

AISCAT has finalized, for its third edition, the Association's Sustainability Report, continuing the process launched in the previous two years during which our sector has shown, through the management of its network with high efficiency and safety standards, that it can offer a service continuity to users despite the difficulties of the pandemic, contributing to ensuring the country's mobility of goods and people.

Motorways have always been a key element for measuring the performance of the national economy. In fact, for a unified view of the fundamental role the motorway sector plays in the country's economy, it is important first and foremost to point out that in the past twenty years the Italian motorway sector has not only been dynamic, but has also produced numerous excellent results that have had repercussions even on a social and economic level. In particular, note that in recent years there has been a general upgrading of the Italian motorway network, with the development of third and fourth lanes where necessary due to traffic volumes together with the possibility of community investments. Toll collection technology has also been the subject of remarkable innovation processes, but interventions especially in the field of safety have produced a sharp drop in the accident rate in a context of increasing traffic.

As regards the connection between infrastructure investments and national sustainability, as is known, government institutions have taken steps to support these objectives through the National Recovery and Resilience Plan (NRRP), a macro project that revolves around certain key points, such as digitisation, ecological transition and the development of infrastructures for sustainable mobility. However, the priority for the future is not so much to build thousands of kilometres of new motorways, but to thoroughly modernise existing ones, making them suitable for a transformation from their current nature as simple passive transit routes to infrastructures capable of optimising their capacity, like branched railways, to mobilise, in a safe and orderly manner, a greater number of new generation vehicles entering the market, while at the same time promoting the gradual transition from the current energy model based on the use of fossil fuels to that which sees the spread of electric engines powered by renewable energy sources. In fact, with the increased digitisation of the road and motorway network, it will be possible to hugely increase their capacity without systematic and potentially endless land consumption and there will finally be the possibility of reliable journey times for users.

Similarly, on a European level, EU institutions are promoting a series of plans and projects that follow the main guidelines of the NRRP and that will definitely be of interest for the strategic activities the sector will pursue. More specifically, as regards the potential projects and investments to be supported in order to launch a meaningful programme of modernisation, digitisation and sustainable management of the Italian motorway network in the wake of the measures laid out by the NRRP, it will be necessary to take into consideration programmes and work plans for the creation of a "Green Infrastructure": for example by enhancing the use of hydrogen or the electrification of the network with charging stations and/or with innovative dynamic charging systems for electric vehicles, or even the construction of photovoltaic plants and reforestation in areas adjacent to the motorways, or smart and digital networks and actions necessary to promote intermodality. All this falls within the broader macro-issue of environmental sustainability.

In this respect, it is worth mentioning that, also at European level, this year ASECAP, the European Association of Operators of Toll Road Infrastructures, is moving in this direction and is currently in the process of publishing its first Sustainability Report, prepared with inspiration drawn from that of AISCAT.

Taking into account the enormous attention paid to sustainability also at European level, the third edition of the AISCAT Sustainability Report fits in perfectly and it describes the numerous

activities supporting sustainable mobility carried out by the motorway concessionaires represented in the Association, framing sustainability within a broad perspective that is not limited only to strictly environmental aspects, but which also considers those regarding services provided to users, the sector's contribution to economic growth, improved road safety, better human resources and the social impact of the road operator.
This document, the result of intense work and in-depth analysis carried out by the Association's Sustainability working group, to which the sustainable mobility experts of operators represented in AISCAT continue to make a considerable and valuable contribution, describes the aggregate data of the sector with reference to the main quantitative parameters and performance indicators regarding sustainability, updated to 2021.
The third edition of the document in question firstly highlights the presentation of the Italian motorway network under concession and the relative foundations that set it apart – like, for example, artworks, vehicle traffic, service areas - moving on to a more detailed examination of the contribution that the entire sector makes to economic growth on a daily basis, also indicating the environmental investments made by the sector, the projects aimed at developing technology and the protection of workplace safety. Furthermore, with the intention of providing a standardised view of the entire sector represented in AISCAT on the subject of sustainable mobility, the Report is – as in its previous editions – enriched by a specific technical in-depth analysis of individual sustainability-related projects carried out by the Italian operators, all rigorously illustrated under specific topics.
In particular:

- the chapter on the environment focuses on innovative projects in the field of LED lighting, solar panels, the containment and reduction of greenhouse gases, also by decreasing speed;
- in the chapter on infrastructure safety the concessionaires highlight how constant maintenance, the implementation of fire prevention systems in tunnels and the modernisation of infrastructures lead to a considerable decrease in accidents;
- the chapter about people and stakeholders shows how concessionaires, due to the prolonged pandemic, took steps to help employees and their families through commitments also at social level. Projects were also implemented to safeguard safety in the workplace for employees. Special attention was then paid to implementing innovative projects that have an economic impact on local communities and on the environment;
- lastly, as regards governance, special attention was directed at the implementation of projects regarding cybersecurity, anti-corruption and production supply chains.

The entire sector is proud to be among the leading players in the transport industry to have used and continue to promote a common and shared model of sustainable development, respecting the distinctive characteristics of each member, but with a unique vision of the value of sustainability applied to the motorway network: our commitment will definitely continue to pursue this vision also in the coming years.

Dott. Diego Cattoni
AISCAT President

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2021

AISCAT MEMBERS

FULL MEMBERS

AUTOSTRADE PER L'ITALIA S.p.A.

AUTOSTRADE MERIDIONALI S.p.A.

MILANO SERRAVALLE MILANO TANGENZIALI S.p.A.

S.p.A. AUTOVIE VENETE

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.p.A

AUTOSTRADA DEL BRENNERO S.p.A.

SOCIETÀ AUTOSTRADA TIRRENICA S.p.A.

TANGENZIALE DI NAPOLI S.p.A.

CONSORZIO PER LE AUTOSTRADE SICILIANE

SOCIETÀ ITALIANA PER AZIONI PER IL TRAFORO DEL MONTE BIANCO

SOCIETÀ ITALIANA TRAFORO AUTOSTRADALE DEL FREJUS (S.I.T.A.F.)

RACCORDO AUTOSTRADALE VALLE D'AOSTA S.p.A. (R.A.V.)

SOCIETÀ ITALIANA TRAFORO GRAN SAN BERNARDO S.p.A.

STRADA DEI PARCHI S.p.A.

CAV – Concessioni Autostradali Venete S.p.A.

AUTOSTRADA PEDEMONTANA LOMBARDA S.p.A.

SOCIETÀ DI PROGETTO BREBEMI S.p.A.

SUPERSTRADA PEDEMONTANA VENETA S.p.A.

ASSOCIATED MEMBERS

AUTOMOBILE CLUB D'ITALIA

SPEA ENGINEERING S.p.A.

AUTOGRILL ITALIA S.p.A.

TAMOIL ITALIA S.p.A.

CHEF EXPRESS S.p.A.

ECOGEST S.p.A.

PREALUX S.r.l.

AISCAT IN FIGURES: *HIGHLIGHTS*

HIGHLIGHTS				
INDICATOR	**UNIT OF MEASURE-MENT**	**2019**	**2020**	**2021**
AISCAT motorway network	Km	5,005	4,835	4,874
Traffic	Vehicle *Km (million)	73,517	53,064	65,200
Environment-related expenditure and investments	Euro	194,683,328	212,208,402	170,151,125
Total number of employees	n	10,598	10,140	9,776
Network affected by work accident procedures of contractor companies	%	76%	76%	76%
Accidents with injuries and/or deaths per 100 million vehicle-km	n	7.25	6.02	7.15
Existence of procedures for supplier selection according to ESG criteria	%	93%	93%	93%
Global Value Added generated	Euro	2,363,533,977	1,735,196,423	4,001,791,637
Related industries (costs for services) *Equivalent to the gross annual pay of 60,000 workers*	Euro	1,626,781,894	2,062,430,472	1,924,283,325

2021 was in many ways the year of the country's recovery after the pandemic. Traffic, measured in millions of vehicle-km, increased significantly on 2020 (65,200 million in 2021 and 53,064 million in 2020), though it did not reach the levels of 2019 (73,517 million).

The pandemic also influenced environment-related expenditure and investments made by AISCAT members. The inevitable difficulties of proceeding normally with planned projects caused a reduction in investments in 2021 (170 million euro) compared to 2020 (212 million euro). The activities to which these investments refer usually have relatively long cycles, so the effects of adverse events (like Covid-19) are reflected, from an economic-financial viewpoint, a few years later.

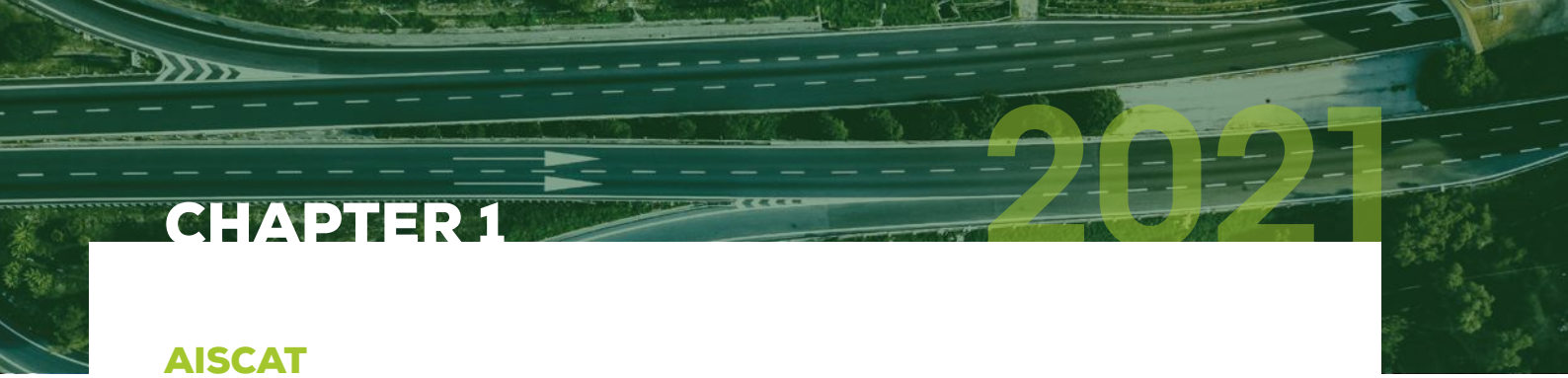
Members reduced their number of employees from 10,140 (2020) to 9,776 (2021). Also in this case, the need to reorganise operations after the pandemic and the ongoing process of gradual automation of processes (as will be discussed in chapter 1, manned tolls decreased with an increase in automatic and electronic toll collection) had an impact.

The focus on safety of workers – not just those directly employed by members, but also those of contractors – has always characterised the activity of AISCAT members. Again in 2021, 76% of network km is managed by companies that have procedures for monitoring the work accidents of contractors.

Network safety is one of the most important issues for members and as such is constantly monitored. The accident rate (accidents with injuries and/or deaths per 100 million vehicle-km) fell by 7.25 (2019) to 7.15 (2021). The 2020 figure (6.02) should be interpreted with scepticism: the considerable reduction in traffic due to the pandemic inevitably caused a lower accident rate. In fact, lower levels of network usage, allowed for a reduction in accidents, most likely thanks to less traffic and higher levels of user attention. Except for 2019, we see a constant reduction in the accident rate over the years.

Members also carefully monitor the suppliers of goods and services in the value creation chain. In 2021, 93% of AISCAT network km was managed by members that follow a procedure for the selection of suppliers according to ESG criteria.

AISCAT members maintained expenditure for services at 2020 levels. In 2021 they spent 1.9 billion euro, generating a related industries figure equivalent to the annual gross pay of about 60,000 workers.



CHAPTER 1

2021

AISCAT

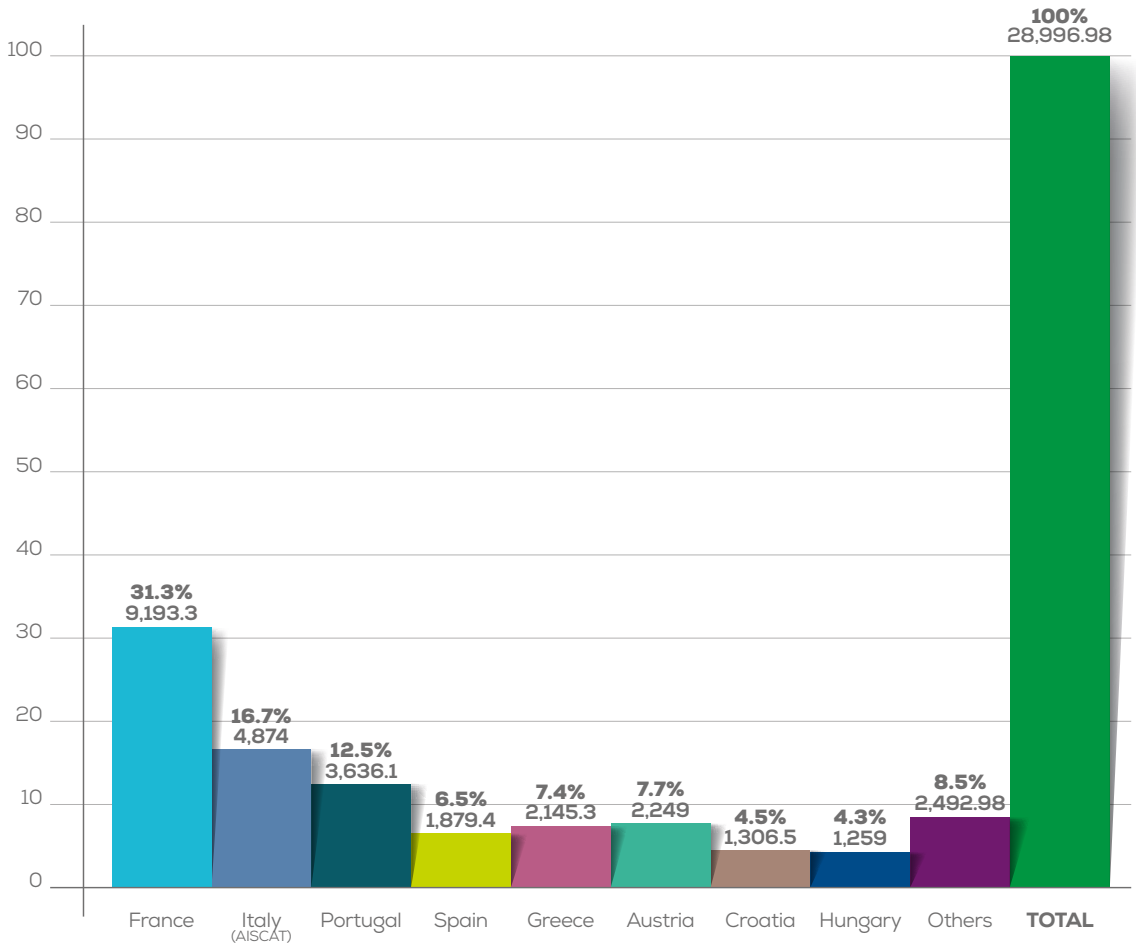
1.1 | WHO WE ARE AND WHAT WE DO

For over 50 years, AISCAT has been the association for motorway and tunnel concessionaires operating in Italy, established in 1966 as a catalyst for the interests of the entire Italian motorway sector.
The association, through its Technical Committees and working groups composed of experts in the sector and subdivided by topic, analyses the infrastructural, management, legal and administrative problems of its members. In this context, the activities of AISCAT and its Technical Committees have always paid attention to environmental and social aspects, as well as to the need for constant technological innovation inherent to motorway sector activities. The principal role of AISCAT is to bring together and shares the activities of its members, supporting the growth, consolidation and upgrading of the infrastructural network and increasingly promoting sustainable mobility.
The Association also supports procedure harmonisation and standardisation, paying particular attention to service operating methods and to user relations; it also provides assistance to its members by representing them before leading political and administrative institutions on a national, European and international level, assisting them in actions to protect their interests and rights, developing studies and research, as well as organising conferences and meetings on topics of common interest to the sector.

INFRASTRUCTURAL CAPITAL			
INDICATOR	**UNIT OF MEASURE-MENT**	**2020**	**2021**
Motorway network under concession	Km	4,835	4,874
Traffic	Vehicle *Km (million)	53,064	65,200
Toll payment method (electronic toll collection) number of transactions	n	660,823,448	782,590,250
Traffic by vehicle class (heavy)	Vehicle *Km (million)	14,850	17,115
Traffic by vehicle class (light)	Vehicle *Km (million)	38,214	48,085
Toll payment method (manual) number of transactions	n	97,330,510	111,102,678
Toll payment method (automatic) number of transactions	n	257,527,223	313,704,889

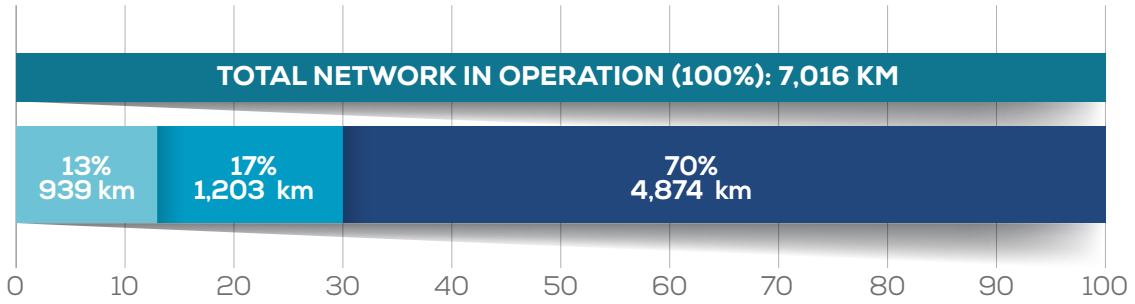
AISCAT members manage in total 4,874 km of motorway network under concession, which is over 80% of the tolled motorway network and 70% of the total Italian motorway network. Over 35% of the AISCAT motorway network has three or more lanes.

THE EUROPEAN MOTORWAY NETWORK ASECAP: BREAKDOWN BY COUNTRY



Source: ASECAP Statistical Bulletin 2020, p. 10 (Full members only)

THE MOTORWAY NETWORK IN ITALY



- In concession to AISCAT members: **4,874 km – 70%**
- In concession to non-AISCAT members: **1,203 km – 17%**
- ANAS motorway network: **939 km – 13%**

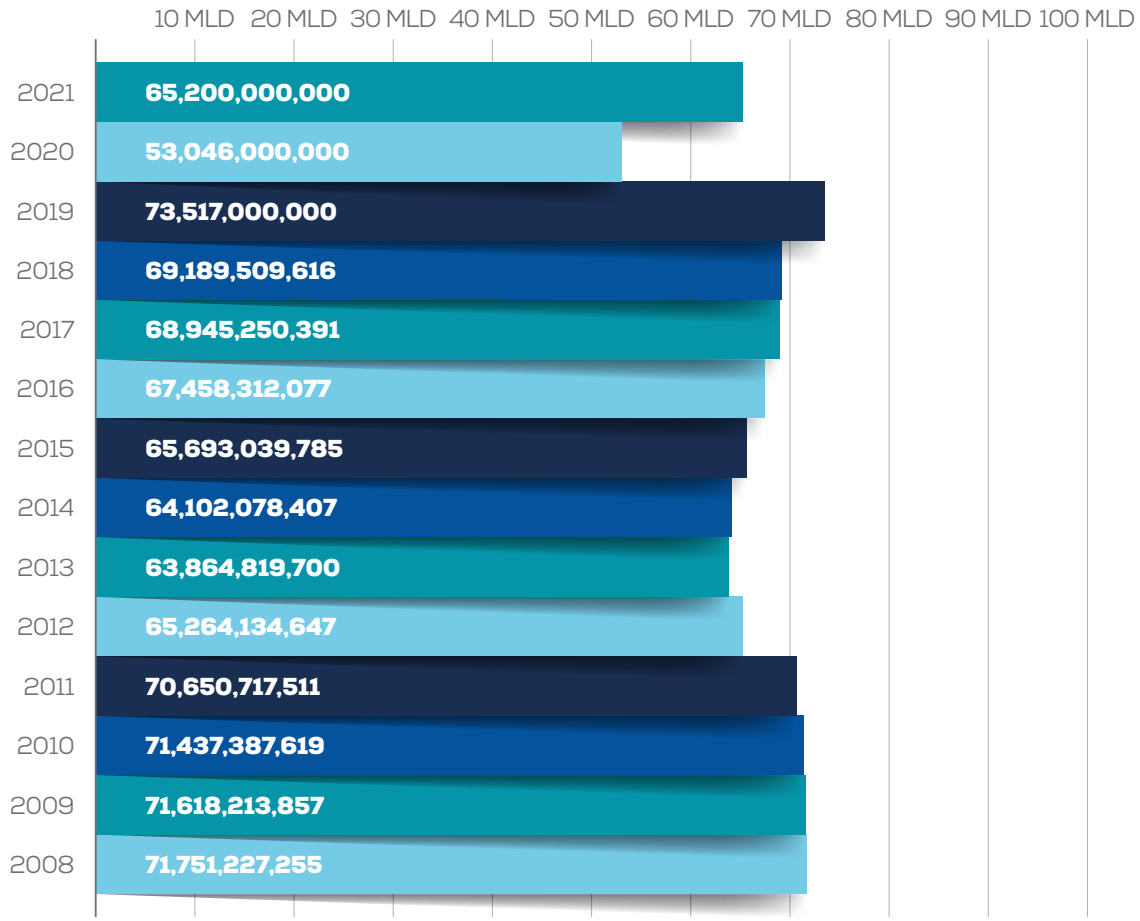
Source: AISCAT half-yearly data 3-4 2021, pages 4 and 5

The infrastructural capital of AISCAT members also includes a rich architectural heritage (bridges, viaducts, flyovers and tunnels), linked to the geomorphologic complexity of our country and, in many cases, a symbol of national culture and engineering skill. Consider that the Alps and the Apennines occupy about 35% of Italy's surface area, while the percentage of mountainous territory at European level is much lower (about 20%). Geomorphologic data help us to better understand the complexity and particular features of the AISCAT network, characterised, among other things, by the presence of three international tunnels, i.e. two connecting with France (Frejus and Mont Blanc) and one, Gran San Bernardo, connecting with Switzerland, which extend for a total of over 30 km, half of which fall under the jurisdiction of Italian AISCAT member companies. In addition to these elements that confirm the complexity and articulation of the network, the infrastructural capital of members also includes considerable technological and plant engineering equipment. The table below illustrates the breakdown of the infrastructures in more detail. Note that only road structures longer than 100 metres are represented. If all structures were considered, the number would be significantly higher.

INFRASTRUCTURAL CAPITAL			
INDICATOR	**UNIT OF MEASURE-MENT**	**2020**	**2021**
Architectural road structures (bridges, viaducts, flyovers and tunnels)	no.	6,841	6,935
Variable Message Signs	no.	3,386	3,438
% of the network covered by safety tutors	%	34%	35%
Noise barriers (km)	Km	919,304	937,041
Road cameras	no.	8,060	8,226
Lay-bys	no.	7,215	7,313
SOS call points	no.	6,293	6,924
Parking areas	no.	220	227
Service areas	no.	326	339
Toll stations (entrance, no electronic toll collection)	no.	190	199
Toll stations (entrance, electronic toll collection)	no.	921	923
Toll stations (exit, manned)	no.	511	487
Toll stations (exit, automatic)	no.	751	797
Toll stations (exit, electronic toll collection)	no.	1,009	1,031
Weather stations	no.	548	567
Ice detectors	no.	357	369
Fog detectors	no.	124	125
Photovoltaic systems	no.	199	202

Vehicles using the motorway network in 2021 travelled a total of 65 billion km. Most of the transactions by users were by electronic toll collection (65%). The transactions using automatic pay machines accounted for 26% of the total, while only 9 transactions out of 100 were made manually, i.e. with the help of service staff.

TRAFFIC ON THE AISCAT NETWORK IN THE PERIOD 2008-2021 (VEHICLE-KM)



1.2 | AISCAT'S SUSTAINABILITY MISSION AND STRATEGY

The decades of experience gained by AISCAT and its members mean that the sector still continues to play a fundamental role as a driving force for the country's competitiveness in meeting challenges in terms of transport supply and the demand for sustainable mobility in a unified scenario.

From this perspective, AISCAT supports the modernisation of the Italian infrastructural network and the goals of transport efficiency and sustainability that form the basis of national and European policies. In this regard, the Association believes that the contribution of knowledge, experience and ability that the motorway concession sector, on the strength of its history and the technical and managerial skills developed over the course of many years of activity, can make in terms of financing, construction and management of sustainable road infrastructures, is crucial.

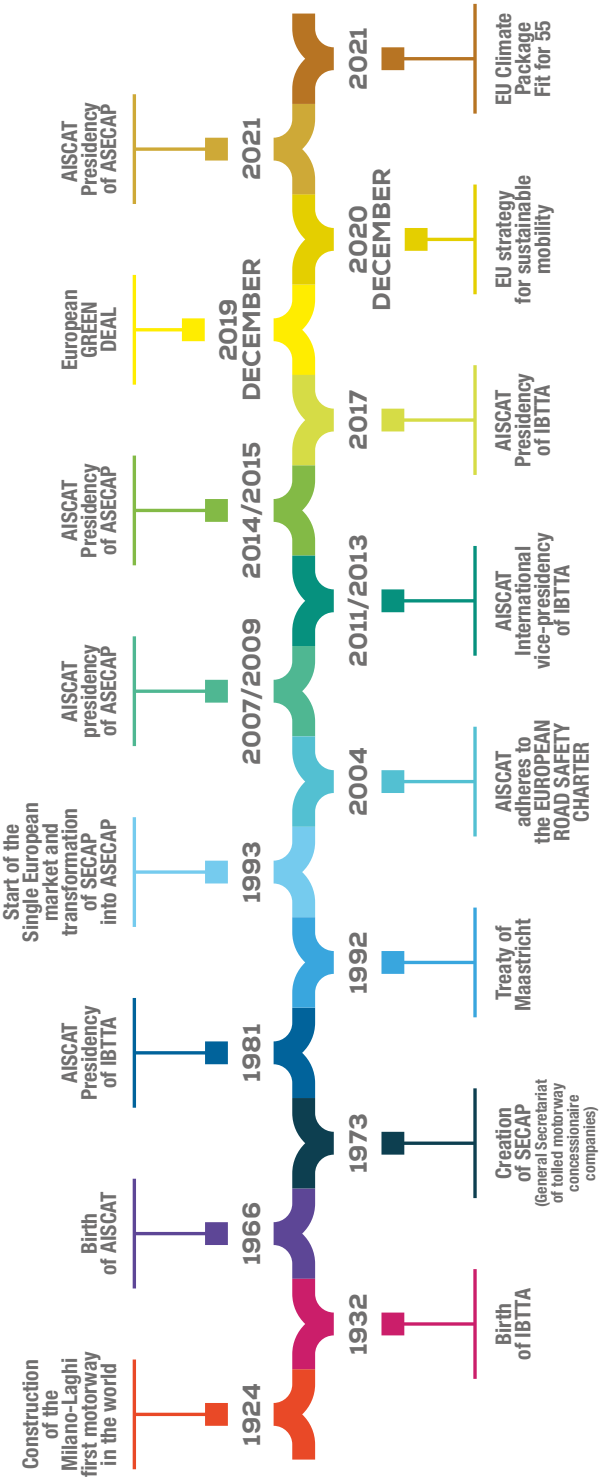
1.3 | OUR HISTORY

The concept of a "motorway" as an infrastructure was conceived in Italy in the early 1920s with the construction of the world's first roadway reserved exclusively for motor traffic. The history of motorway development takes in much of the Italian history of the last century. In fact, the growth of the network accompanied and supported the process of progressive urbanisation and industrialisation, changing the habits of citizens for the better and increasing national prosperity. Within the context of this rapid evolution, which particularly marked the 1960s and which led to Italy having the largest motorway network in Europe at that time, concessionaire companies had to tackle new problems of a technical-managerial and legal-administrative nature, realising how necessary it was to provide common and standardised responses for the entire sector.

Consequently, the need to share experiences and problems, to standardise construction, operation and management systems, as well as to interact in a unified manner with the concession granting body and with national and international institutions, were a strong driver for the establishment in January 1966 of a single aggregation and representative organisation for the entire toll motorway sector.

An association, AISCAT, which began to operate immediately within a specifically national context, but which quickly - thanks above all to the foresight of its founding members - projected activities in a supranational scenario, meeting the need, increasingly felt by its members, for a permanent and constant comparison with what was happening in other countries. This innovative approach, extending beyond strictly national borders, led AISCAT to join leading international organisations and associations, public and private, active in the motorway and general transport sector, occupying important positions within numerous governing bodies, committees and technical commissions. AISCAT soon joined the influential IBTTA (*International Bridge Tunnel and Turnpike Association*) which brought together representatives from the global toll motorway industry and, later, ASECAP (*Association européenne des sociétés concessionnaires d'autoroutes et d'ouvrages à péage*), the European Association of Operators of Toll Road Infrastructures operating in Brussels, then followed by PIARC, the World Road Association, which brings together public and private operators and organises specific sector studies regarding road safety, infrastructure funding, the application of technology to road transport, and sustainability.

MAIN EVENTS IN THE HISTORY OF AISCAT



CHAPTER 2

THE ENVIRONMENT

The study of this report on the environment requires first of all the identification of three substantial aspects of motorway concessionaire activity: the *design* of new works, *construction* and lastly its operations.

ENVIRONMENTAL IMPACTS IN THE INFRASTRUCTURE CONSTRUCTION AND OPERATION PHASES

	CONSTRUCTION	OPERATION
Air	*	**
Water	*	**
Soil	**	*
Noise	*	**
Fauna	*	*
Flora	*	*

Compared to what one might imagine, a large quantity of environmental impacts in both the construction and operations phases depend on the design of the infrastructure. Consider, for example, land use, impact on the landscape, and consequences for the flora and fauna. Impact mitigation operations carried out on existing works are often impossible to avoid, as they are determined by developments in technological knowledge (e.g. the detectability of a new, previously unknown pollutant) and by sensitivity to certain issues (e.g. landscape impact). However, mitigation carried out on exiting works is often more costly and less effective compared to a design that factors in potential problems.
The result is that it is necessary to involve local communities and other relevant stakeholders in the design phase of new constructions to achieve efficient working. AISCAT members dedicate significant resources precisely to the management of this first phase.

ENVIRONMENTAL INDICATORS				
INDICATOR	**UNIT OF MEASURE-MENT**	**2019**	**2020**	**2021**
CO_2 emissions	tonnes	158,552	145,089	144,253
Environment-related expenditure and investments	Euro	194,683,328	212,208,402	170,151,125
CO_2 emissions (direct - scope 1)	tonnes	58,483	54,182	55,438
CO_2 emissions (indirect - scope 2)	tonnes	100,069	90,907	88,815
Environment-related expenditure and investments	Euro	194,683,328	212,208,402	170,151,125
(i) Water, soil and landscape	Euro	64,385,853	63,812,784	58,030,504
(ii) Waste treatment and management	Euro	14,906,072	11,321,151	10,184,077
(iii) Treatment of emissions	Euro	256,769	251,766	241,123
(iv) Noise	Euro	37,935,745	71,456,414	66,376,140
(v) Environmental decontamination and remediation	Euro	47,783,624	36,906,984	15,873,405
(vi) Energy plants, renewables and energy efficiency works	Euro	3,145,990	1,401,930	1,905,859
(vii) Other operating costs (training, consultancy, monitoring, insurance)	Euro	7,454,776	6,820,757	10,710,437
(viii) Environmental Impact Assessments (EIA), specialist environmental studies	Euro	18,814,497	20,236,616	6,829.580

Within the scope of activities of AISCAT members, 144,253 tonnes of CO_2 were emitted in 2021. The figure refers to direct emissions (Scope 1), namely those generated directly by members (e.g. consumption for heating offices and operating sites) and indirect emissions (Scope 2), e.g. CO_2 emissions resulting from the use of electrical energy for tunnel lighting and ventilation.

The figure in 2021 is lower than that of the previous two years, registering a downward trend.

For the purposes of a more informed interpretation of the figure, consider that in 2014 every Italian citizen produced an average of 5.3 tonnes of CO_2. If we distributed CO_2 emissions generated by AISCAT member activities in 2020 among all Italian citizens, they would amount to 0.003 tonnes of CO_2 emitted per citizen. The AISCAT member activities therefore account for less than 0.1% of the total average emissions of citizens.

Environment-related expenditure and investments made by members totalled 170 million

euro in 2021. In 2019 and in 2020, these investments came to a total of 195 and 212 million euro, respectively. The reduction is linked to unavoidable difficulties in proceeding with planned projects. The activities to which these investments refer usually have relatively long cycles, so the effects of adverse events (like Covid-19) are reflected, from an economic-financial viewpoint, a few years later.

The table below provides information on the consumption of petrol, LPG, gasoil/diesel, electricity, natural gas/methane, thermal energy and renewable sources, with regard to the activities of the concessionaires. It also provides economic quantification of the cost of energy, water consumption and waste produced. Water consumption mainly refers to consumption for network irrigation and for utilities. In 2021 the activities of AISCAT members required the use of 2.5 million cubic metres of water. That figure is significantly higher than in 2019 and 2020 due to an extraordinary event affecting one of the members.

Recent studies show that one family consumes an average of 200 cubic metres of water per year, so the use of water by AISCAT members in normal conditions (i.e. referring to the years 2019 and 2020) is equivalent to about 8,000 families.

The CO_2 avoided refers to emissions that were avoided as a result of the development of renewable sources, energy efficiency measures and road surface recycling and, in 2021, totalled 8,105 tons, significantly higher than in the previous year.

ENVIRONMENTAL INDICATORS

INDICATOR	UNIT OF MEASUREMENT	2019	2020	2021
Energy consumption - Petrol	TJ	7.01	5.48	6.92
Energy consumption - LPG	TJ	16.99	19.94	17.91
Energy consumption - Gasoil/Diesel	TJ	552.82	527.23	521.46
Energy consumption - Electricity	TJ	1,347.53	1,296.01	1,328.74
Energy consumption - Natural Gas/Methane	TJ	147.34	133.18	124.29
Energy consumption - Thermal energy	TJ	9,134	5,960	5,954
Energy consumption - from renewable sources	TJ	7,322	6,933	6,857
Cost of energy	Euro	78,827,564	62,561,836	66,029,745
Water consumption	m^3	1,658,032	1,574,443	2,483,012
CO_2 avoided	tonnes	6,777	5,661	8,167
Waste produced	tonnes	45,633	45,140	25,901

AUTOSTRADE PER L'ITALIA S.P.A.

AUTOSTRADE PER L'ITALIA CHOICES FOR SUSTAINABILITY

Taking up the challenge posed by the UN 2030 Agenda for sustainable development, and sensing the urgencies posed by the climate crisis as well as the social crisis resulting from the Covid-19 pandemic, in 2020 the Autostrade per l'Italia Group began a path of transformation that has placed sustainability at the centre of its mission and its relationship with the concession granting body and with all stakeholders.

It is a long-term path that is articulated along some key guidelines:

- *Develop a management system that integrates the entire life cycle of the infrastructure, further strengthening elements of resilience and security;*
- *Reduce the Group's environmental footprint, with the goal of being a best practice in combating climate change and achieving the Net Zero goal by 2050;*
- *Define a new relationship with the customer to make the travel experience safer, more connected and more enjoyable, and to promote "smart" integration between motorway and urban infrastructure;*
- *Strengthen its sustainability governance system and build a wealth of people, knowledge and experience where diversity and talent are valued (ISO 30415 certification on gender equality obtained).*

In line with this process, the company has formalised a public commitment to the Net Zero goal aimed at limiting global warming to a level not exceeding 1.5° compared to pre-industrial levels by 2050 (see Aspi Net Zero box).

In March 2022 the Group achieved the Envision certification (the first motorway infrastructure in Europe to do so) for the "Passante di Bologna" (Bologna Bypass) project, achieving the Platinum level. The future objective is to extend the certification to other infrastructural works, confirming the adoption of sustainable design criteria (see Envision box).

Governance on ESG issues has also been strengthened with the establishment of an internal board committee, a management committee and the identification of "ESG Ambassadors", colleagues who are leading change inside and outside the company.

With the objective of promoting the definition of a sustainability strategy throughout the entire supply chain and implementing ESG criteria in the evaluation of suppliers, Autostrade per l'Italia has joined the Open-Es platform (see Aspi OpenEs box).

At the beginning of 2022 Elgea was formed, the new Group company that designs, builds and manages photovoltaic systems, making use of the areas along and around the motorway network.

These are the guidelines with which the Group intends to further strengthen its commitment, taking up the challenge of offering the country safe infrastructure that is resilient to climate change, destined to last over time, and where the travel experience becomes increasingly pleasant and connected thanks to the use of new technologies (see Mercury box).

AUTOSTRADE PER L'ITALIA S.P.A.

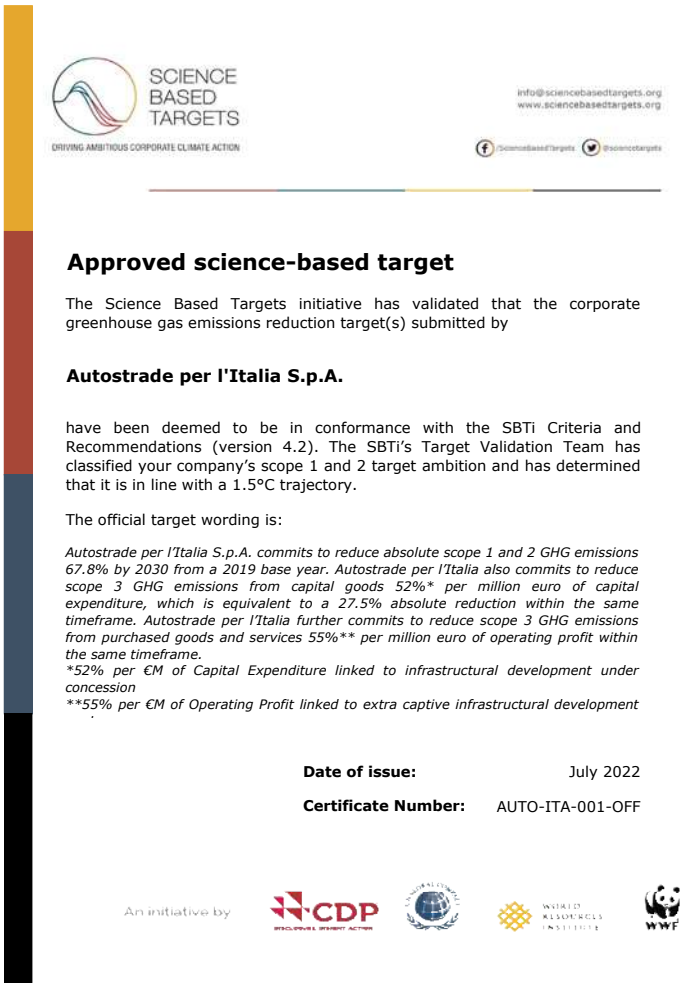
NET ZERO

Autostrade per l'Italia's ambitious commitment to the Net Zero strategy, a scenario that involves the containment of global warming by 1.5° C compared to pre-industrial levels, has materialised with the Science Based Targets initiative (SBTi) validation of the greenhouse gas emission reduction targets presented in 2021: Scope 1 (direct greenhouse gas emissions), Scope 2 (indirect emissions from energy consumption) and Scope 3 (other indirect emissions).

The Science Based Targets initiative was born from the collaboration between CDP (the former Carbon Disclosure Project), the United Nations Global Compact, the World Resources Institute (WRI) and the World Wildlife Fund for Nature (WWF). SBTi supports companies in defining ambitious goals based on scientific evidence, to contain the rise in temperatures on the planet.

In particular, Autostrade per l'Italia has committed to: reducing absolute greenhouse gas emissions for Scope 1 and 2 by 68% compared to 2019 by 2030; reducing Scope 3 greenhouse gas emissions by 52% per million euro invested in the modernisation of the network under concession, as well as a 55% reduction in Scope 3 emissions that derive from goods and services purchased from third parties as part of the construction business (non-captive).

The achievement of these objectives will broadly impact business operations, including activities such as electrification of the fleet, shifting to supply from renewable sources, the use of low emission materials and our relations with suppliers.



SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

info@sciencebasedtargets.org
www.sciencebasedtargets.org

Approved science-based target

The Science Based Targets initiative has validated that the corporate greenhouse gas emissions reduction target(s) submitted by

Autostrade per l'Italia S.p.A.

have been deemed to be in conformance with the SBTi Criteria and Recommendations (version 4.2). The SBTi's Target Validation Team has classified your company's scope 1 and 2 target ambition and has determined that it is in line with a 1.5°C trajectory.

The official target wording is:

Autostrade per l'Italia S.p.A. commits to reduce absolute scope 1 and 2 GHG emissions 67.8% by 2030 from a 2019 base year. Autostrade per l'Italia also commits to reduce scope 3 GHG emissions from capital goods 52% per million euro of capital expenditure, which is equivalent to a 27.5% absolute reduction within the same timeframe. Autostrade per l'Italia further commits to reduce scope 3 GHG emissions from purchased goods and services 55%** per million euro of operating profit within the same timeframe.*
**52% per €M of Capital Expenditure linked to infrastructural development under concession*
***55% per €M of Operating Profit linked to extra captive infrastructural development*

Date of issue: July 2022
Certificate Number: AUTO-ITA-001-OFF

An initiative by CDP WWF

MILANO SERRAVALLE - MILANO TANGENZIALI S.P.A.

THE SERVICE AREAS OF MILAN SERRAVALLE PROTECTING THE ENVIRONMENT

A CHANGE IN ENVIRONMENTAL AWARENESS IN THE MANAGEMENT OF SERVICE AREAS UNDER CONCESSION WITH THE RENEWAL OF SUB-CONCESSIONS TO OIL AND RESTAURANT OPERATORS.

With the signing of the new Conventions for management of the "OIL" and "FOOD" services of the Service Areas on the routes it manages, Milano Serravalle has decided to change gears, adopting a posture of greater environmental protection which brings with it improvements in the services offered.

In 2021, Milan Serravalle began the signing phase of the new sub-concession contracts for managing the distribution service of fuel and lubricant products and ancillary activities, as well as the refreshment service and related activities in the Service Areas located along the routes in concession. About twenty agreements out of a total of 32 have been signed to date, with the signing phase expected to be completed by the end of 2022.

The new Conventions, compared to those stipulated and concluded when there was still little attention paid to the management of environmental aspects, highlight the commitment, attention and sensitivity that Milano Serravalle has developed over the years towards environmental issues. They detail the principles of protection and safeguarding of the environment and natural resources, with the aim of progressively reducing the impact on environmental aspects created by the company and its sub-concessionaires.

The new contracts provide for the restructuring and modernisation of the buildings and related structures at the Service Areas, above all with a view to improving the services offered as well as reducing environmental impact with the goal of containing the air conditioning energy consumption of the premises and operating structures. Another important improvement action concerns new vehicle refuelling methods for the development of sustainable mobility. The service areas - their roles renewed following the improvements - will be equipped with modern and efficient technologies, including photovoltaic panels and high speed charging columns for electric vehicles.

Last but not least, the Company 's decision to invite incoming operators to offer organic, 0 km products from a fair and inclusive market should be highlighted, as well as enhancing products with lower packaging content. Some operators will launch partnerships with significant local agri-food companies in this sense.

AUTOSTRADA DEL BRENNERO S.P.A.

BRENNERLEC TESTING HAS CONCLUDED: THE MODEL CAN NOW BE REPLICATED

For BrennerLec it is time to take stock, and given the excellent results achieved during testing, to imagine how and where to replicate the model that will allow travellers to arrive earlier while polluting less. This was discussed on 25 November 2021 at the Final Conference regarding the BrennerLec project "Driving through the Alps with respect", which, in addition to Autostrada del Brennero, which included the active involvement of project partners: the Environmental Protection Agencies of the Provinces of Trento and Bolzano, the University of Trento, NOI TechPark Südtirol/Alto Adige and CISMA Srl.

Autostrada del Brennero has aimed its dynamic speed management measures at light vehicles because they are responsible for 46% of polluting emissions and because, unlike heavy vehicles, they do not always travel at an optimal speed. The experiment was based on an ITS system, developed together with our partners, that is capable of cross-referencing traffic, weather and air quality data, indicating the best speed given the various conditions. We have conducted over 4,700 hours of testing dictated by environmental conditions and 750 hours by heavy traffic conditions. It is evident that mandatory limits produce better results than the simple recommended speed, but the results on the environmental front were still satisfactory, with a reduction of about 10% of the NO2 concentrations on the roadside in normal conditions and of 20% in case of heavy traffic. The results in this second case are really very important, with an average reduction in travel times of 10% (even with a 10% increase in traffic volume) and an accident rate close to zero.

Legambiente has awarded its "Green Flag" to BrennerLEC "for demonstrating how speed reduction on the motorway decreases air pollution, helping to make vehicle traffic on the Brenner route more respectful of health and compatible with the characteristics of the territory it crosses". The model that has been developed can now be replicated.

AUTOSTRADA DEL BRENNERO S.P.A.

A22, A NEW, GREEN CONNECTION WITH THE A1

The third lane between Verona north and Campogalliano is getting close to becoming a reality. The Board of Directors of Autostrada del Brennero, chaired by Hartmann Reichhalter, has in fact approved the executive project for the first of the three lots for work that will enhance the mobility offering in one of the most productive areas of the country. This is the junction between the A22, the A1 and the Campogalliano-Sassuolo route. A 138 million euro operation, it represents not only the first functional step towards the third lane, but also the solution to the problem of frequent congestion on the current connection between the Autostrada del Sole and the main connection between Italy and Europe: the A22.

The entire project for the construction of the third lane between northern Verona and Campogalliano is based on the most rigorous environmental sustainability. In fact, the intervention will be carried out within the current motorway area in the free space that currently separates the two thoroughfares, without further soil consumption. As Autostrada del Brennero has been doing for years with all of its new creations, in this work of art too we do not merely see a functional element to be camouflaged with inevitably imperfect and sometimes even clumsy attempts at mimicry, but an architectural element conceived according to aesthetic canons that allow it to fit into the landscape by expressing and renewing its anthropic dimension. This does not mean that the green area will not be cared for. On the contrary: the project will bring back the existing vegetation in the low and medium plains, which were originally characterised by forest. The focus of the work will be the 87-metre single span of the A22 flyover, destined to pass over the Autostrada del Sole: the deck will be supported by wire ropes to two bipod side portals consisting of two circular struts and a hollow sphere in the top towards which the suspension wires of the deck will converge with the shore stabilisation wires in a fan arrangement. Just as the creation of the Plessi Museum on Italy's border at the Brenner Pass was meant to represent the gateway to the north of the A22, so the Campogalliano junction will represent the gateway to the south.

AUTOSTRADA DEL BRENNERO S.P.A.

RAILWAYS: AUTOBRENNERO ACQUIRES INRAIL AND STRENGTHENS ITS RAILWAY ASSETS

The acquisition of the majority stake in InRail S.p.A. has made the Autobrennero Group the second largest railway operator in the freight sector after Mercitalia Logistics, which is part of the Ferrovie dello Stato Group. The expansion of the Group, which already controls 95.5% of RTC S.p.A. and 50% of the German Lokomotion GmbH, came on the day when the twentieth anniversary of the departure of the first Autobrennero train was celebrated.

Not everyone knows that Autostrada del Brennero S.p.A. is the only motorway operator that has also been involved in rail freight transport for many years. By the end of the 1990s, in fact, the directors of the Company realised that the artery would reach saturation and that it was necessary to progressively move long distance freight traffic destined to rail. Thus, first STR S.p.A. and then, in 2000, RTC Rail Traction Company S.p.A. and Lokomotion GmbH were formed, destined to operate respectively on either side of the Brenner and Tarvisio. On 15 October 2001, the first freight train left Munich Riem station in the direction of Verona, marking the beginning of a multi-year growth phase. Today the two railway operators move over 12,000 trains a year thanks to the work of 550 employees. By transferring about 800 heavy vehicles from the motorway to the railway every day, it is estimated that they contribute to reducing the production of CO_2 along the Brenner corridor by about 160,000 tonnes every year.

On 23 December 2021, the acquisition of 75% of InRail S.p.A. shares, a company with a staff of over 120 employees and a movement of about 150 trains per week, was finalised. The remaining 25% of its shares are held by Tenor and Inter-Rail.

The Group is at the start of new period which will see the progressive growth of its railway assets through the consolidation of the current sections and the development of new ones, made possible by an industrial acquisition which includes InRail's know-how and management. The Brenner corridor connects the two main European manufacturers, the German and the Italian. Autostrada del Brennero S.p.A. has the ambition of sustainably managing mobility along the Brenner route, and the shift of freight traffic from road to rail is one of the pillars of the ambitious Green Corridor project.

Rail Traction Company

Lokomotion

InRail

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A.

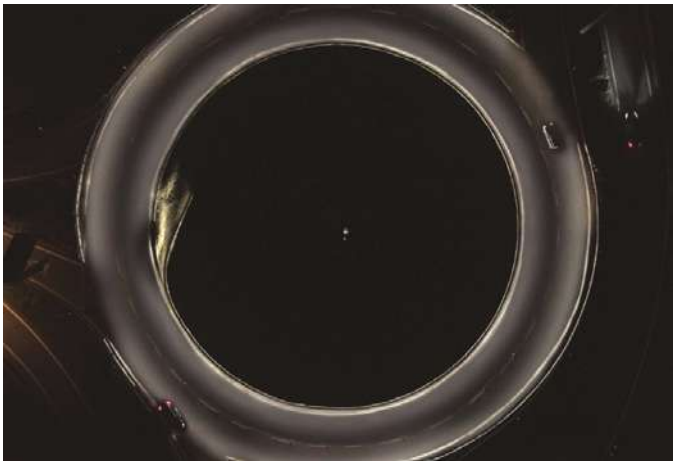
A NEW LED LIGHTING SYSTEM WITH LOW LIGHT POLLUTION STRUCTURE

Reducing the impact on the surrounding environment by testing an effective and efficient lighting system.

Our commitment to innovation is mainly intended to ensure greater safety and comfort for travellers through smart and cutting-edge solutions that respect the environment and serve the community. Among these, we have started testing of the GuardLEDsolution in the Verona East area and at the San Martino Buon Albergo roundabout. This lighting technology enables the illumination of vast areas of interest without having to install special poles and support structures.

The advantages offered by this solution appear to be of great interest in terms of energy savings, with a significant reduction in consumption. Even more important is the significant impact on light pollution for the surrounding environment. There is an additional advantage from the point of view of maintenance because this type of installation does not require aerial interventions, which are always considered to be a further risk.

We have found that this new form of lighting, provided by the LEDs and originating from below, complies with the characteristics envisaged by the regulations and appears to be less invasive both for the environment and for the driver, allowing better, clearer visibility, and providing a significant contribution to road safety, our primary goal.



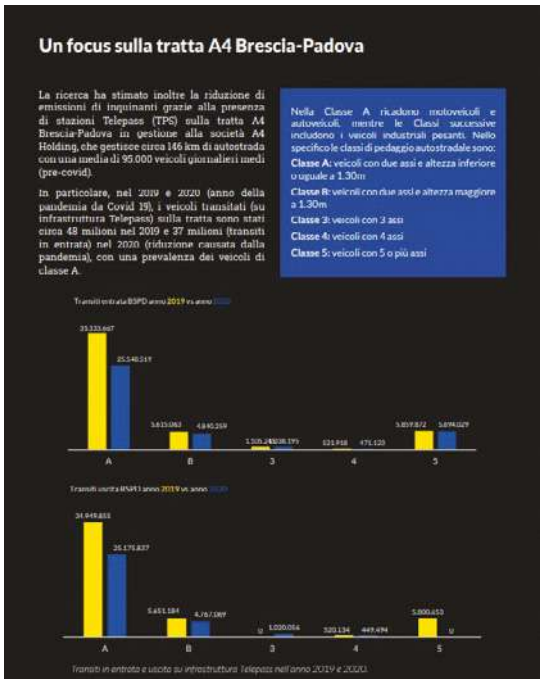
AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A.

ELECTRONIC TOLLS SAVE MORE THAN 3,000 TONNES OF CO_2 ON THE A4 BRESCIA-PADUA SECTION

The A4 Holding Group and Telepass have come together to develop a successful case study on sustainable mobility. The study, commissioned by the Ca' Foscari University of Venice, quantified the reduction of polluting emissions resulting from the presence of electronic toll stations that do not require vehicles to stop for the collection and payment of the motorway ticket. The study considered the section of the A4 included between Brescia and Padua, managed by Autostrada Brescia Verona Vicenza Padova, and one of the busiest motorways in Italy and Europe.

The research applied a specific mathematical-scientific model developed by the academic team, and calculated a reduction of 3,350 tonnes of CO_2 emissions in 2019 thanks to the use of Telepass toll collectors (2,880 tonnes of CO_2 in 2020). Translating this figure in terms of car journeys from Rome to Milan, the savings correspond to more than 35,000 journeys, or about 1,500,000 litres of fuel, with a huge advantage for the environment but also for people in terms of noise pollution, traffic congestion and related costs.

The conclusion of the project is that the electronic toll payment infrastructure can provide greater advantages than the traditional infrastructure and a better service to motorists thanks to the optimisation of flows, but also in terms of environmental benefits: long-term conservation of nature and biodiversity, reducing the carbon footprint and air pollution in the transport sector.



CONCESSIONI AUTOSTRADALI VENETE S.P.A. CAV

ADAPTING INFRASTRUCTURE TO CLIMATE CHANGE: THE KASSANDRA PROJECT

TO DEFINE AN ADAPTIVE AND PREDICTIVE MODEL THAT ALLOWS INCREASING THE ADAPTABILITY OF INFRASTRUCTURE AND MINIMISING VULNERABILITY TO CLIMATE CHANGE

The A4, Mestre bypass and Mestre ring road will become "resilient" to the effects produced by climate change. This result is possible thanks to a software platform called Kassandra, which is being applied to motorway infrastructure for the first time, leading to a qualitative leap in their design and maintenance: in fact, from now on every intervention will be managed considering its interaction with the surrounding area, thus not only evaluating the work itself, but also taking into consideration nearby settlements, the environment, the land, vegetation and other human works. Therefore, all the effects produced by climate change on the infrastructure and conveyed from infrastructure to local communities are taken into account.

The pilot project envisages a new concept of sustainability: the greenery along the transport infrastructures no longer has only an ornamental function, or that of contrasting atmospheric and acoustic pollution. If properly designed, it will also have the function of mitigating risk for other factors, thus reducing the impact that climate change can have on the infrastructure itself and on the surrounding area. The goal of the new design approach through Kassandra is to increase the adaptability of infrastructure and minimise vulnerabilities. The platform used is able to do this through its ability to constantly monitor and collect data on the health of the managed infrastructure, producing details that allow better planning of necessary interventions. The perspective is extremely dynamic, because the collection and processing of data, by applying the algorithm, allows modification of priorities and intervention procedures as needed. The process can also define, when necessary, the measures to be adopted (technical, technological and organisational) to increase the resilience of the infrastructure.

Kassandra is a decision support software platform that has already been used successfully in several urban situations. Adopted here for the first time for motorway infrastructure, the platform allows one to imagine the evolution of a system, in this case motorway infrastructure, in relation to 12 standard indicator parameters, including water, air, buildings, health, mobility, waste, energy and more. Kassandra's goal is to help the decision-maker make the correct assessments in order to transform the managed infrastructure to make it more "resilient" to climate change, and at the same time, to improve the quality of life of those who use or otherwise have some relationship with those roads from a general cost-benefit perspective.

The platform analyses the collected data, producing processed data together with forecast data in the form of information made available to those who will then have to make decisions on interventions, maintenance and organisation. The pilot project examined three motorway sections, located in different contexts representing the infrastructure-environment relationship, for testing purposes: the first on the Mestre ring road in a highly urbanised area, the second on the Mestre bypass in a largely agricultural area and the last on the A4 Padua-Venice in a stretch characterised by a strong anthropic presence on one side and a rural area on the other.

The simulation of an optimal scenario through the Kassandra application will allow us to hypothesise eco-sustainable environmental mitigation and compensation measures that can subsequently be the subject of a detailed design. These studies and analyses will also make it possible to identify

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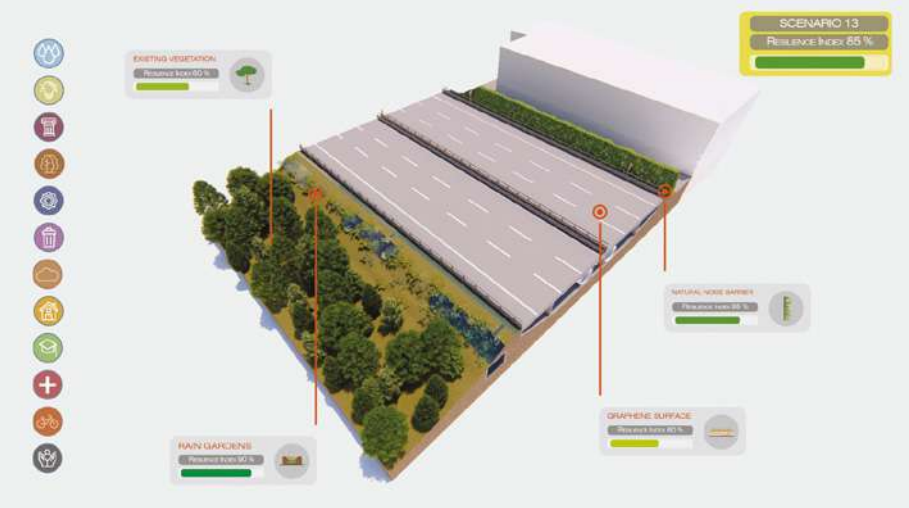
the best interventions to optimise maintenance and management plans for the infrastructure and related green areas, both in technical and economic terms.
The monitoring of climatic factors that can impact on the infrastructure is fundamental in order to make the infrastructure itself more resilient and therefore "adaptive" to the inevitable dynamics and variations produced by the environment. This process is made possible through the application of "machine learning", which is meant to identify the best predictive scenarios, thus allowing the adoption of adequate measures in every aspect.



MILANO SERRAVALLE-MILANO TANGENZIALI S.P.A.

FORESTAMI – FORESTA MILANO

In the spring of 2021, the memorandum of understanding relating to the "ForestaMi" project (Foresta Milano) was signed with the approval of the Ministry of Infrastructure and Sustainable Mobility. Increasing urban green areas, reducing air pollution, connecting green areas and redeveloping neighbourhoods are the main objectives of the project, which has the goal of planting 3 million new trees on land in the Metropolitan City of Milan by the end of 2030. ForestaMi, born from research by Politecnico di Milano, was organised in 2018 by the Municipality of Milan, the Metropolitan City of Milan, North Milan Park and the South Milan Agricultural Park.

The Protocol between the Municipality of Milan and Milan Serravalle - Milano Tangenziale S.p.A. is aimed at building a strategic vision of the role of greenery, and to promote activities oriented around the design and implementation of urban forestry interventions in certain areas of the motorway network that are covered by the motorway concession. This will allow effective responses to the issues of climate change, as well as increasing the wooded areas and biodiversity of the area. The signing of the protocol commits the Municipality of Milan to report and promote possible urban forestation interventions on land in the City of Milan. The related planning and implementation will be organised by the ForestaMi project, and the concessionaire - on receiving authorisation from the Ministry of Sustainable Infrastructure and Mobility - will make available the areas identified as suitable to begin tree planting.

Two forestation interventions have already been identified, designed and implemented in this context: the Paullese junction along the East Milan ring road and an area at the entrance to the Milan Cantalupa Service Area on the A7. A total of over 7,750 plants of different native species (16 trees and 18 shrubs) were planted on about 70,000 square metres of land.

Below are a couple of photos with an indication of the areas of intervention and a photo of the recent plantings.

Fig. 01: *indication of the scope of works at the entrance to the Milan Cantalupa Sud Service Area*

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Fig. 02: *identification of Paullese areas on the East Milan ring road with the city of Milan in the background*

Photo: *work carried out in one of the isolated areas of the Paullese junction on the East Milan ring road*

SOCIETÀ AUTOSTRADA TIRRENICA S.P.A. SAT

SELF-CONSUMPTION PHOTOVOLTAIC PROJECT

The SAT Company, in line with Autostrade per l'Italia's sustainability strategy, will work on the development of technological solutions for the production of energy from renewable sources, from the design and construction of renewable energy plants to their management and maintenance. The Company's goal is to build the facilities without further soil consumption by exploiting the artificial tunnels of the northern section of Livorno-San Pietro in Palazzi.

SAT will build these photovoltaic systems for the purpose of generating energy from renewable sources to satisfy the consumption needs in band F1 of the artificial tunnels.

The new facilities are in addition to another 2 completed in recent years, for a total of 8 plants. These additions are aimed at considerably increasing the size of SAT's photovoltaic park with a significant increase in the production of renewable energy (+400 kWp to be installed, +480 MWh/a energy produced).

CHAPTER 3 2021

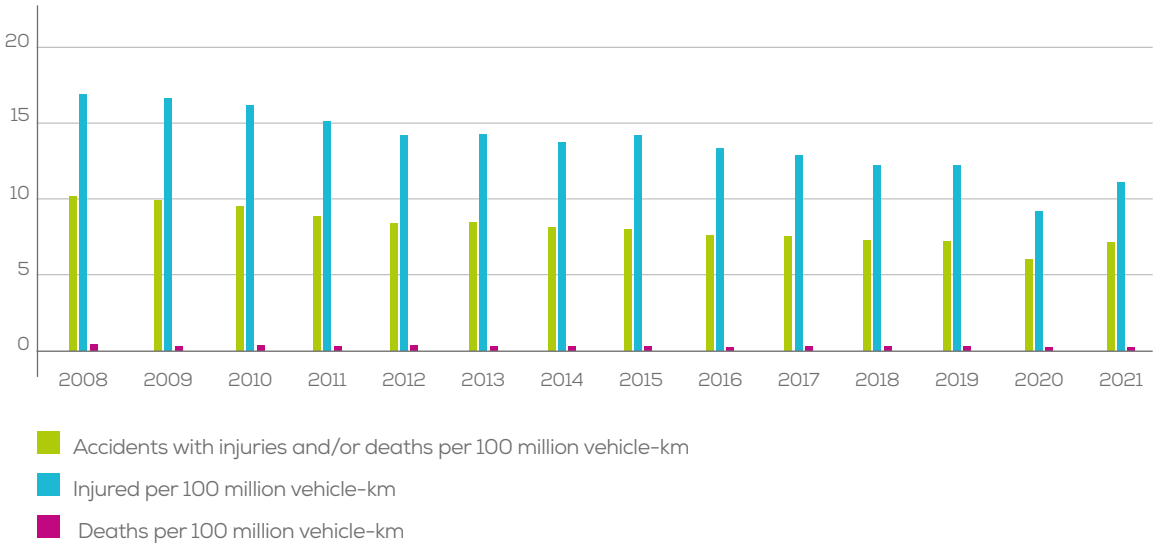
ROAD SAFETY

The topic of road safety is one of the fundamental aspects of AISCAT members' activity and the accident rate is monitored as one of the main performance goals, also in terms of management and operation of the network. Considering that over 90% of accidents depend on inappropriate, distracted or driving not compliant with the Highway Code (as highlighted by official statistics and numerous studies and research), as well as by vehicle conditions, maximum attention is paid to the safety of infrastructures, technical standards and the level of service, particularly from a "prevention" viewpoint.
AISCAT members are involved in many initiatives that aim to reduce the causes and thus the number of accidents, over and above legal obligations. In this sense, considerable importance is attached to the communication of events and to real-time information for users through the use of different channels, on the road (with Variable Message Signs), as well as via web, radio, television and special apps.
According to ISTAT ACI reports, there were 151,875 road accidents with injuries in 2021. There were 2,875 deaths and 204,728 injured.

ROAD SAFETY		
INDICATOR	**2020**	**2021**
Number of accidents with injuries and/or deaths	3,192	4,662
Number of fatal accidents	106	153
Number of injured	4,891	7,243
Number of deaths	116	161

In 2021, there were 4,662 accidents with injuries and/or deaths on the motorway network managed by AISCAT members. These included 153 fatal accidents, causing 161 deaths. The number of injured totalled 7,243.
Clearly the figure regarding infrastructure safety must be interpreted in light of the amount of traffic travelling on the network. To this end, indicators must be calculated, which are commented on below.
Compared to 2019 (i.e. the last year that can be usefully compared to 2021), the number of accidents with injuries and/or deaths per 100 million vehicle-km fell (from 7.25 to 7.15), as did the number of injured per 100 million vehicle-km (from 12.22 to 11.11), and the number of deaths per 100 million vehicle-km (from 0.27 to 0.25).

ACCIDENT RATES IN THE PERIOD 2008-2021



The importance that AISCAT and its members have always given to mobility and road safety policies is unparalleled, manifesting itself also in direct participation in the main national strategic and technical-operational coordination bodies such as "Viabilità Italia - Centro di Coordinamento Nazionale in materia di Viabilità" (National Road Traffic Coordination Centre), "Consulta Nazionale per la Sicurezza stradale e la Mobilità sostenibile" (National Council for Road Safety and Sustainable Mobility) at the CNEL (National Council for Economics and Labour), and the CCISS (Road Safety Coordination Centre, of which AISCAT is also a founding member), thus guaranteeing the sector's representation in public services and motorway user information. We would like to emphasise that AISCAT is active in road safety also at international level. In fact, the association is present in the ***Forum of the European Road Safety Charter***, a real platform for civil society on road safety issues, created in the mid-2000s to pursue actions and initiatives that strengthen road safety culture all over Europe, improving awareness of the causes of accidents and contributing to the creation of preventive measures and solutions. Through its ongoing presence in ASECAP in Brussels, AISCAT also actively participates in ASECAP technical bodies that deal with road safety, a fundamental political priority of the European Union in the transport sector. In this field ASECAP members promote, through EU institutions, the activities implemented by ASECAP motorway concessionaires to ensure the best safety performance of the network, tangibly demonstrating that our operators are all fully committed to making a contribution to the EU "Vision zero" goal as regards reducing accidents.
https://road-safety-charter.ec.europa.eu/

AUTOSTRADE PER L'ITALIA S.P.A.

SAFETY FOR ROAD USERS AND PERSONNEL

In 2021 Autostrade per l'Italia completed several initiatives aimed at improving safety, for traffic and for roadworking personnel.
The main initiatives include:

- *with regard to the demanding modernisation plan undertaken by ASPI which required the initiation of several works, in order to optimise the planning phase of worksites and reduce their impact on traffic, a platform was developed for traffic analysis which, by processing high quantities of data from different sources and based on machine-learning algorithms, can forecast traffic flows and estimate the traffic disruption caused by worksites (in terms of tailbacks and journey times) with an accuracy of up to 97.5%. For this initiative, Autostrade per l'Italia – the leading Italian company - received the TIBCO "Lighthouse Award – Everyone. Everywhere" in 2022.*
- *signing by ASPI and the Traffic Police of the Ministry of the Interior of the "Guidelines for the first joint intervention of Traffic Police patrols and traffic operators in emergency situations" with the aim of defining shared intervention methods to maximise the overall effectiveness of the reporting system consisting of Police and traffic operators intervening for the utmost on-site safety of users in transit and of roadworking personnel.*
- *deployment of the first mobile second-level analysis laboratory for on-the-spot testing of driving under the influence of drugs. With the assistance of doctors and analysts, from a saliva sample, the laboratory's onboard instrumentation can return a result in just a few minutes, allowing the Traffic Police patrol present on the scene to ascertain the violation.*
- *launch of a test to equip the vans used in the traffic service with an "anti-collision" system. During activities carried out in the emergency lane by traffic personnel, the system can detect over a distance of about 500 m any vehicles on a collision course by activating acoustic alarms to draw the attention of the driver who has invaded the emergency lane and to alert the operator so that he can reach a safe position.*

A35 - SOCIETÀ DI PROGETTO BRE.BE.MI. S.P.A.

DATA DETECTION AND PRESELECTION SYSTEM FOR VEHICLES EQUIPPED WITH SMART SPEEDOMETER

OPTIMISATION OF ROAD CONTROLS IN COLLABORATION WITH TRAFFIC POLICE AND CONTINENTAL-VDO

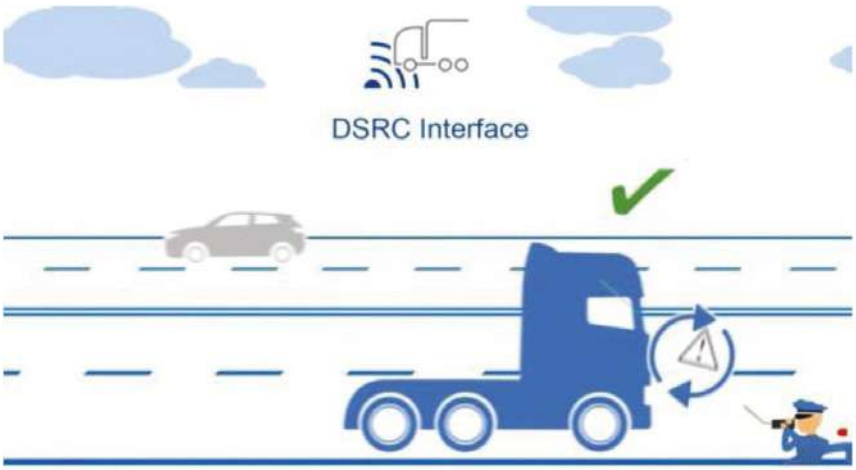
In December 2021, Brebemi launched an experiment in collaboration with the traffic police and the Continental-VDO company with the aim of optimising the control of heavy vehicles on the road and in the presence of traffic.

The experiment aims to verify the correct detection of specific technical parameters relating to the circulation of heavy vehicles, such as, for example, driving times, vehicle registration plates, expired authorisations, speed etc. In this context, the system guarantees the Traffic Police a pre-selection of vehicles for control.

Any anomalous parameters detected are transmitted to special tablets supplied to the Police, who can then execute the subsequent stop of the pre-selected vehicle.

The system as a whole is based on DSRC - Dedicated Short-Range Communication technology, and consists of a series of elements that include an intelligent tachograph installed on the latest generation of heavy vehicles, antennas positioned on variable message signs and special data

- *increased safety for police officers along the route;*
- *improved cost efficiency of road controls;*
- *better compliance with social regulations in the road transport sector;*
- *strengthened EU objectives on sustainable and competitive mobility by supporting actions to improve road safety.*



AUTOSTRADA DEL BRENNERO S.P.A.

DRASTICALLY REDUCED TRAFFIC: STRONG ACCELERATION ON MAINTENANCE

Ex malo bonum. This phrase could summarise Autostrada del Brennero's decision to accelerate on the maintenance front, taking advantage of the drastic drop in traffic caused by the restrictions imposed by the health emergency. Intervening in similar periods, especially at night when motorway traffic is close to zero, allowed Autostrada del Brennero to avoid setting up construction sites after the regional borders were reopened.

In the early months of 2021, when further tightening of traffic restrictions produced an even greater decrease in light vehicle motorway traffic - which fell by over 50% compared to 2019 data, with peaks of -90% on weekends - Autostrada del Brennero reacted by concentrating many of its planned works in that period, from the simplest repairs to those requiring measures impacting normal traffic, such as the closure of motorway service stations or entire stretches of motorway. This involved maintenance of architectural road structures, road surfaces, or works by third parties whose infrastructure, from electrical networks to roadwork, cross the same land. It is clear that traffic disturbance in these conditions was minimal, while it would have been much more disruptive in a normal traffic context. Consistent maintenance is an essential factor for safety, and therefore for sustainability. Doing so without disturbing traffic in turn contributes to safety and sustainability.

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. AND THE A4 HOLDING GROUP

ROAD SAFETY FORUM 2021

AN ONLINE EVENT ORGANISED TO TAKE STOCK OF THE CURRENT AND FUTURE SCENARIO REGARDING ROAD SAFETY AS WELL AS TO SHARE THE RESULTS OF THE 2021 DRIVING STYLES OBSERVATORYDELL'OSSERVATORIO STILI DI GUIDA 2021

The online event "Road Safety Forum 2021" was held in November 2021, organised by the A4 Holding Group and promoted through the media of the Athesis publishing group (print and online newspapers, TV and social networks) in the areas of Brescia, Verona, Vicenza, Mantua and Padua. This annual event is intended to take stock of the current and future scenario on road safety through the experiences of various interlocutors who concretely interact with the world of mobility.

The event was broadcast via live streaming through the websites and social channels of the Athesis Group newspapers, reaching a wide spectrum of the local population. The recording of the event was later broadcast in prime time by Athesis television stations.

In order to spread the message in support of the development of a road safety-oriented culture to a mass audience, on the day of the event a special 16-page dedicated section was also included in the newspapers. This special section reviewed the main topics and the comments gathered during the event.

The reports concerned stories of local companies, institutions, organisations and associations together with numerous testimonials from leaders in the world of mobility as well as from Autostrada Brescia Verona Vicenza Padova. There were representatives from central government, the Veneto Region, Traffic Police, Verona Local Police, the University of Padua, CESCAM Centro Studi Città Amica - University of Brescia, Roadlink, Confartigianato Trasporti Verona and Vicenza, and Vetrocar.

The data from the 2021 Driving Styles Observatory of Autostrada Brescia Verona Vicenza Padova were presented, which offered the opportunity to discuss bad habits and dangerous driving behaviours with other professionals in the sector and mobility operators, as well as to evaluate behaviours that could offer concrete paths toward solutions and improvements.

The Driving Styles Observatory was created for the purpose of analysing risk behaviour along the A4 Brescia-Padua and A31 Valdastico routes. The results were then monitored over time with the aim of developing projects, initiatives and campaigns based on objective factors targeting improved safety for travellers.

SOC. ITALIANA TRAFORO AUTOSTRADALE DEL FREJUS S.P.A. SITAF

DOUBLING OF THE FREJUS T4 TUNNEL

Tunnels, particularly in the Alps, are important infrastructures that facilitate communication between large regions of the European Union, and the EU attributes a decisive role to them for the functioning and development of economies on a local, regional and transnational scale.

The project for doubling the Frejus Tunnel (T4) started in 2012; the objectives of the project can be summarised as follows:

- *road accident and fire prevention to avoid accidents from occurring;*
- *fire protection to ensure that, should an event occur, the circumstances are such as to allow rescue of the largest number of people involved in the incident and the fastest possible extinguishing of the fire;*
- *a system that will guarantee safety standards related to intervention efficiency and accident prevention.*
- *the separation of traffic flows will drastically reduce the possibility of an accident occurring and, in particular, will eliminate the possibility of head-on collisions.*

During 2021, work continued on the tunnel systems, the new road system and all the buildings functional to the two T4 tubes. Work will continue in 2022 as the opening scheduled for the end of the year approaches.

SOCIETÀ ITALIANA TRAFORO GRAN SAN BERNARDO SITRASB S.P.A.

SERVICE AND SAFETY TUNNEL

The Gran San Bernardo Tunnel, opened to traffic on 19 March 1964, was the first international road link allowing the Alps to be crossed all year round, creating a communication route not only between Switzerland and Italy, but also between the countries of northern Europe and the Mediterranean basin.

The Tunnel consists of a single tube tunnel with a slightly curved course, with an overall length of 5,798 meters and two lanes, one in each direction.

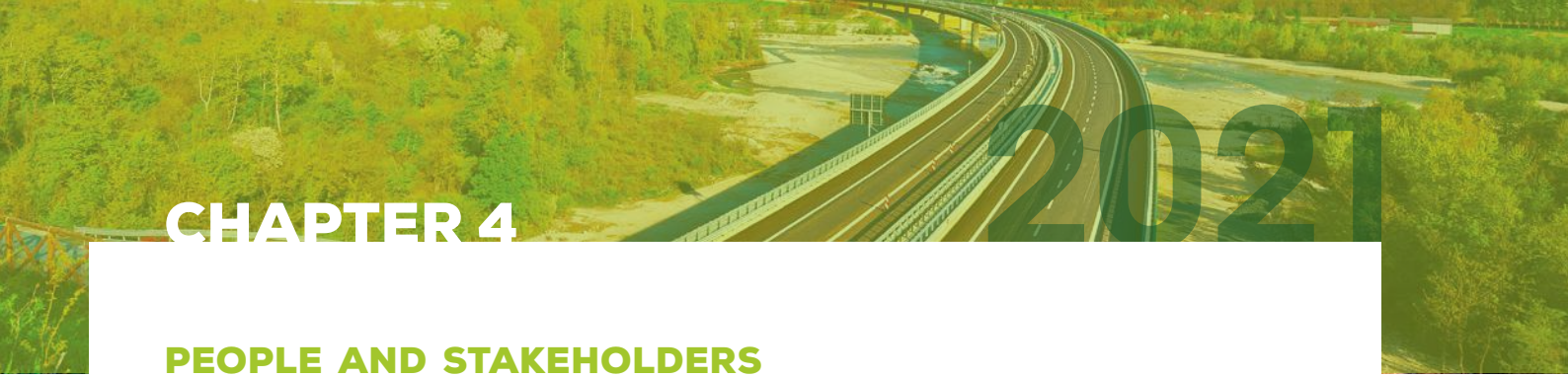
The entrance to the tunnel on the Italian side is at an altitude of 1,875 meters above sea level, the one on the Swiss side is at 1,918 meters above sea level. Finally, the work is characterized by the presence of a ventilation slab that separates the section reserved for vehicle transit from the upper part, reserved for the ventilation channel.

Service tunnel and safety

Following the Mont Blanc Tunnel tragedy, after an in-depth study on safety, the best solution was considered to be the construction of a parallel tube connected to the main tunnel by a by-pass. The service and safety tunnel project, work on which began in 2010, aimed to achieve the following main objectives:

- *Direct evacuation of users in the event of an emergency through the 11 connecting tunnels to the main tunnel spaced approximately 480 meters apart;*
- *Improvement of the ventilation system;*
- *Protection of the installations and power supply networks by moving the electrical cabins from the main tunnel to the service and safety tunnel;*
- *Increased safety and better working conditions for maintenance personnel;*
- *Improved accessibility to the accident site for emergency management personnel.*

The work was completed in December 2021 and was expected to enter into operation during 2022 (entering into operation took place on 09/07/2022).



CHAPTER 4

PEOPLE AND STAKEHOLDERS

4.1 | PEOPLE

HUMAN RESOURCES				
INDICATOR	**UNIT OF MEASURE-MENT**	**2019**	**2020**	**2021**
Total number of employees	no.	10,598	10,140	9,776
Number of work accidents	no.	278	175	274
Number of work accidents (absence ess than 6 months)	no.	269	166	150
Presence of procedures for work accidents involving subcontractor employees	%	76%	76%	76%
Number of workplace accidents of subcontractor personnel	no.	198	190	164
Turnover (recruitments)	no.	526	488	1428
Turnover (terminations)	no.	724	639	1423
Personnel training hours	no.	218,611	108,918	275,917

HUMAN RESOURCES				
INDICATOR	**UNIT OF MEASURE-MENT**	**2019**	**2020**	**2021**
Total number of employees	no.	10,598	10,140	9,776
(i) Number of employees (women)	no.	2,332	2,324	2,412
(i) Number of employees (men)	no.	8,266	7,815	7,364
(ii) Number of employees by age group (up to 30)	no.	314	344	565
(ii) Number of employees by age group (from 30 to 50)	no.	4,911	3,339	3,500
(ii) Number of employees by age group (over 50)	no.	5,373	6,457	5,710
(iii) Number of employees (permanent contract)	no.	10,326	9,888	9,369
(iii) Number of employees (temporary contract)	no.	271	251	407
(iv) Number of employees (part time)	no.	1,574	1,486	1,339
(iv) Number of employees (full time)	no.	9,023	8,653	8,437
(v) Number of employees (manual workers)	no.	1,585	1,474	1,356
(v) Number of employees (toll collectors)	no.	3,777	3,429	3,163
(v) Number of employees (office workers)	no.	4,606	4,622	4,629
(v) Number of employees (middle management)	no.	511	453	468
(v) Number of employees (senior management)	no.	149	164	171
(vi) Percentage of female manual workers	%	2%	3%	14%
(vi) Percentage of female toll collectors	%	29%	29%	31%
(vi) Percentage of female office workers	%	26%	28%	29%
(vi) Percentage of female middle managers	%	21%	24%	20%
(vi) Percentage of female senior managers	%	8%	10%	12%
Percentage of employees receiving a regular appraisal	%	5%	5%	5%

People are the basic resource that enables AISCAT members to create long-term social value. In fact, our members pay constant attention to the quality-quantitative composition of their human capital. In 2021, the total number of employees came to 9,776, down compared to the workforce of 2020 (10,140) and 2019 (10,598). Also in this case, the need to reorganise operations after the pandemic had an impact, as did constant and progressive process automation. It should also be noted that members pay great attention to the reskilling process for employees working at the manned exit tolls which are progressively being reduced. Those workers are being trained for other duties, such as clerical work or plant monitoring.

One of the main priorities regarding the human resource management is training, aimed at the constant updating and development of technical knowledge. In 2021, AISCAT members provided 275,917 hours of training to its employees. This figure, thanks also to the substantial reduction in the negative effects of the pandemic, rose significantly on 2020 (108,918 hours) and on 2019 (218,611 hours).

The figures in the table represent the qualitative composition of human capital in terms of gender, type of employment contract and female gender representation. On average, in 2021, 75 out of 100 employees were men while 25 were women. The percentage of women is relatively high among office workers (29%) and among toll collectors (31%). The figures is 14% among manual workers, 20% for middle management and 12% for senior management. In particular, the latter figure has constantly risen over the three year period: in 2019 female senior managers were 8% and 10% in 2020.

AISCAT members' employment contracts are generally permanent (96% in 2021).

The protection of human resources is an indicator of primary importance. Overall in 2021, members registered 274 work accidents, a figure on the rise compared to 2020 (175 accidents) and in line with 2019 (278 accidents). Consider that the 2020 figure is most likely strongly influenced by the pandemic, which forced members to interrupt a series of construction activities. In 2021, there were 150 injuries resulting from the above-mentioned accidents which called for absence from the workplace of fewer than 6 months.

Members monitor not only their direct employees but also contractors' workers. In 76% of the network km (the percentage has remained unchanged in the past three years), there is a procedure for monitoring work accidents of employees of contractor companies. These accidents have fallen over the years, from 198 (2019) to 190 (2020) and down to 164 (2021).

AUTOSTRADE PER L'ITALIA S.P.A.

"STOP WORK AUTHORITY" FOR WORKERS

2022 saw the continuation of the accident prevention programme, called Active Safety Value (ASV) launched in 2022 by Autostrade per l'Italia and gradually extended to its subsidiaries. Furthermore, on 2 March 2022, at the Ministry of Labour and Social Policies, Autostrade per l'Italia signed a protocol with the trade unions which formalises the parties' commitment to implementing a series of innovative initiatives which make that promoted by Autostrade per l'Italia a best practice on workplace safety issues in the construction and transport sector. In particular, the initiatives provided for in the agreement include:

- *the first-time establishment in Italy of the "Stop Work Authority", which formalises the authority of each company employee, regardless of their position, seniority or role, to interrupt work when they believe it is not being carried out safely, and could lead, for themselves or for others, to accidents, injuries or occupational illness. In addition, the agreement also calls for periodic organisation of actions such as:*
- *coaching: the programme is structured around three pillars - communication, engagement and training - and is offered to employees and suppliers.*
  - *Safety Walk and Talk: periodic visits to construction sites and workplaces, at least monthly, aimed at verifying compliance with Health and Safety-related aspects through discussions with workers and contractors.*
  - *Safety Meetings: short meetings to discuss a topic relating to work activities.*
  - *Safety Moments: reflections on safety in the workplace that precede all meetings. The presentation of everyday experiences, even outside the workplace, can result in the sharing of lessons learned in the field of Occupational Health and Safety.*
- *the establishment of a Strategic Safety Committee composed of the Company and social partners with the aim of directing and monitoring initiatives developed within the Active Safety Value programme, which involves employees and collaborators, regarding the values of occupational health and safety;*
- *the establishment of a Technical Scientific Committee made up of the company, academics and occupational safety experts.*

The course is gradually being extended to the Group's motorway concessionaires (see box SAT Safety 1st project)

Activesafety

SOCIETÀ AUTOSTRADA TIRRENICA S.P.A. SAT

TRAINING STRATEGY AND POLICY

The mandatory environment and safety training involved the following training actions: authorisation of manoeuvres, road signs, updating of officers and supervisors, Safety Manager updating, new Safety Advisor training, training for the new Chief Executive Officer, medium-risk fire emergency, high-risk fire emergency, working at height, managers of activities in confined spaces, use of the platform lift vehicle, use of the forklift and the basic safety training course for new recruits. In addition to the initiatives concerning mandatory training (which are necessary for the preparation of technical operations staff), a training activity was also envisaged for the purposes of company improvement in team building and team working among the employees of "Società Autostrada Tirrenica S.p.A.". In this regard, the course funded by Fondimpresa under the "Soft Skills Development" Plan was provided to all employees. 50% of company employees participated in the course in 2021. The training plan, defined as part of company strategies, is divided into various training actions and aims to strengthen the soft skills of certain key professionals involved in development of the company's core business. The Plan envisages training activities that meet the needs and characteristics of the Company and the consequent needs for related training.

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. AND THE A4 HOLDING GROUP

TRAINING AND WELL-BEING PROJECT

PROMOTE INITIATIVES FOR PROFESSIONAL TRAINING AND THE PHYSICAL AND PSYCHOLOGICAL WELLBEING OF EMPLOYEES

To protect the well-being and health of its staff, Autostrada Brescia Verona Vicenza Padova implemented a training project in 2021, also to remedy the effects generated by the pandemic that restricted individual social contact and mobility.

Classroom training courses were organised with the involvement of teachers with degrees in physical education as well as dieticians. The main objective was to raise awareness among participants on the importance of acquiring both theoretical and practical notions that help to increase awareness of the effects that lifestyle can have on everyone's mental and physical health. During the training sessions, theoretical ideas on improving personal health were shared, and practical activity was also organised to effectively experience what was shared in the classroom, working together on practical exercises that can be easily replicated in the workplace and at home.

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. AND THE A4 HOLDING GROUP

#ALTUOSERVIZIO CAMPAIGN

RAISE AWARENESS THROUGH OUR SOCIAL NETWORKS AND SITES OF THE SKILLS SET AND PROFESSIONALISM WE MAKE AVAILABLE TO TRAVELLERS

The #altuoservizio campaign was created to highlight the commitment of all our employees. The campaign aims to increase awareness of the many and varied types of skills and professionalism that are made available to the traveller every day to ensure greater safety and a comfortable journey, with a simple message through social media and the Autostrada Brescia Padova InViaggio website. The goal is to help people understand that our motorways are not just asphalt and concrete. On the contrary, every day calls for the specific and qualified knowledge and skills that each employee puts into their work; designing viaducts, managing paperwork and assisting customers, guaranteeing the safety of travellers during heavy traffic periods or ensuring the success of a construction site. The campaign is being developed on Autostrada Brescia Padova's Facebook and Instagram social networks, with one post per month that presents a different person and describes their daily work in a few simple lines. The same is also being done on a special page entirely dedicated to the campaign on our InViaggio website.

MILANO SERRAVALLE – MILANO TANGENZIALI S.P.A.

P.O.S.T TRAINING COURSE FOR TRAFFIC AUXILIARIES AND RADIO CENTRE OPERATORS

The training course aims to offer participants a new perspective from which to view their work starting from personal/individual experience, while at the same time enhancing the significant actions that everyone applies in carrying out their work.

In 2017, Milano Serravalle launched a major internal training project to raise the awareness of Traffic Auxiliaries and Radio Centre Operators in dealing with and managing events on the road with the understanding that their way of "being" also provides a significant and decisive contribution to resolution of the event. There are countless studies that underline how poor road safety is a real global crisis, aggravated by the fact that more often than not all of the actors involved do not have the slightest perception of the risks to which they are exposed.

Our colleagues operate in this context, and although they do not directly intervene in serious accidents, they are nevertheless present and operate in an often exceptional context with strong emotional impacts.

Doctor Cusano, a distinguished emergency psychologist, catalogues the various players-victims in such situations:

1. *first level players/victims, i.e. victims in the strict sense;*
2. *second level players/victims, i.e. close relatives of the first level victim;*
3. *third level players/victims, i.e. the rescuers, professionals or volunteers who intervene on the scene. From the above, it is easy to see that the training course proposed and executed by Milano Serravalle targets third level players/victims. This element should not be underestimated.*

This necessary premise, in addition to defining the scope of action, clearly determines the objective of the course: to view one's work from a different, more personal/individual perspective while enhancing the significant actions that everyone carries out. Our colleagues do not always work in emergency situations, but it is true that constant exposure to traffic, accidents and/or potentially dangerous situations can alter their perception of the risk over time.

The course was designed so that staff could review their daily work, particularly from an emotional and experiential point of view. The topic brought to and addressed in the classroom was not so much "what to do" but "how to do it".

The training lasted 3 years and suggested a review of paradigms and practices acquired through training and experience from a personal perspective. Colleagues were invited to reflect on how their "well-being" influences the resolution of events on which they are called to work.

The initiative involved the entire Traffic department and the Radio Centre.

MILANO SERRAVALLE – MILANO TANGENZIALI S.P.A.

HOME-WORK TRAVEL PLAN FOR THE ASSAGO OFFICE

The objective of this plan is to implement, over the course of 2022, actions to raise awareness among those who work at the headquarters of Milan Serravalle Milano Tangenziale S.p.A. about the theme of sustainable mobility, and the search for possible alternatives to the use of individual's cars to go to the workplace. At the end of 2022 a balance of the results collected will be drawn up and a new survey will be proposed again.
Following the change in Italian mobility management regulations (which lowered the minimum number of employees per site) in 2021, Milano Serravalle, which became part of the FNM Group, conducted the home-work travel survey among Assago office employees.
In fact, the government regulation has set a minimum threshold of 100 employees per single site, compared to the 300 indicated above. As a result the FNM Group mobility manager also involved the Milan Serravalle company headquarters in the 2021 survey.
Meetings were held together with the mobility manager in advance of and following this survey, in order to contextualise the geographical position, public services offered, the hourly organisation and above all the origin of the employees.
All these variables, added to the results that emerged from the survey, in which over 90% of the population involved participated, made it possible to draw up the 2022 Home-Work Travel Plan and related actions, which can be divided into three macro areas:

CULTURAL ACTIONS

- *Communications on sustainable mobility*
- *Involvement of other mobility managers of the Assago Nord district to jointly advance proposals for the improvement of connections suitable for bicycles*

INDIVIDUAL ACTIONS

- *Initiatives in support of the transition to using local public transport Initiatives supporting the use of car pooling*

STRUCTURAL ACTIONS

- *Inclusion in company fleet tenders of an increasing share of hybrid cars*
- *Initiatives which, where possible, encourage remote meetings that avoid road or air travel*
- *Structured remote working proposal for Assago office employees*

SOCIETÀ AUTOSTRADA TIRRENICA S.P.A. SAT

SAFETY 1st PROJECT - EMPLOYEE BEHAVIOUR MONITORING

As the analysis of accident trends shows, about 80% of accidents are attributable to risky behaviour adopted by workers while carrying out their activities.
The SAFETY 1st project consists of monitoring the behaviours adopted by workers with the aim of correcting those that are risky and promoting those that are safe.
This procedure involves "strategic" people of reference called "KEY PEOPLE", who must always give both positive and negative feedback regarding the behaviour implemented by workers in order to spread a safety mentality.
This project calls for the compilation of a check list which indicates the specific activities "observed", with the analysis and description of safe or unsafe behaviours.

4.2 | ECONOMIC IMPACTS ON THE COMMUNITY

The construction and management of a motorway infrastructure certainly generates environmental impacts, but can also generate important favourable impacts, which allow the development of local communities. In fact, connection to the motorway network can significantly improve the quality of life for communities and open up new prospects for development and the creation of prosperity that previously did not exist.

The social prosperity that AISCAT members create, and which is distributed among the various categories of stakeholders, can be quantified in economic terms. The most commonly accepted standard for measuring this generation and, consequently, distribution of value, is that proposed by Gruppo Bilancio Sociale (GBS), which allows the Global Value Added generated by the company to be calculated.

Global Value Added quantifies the economic effect which the activity of AISCAT members have produced on stakeholders that contribute most directly to the production of corporate economic wealth and participate in its distribution. Overall, in 2021, AISCAT members generated 4 billion euro in Global Value Added.

The GBS method requires calculating the total value of production of members, which in 2021 was 7 billion euro, almost entirely from toll revenues. For a term of comparison, and to appreciate the magnitude of the quantities under scrutiny, consider that total Italian GDP in 2019 was about 2,000 billion euro.

The total intermediate costs of production came to 2.25 billion euro, mainly generated by the purchase of services, provisions and consumption of raw materials, ancillary materials, consumables and the purchase of goods.

In particular, costs for services amounted to 1.9 billion euro. Assuming that the average annual salary of an employee is 30,000 euro, it can be concluded that the contribution of AISCAT to the economic fabric is equivalent to the annual pay of over 60,000 workers.

Consequently, gross value added from core business amounts to 4.8 billion euro. Lastly, to arrive at the calculation of the global value added it is necessary to take into account the revenues and costs of ancillary operations (which also include financial income and write-downs of financial assets) and depreciation and amortisation, which together amount to 1 billion euro.

The Global Value Added that members can distribute to stakeholders that directly contribute to the production of the company's economic wealth is therefore 4 billion euro.

GLOBAL VALUE ADDED CALCULATION	
	2021
Toll revenues	€ 5,445,739,405
Construction revenues	€ 1,002,660,503
Revenues for contract work	€ 7,847,134
Other revenues and income	€ 586,423,274
TOTAL PRODUCTION VALUE	**€ 7,042,670,316**
Consumption of raw materials, ancillary materials, consumables, goods purchasing costs	€ 240,615,879
Costs for services	€ 1,924,283,325
Cost for leased assets	€ 17,452,876
Provisions	€ - 38,971,387
Sundry operating expenses	€ 107,557,520
TOTAL INTERMEDIATE PRODUCTION COSTS	**€ 2,250,938,213**
GROSS VALUE ADDED FROM CORE BUSINESS	**€ 4,791,732,103**
Revenues from ancillary operations	€ 233,114,951
Costs of ancillary operations	€ 21,490,090
GROSS GLOBAL VALUE ADDED	**€ 5,003,356,963**
Depreciation and amortisation	€ 1,001,565,327
GLOBAL VALUE ADDED	**€ 4,001,791,637**

The table below illustrates how Global Value Added is distributed. Employees are one of the stakeholders that benefits most (1 billion euro, or 27% of Global Value Added). This is followed by remuneration of Public Administration which, through income taxes, indirect taxes, contributions and concession fees, benefits by a total of 1.3 billion euro (32% of the total).
The remuneration of debt capital (interest and other financial charges) comes to 730 million euro (18% of global value added), while shareholders have received 38 million euro as remuneration for risk capital (1%). The company's remuneration, represented by 2020 profit (or loss), net of distributed dividends, amounted to a profit of 872 million euro (22%).
The figures show that, after the pandemic, members increased their revenues and their ability to generate value. The value added generated was for the most part destined to employee and Public Administration remuneration. Also worthy of note is the significant remuneration in favour of the company, which will enable members to self-finance their activities. Remuneration for shareholders stands at a relatively limited value (1%).

BREAKDOWN OF GLOBAL VALUE ADDED

	2021	
Employee remuneration	1,060,668,509	27%
Remuneration of Public Administration	1,300,386,899	32%
Remuneration of debt capital	730,485,120	18%
Remuneration of risk capital	38,198,165	1%
Remuneration of the company	872,052,945	22%
TOTAL	**4,001,791,637**	**100%**

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. AND THE A4 HOLDING GROUP

67 COLUMNS FOR THE VERONA ARENA

SUPPORT FOR THE VERONA ARENA AS A HISTORIC, CULTURAL AND ARTISTIC SYMBOL OF THE CITY OF VERONA AND THE VERONA AREA

For years, the A4 Holding Group has been committed to supporting and preserving the beauty and importance of opera as a true heritage for the city of Verona. The main goal is to actively promote and contribute to the development of local communities crossed by the motorway sections it manages and all of the entities that are part of it.

Autostrada Brescia Verona Vicenza Padova and the A4 Holding Group also supported the Arena di Verona Foundation for the 2021 season as a sponsor partner on the occasion of the 98th Arena Opera Festival. In particular, Autostrada Brescia Verona Vicenza Padova is a donor in the corporate membership fundraising project "67 Columns for the Verona Arena", an initiative with the stated goal of bringing together 67 entrepreneurs, and others, in a sort of virtual embrace of the symbol and beating heart of the city of Verona, its Arena.

The "67 Columns" project is part of the wider crowdfunding campaign #iosonolarena, which, through the protection and enhancement of historic, cultural and artistic heritage, aims to relaunch the Verona area after a period in which art and culture were heavily affected by consequences of the Covid-19 pandemic.

MILANO SERRAVALLE-MILANO TANGENZIALI S.P.A.

MILANO SERRAVALLE WITH LA MILANESIANA: CULTURE, EVEN DURING A PANDEMIC

Milano Serravalle is a La Milanesiana partner. Always sensitive to initiatives of public interest that promote artistic and scientific progress for the well-being of the community, Milano Serravalle continues to support La Milanesiana as a partner.
This historic event has animated the cultural landscape of the Lombardy capital for over twenty years. Host to prominent personalities from the world of art and science, the event thrills large audiences every year.
Recently, the festival, which in 2021 was one of the few major cultural events to take place during the pandemic, has promoted numerous activities and encounters beyond the borders of Milan, involving other cities mainly in Lombardy, Veneto and Emilia Romagna.

MILANO SERRAVALLE-MILANO TANGENZIALI S.P.A.

FOOD COLLECTION FOR PEOPLE IN NEED

In 2021, in the midst of the pandemic caused by the Covid-19 virus, Milano Serravalle chose to support the assistance activities carried out by two historic organisations in Milan that operate in support of people in need: the non-profit association Pane Quotidiano and Opera Cardinal Ferrari. This collection took place between the months of March and April 2021, enabling the collection of nearly 700 packages of food.
The aid project took the form of a food collection at all company offices, where containers were placed, each customised to the specific needs of each charitable association. These were emptied weekly and delivered to the warehouses of the two organisations.
At the same time, having created pages dedicated to each of these non-profit organisations on the company intranet, we continue to report to employees on the public initiatives promoted by these two associations.

MILANO SERRAVALLE-MILANO TANGENZIALI S.P.A.

SCONTAMI: MORE ADVANTAGES FOR THOSE TRAVELLING ON MILAN RING ROADS

In 2021 Milano Serravalle also decided to get closer to its customers, offering significant savings opportunities with the SconTaMi promotion, dedicated to motorists who regularly travel on the Milan ring roads. The benefit, targeting individuals and companies, offers a 25% discount on the toll after the twenty-first transit in any given month, which then applies to all the transits in that month.
Customers who pass through the individual toll booths of Terrazzano (A50 Tangenziale Ovest), Vimercate (A51 Tangenziale Est) or Sesto San Giovanni (A52 Tangenziale Nord) can benefit from SconTaMi.
With the goal of offering even more benefits to customers, at the end of the year the Company confirmed the extension of the promotion for all of 2022, increasing the toll discount to 30%.

4.3 | INNOVATION

Innovation understood as growth is, in the motorway network sector, an essential element for creating long-term value.
One of the activities in which some AISCAT members are investing enormously is, for example, the Smart Road, a new concept which aims to enable communication and interconnection between the vehicles travelling on such a road. For example, weather and traffic reporting systems will allow travellers to ask for information about road conditions, traffic or other particular situations in real time and if necessary get directions for alternative routes.
Innovation, understood as structural development, can also mean changing and upgrading infrastructures in order to support the technological changes in vehicles using the network. Otherwise, while maintaining its primary function, the infrastructure can become an opportunity and means to creating environmental and social value.
Other experiences pursued by members regard dialogue with users, for a deeper understanding of the causes of accident risks and to intervene promptly with risk mitigation measures.

AUTOSTRADE PER L'ITALIA S.P.A.

ENVISION

In March 2022 the "Bologna Bypass" project (upgrading of the A14 Bologna-Bari-Taranto motorway in the Bologna Borgo Panigale-Bologna San Lazzaro section) qualified as the first infrastructure in Europe to receive the Envision certification with the highest level rating achievable, Platinum. The goal was achieved thanks to the commitment of the design group led by Tecne, Autostrade per l'Italia Group's engineering company. The group designed an infrastructure capable of fully meeting the requirements of the international protocol under which the project's economic, social and environmental sustainability was assessed throughout its entire life cycle, from design to construction, up to being placed in service.
Envision is the first rating system for designing and building sustainable infrastructure works and is a useful tool for the Autostrade per l'Italia Group to demonstrate its commitment to the search for design solutions that are more effective in terms of sustainability and which guarantee a holistic approach starting from the infrastructure design phases. The protocol offers an objective point of view and provides an analysis grid that offers a 360 degree view of the quality of an investment, starting from its economic effectiveness, up to issues more explicitly linked to sustainability such as respect for and valuing the ecosystem, quality of life improvements, energy efficiency, the efficient use of resources, and involvement of stakeholders in the decision-making and design process.
*The Italian body (ICMQ) accredited for the issue of international certification (ISI) recognises the high quality levels of the Bypass project in the 5 macro-areas of assessment defined by the Envision protocol (Quality of Life, Leadership, Resource Allocation, Natural World, Climate and Resilience) and has rewarded its transversal aspects of sustainability: **quality of life** is enhanced by maximising safety aspects and the positive impact on the community and on the area where the infrastructure is located, thanks also to discussions that took place during public debate. The specific features of the historic agricultural landscape are also safeguarded, and connections with other sustainable mobility systems, cycle-pedestrian paths and urban and landscape paths implemented, thereby creating new green spaces for people to gather, and putting in place careful measures for the containment of acoustic and atmospheric emissions. **Leadership** was demonstrated by enhancing the productive collaboration and effective communications between the client, the project team and all other stakeholders in support of shared intentions for planning that promotes sustainability. In the **use of resources** we have incentivised the plan to adopt recycled, recyclable and/or high-*

continued ›

› continued

recycled content materials, and in general policies that encourage sustainable use of resources for the construction of works, while minimising waste and implementing the generation and use of renewable energy. We address the ***natural world*** *by preserving existing habitats and promoting choices useful in reducing the ecological footprint and environmental impacts through de-waterproofing and redevelopment of developed areas, and the implementation of green works at ASPI properties.* ***Climate and resilience*** *are addressed by analysing the risks and vulnerabilities related to climate change and adopting strategies to reduce emissions of pollutants and greenhouse gases.*

Autostrade per l'Italia intends to extend the application of the protocol to other grid development projects envisaged in the investment plan, enhancing the sustainability of its design standards in line with national and international directives, with the ultimate goal of generating value for the local socio-economic systems crossed, maximising the benefits and sustainability itself.

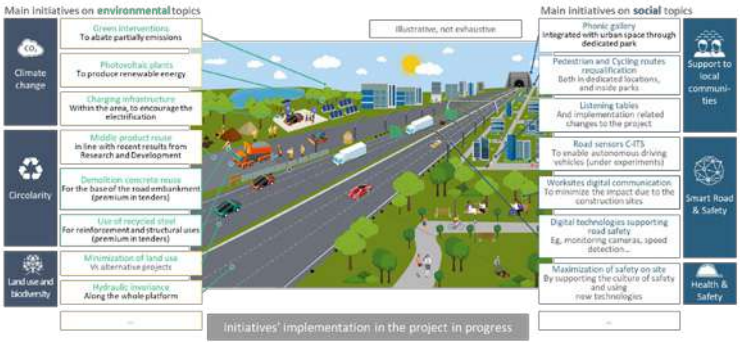
autostrade per l'Italia

next to ESG

Sustainable Infrastructure

The "*Passante di Bologna*" case

The application of the sustainability framework to the "Passante di Bologna" has led to the identification of further initiatives, currently being evaluated, to improve its ESG profile in addition to those already identified, such as: award criteria linked to the re-use of concrete and the use of recycled steel, the creation of a platform for monitoring construction sites featuring an interface with navigation systems.



AUTOSTRADE PER L'ITALIA S.P.A.

MERCURY. SMART SUSTAINABLE MOBILITY

The world of mobility is going through a phase of profound and rapid change, a technological revolution driven by the energy transition, the development of assisted, autonomous and connected vehicle driving technologies and numerous applications of innovative mobility services (Multimodal Digital Mobility Services) for the customer.
To address these challenges, the Autostrade per l'Italia Group has launched the Mercury programme, which consists of five clusters of highly innovative and technological initiatives that will involve Autostrade per l'Italia and the Group companies - Movyon, Elgea, Pavimental (Amplia), Tecne and FreeToX - in the coming months and years in implementing the projects they contain.

The five Clusters that make up the MERCURY programme are briefly summarised here:

1. ***Connected Infrastructures.*** *This cluster consists of initiatives aimed at implementing the technologically advanced solutions that enable all the other initiatives, specifically: Internet of Things networks - for example, IoT sensors that enable monitoring of structures (Structural Health Monitoring - SHM); wired networks for data transport to enable communication systems; C-ITS data transmission for I2X communication - infrastructure to everything; applications for collecting, archiving and forecasting traffic data for better mobility management; information exchange services and systems for the coordinated management of road operations, and of the messages to be sent to drivers, through classic communication systems such as Variable Message Signs, radio channels, and Apps, up to the most innovative systems, with vehicles connected through the Road Side Units - RSU (physical or virtual).*
2. ***Intelligent Roads.*** *This is a very complex cluster, meant for the implementation of heterogeneous and innovative ITS initiatives, including: detection solutions for traffic and for monitoring structures, data transmission, processing and communication, monitoring and management of construction sites, dynamic lane management, up to initiatives on infomobility. These initiatives*

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are aimed at improving traffic safety, the control and quality of traffic and mobility, monitoring work on the road infrastructure (bridges, viaducts, tunnels), informing and assisting users with trip planning, all with particular attention to the energy efficiency aspects of the network. The project covers and extends the requirements of the Smart Road as per decree DM70/2018.

3. ***Flexible Pricing.*** *This cluster is aimed at extending toll payment mechanisms by making them more flexible and potentially modular, with the goal of simplifying payment transactions and transforming the toll collection system into a policy tool (via pricing) that can be useful for reducing congestion, encouraging sustainable practices and multi-modality.*
4. ***Green Solutions.*** *This cluster concerns the innovations to the motorway network necessary to accompany the energy transition of the road infrastructure and of the vehicles that travel through it, through the gradual installation of high-intensity electric charging stations. These are linked to the rising number and type of electric vehicles and the production and distribution of compressed hydrogen, and when possible, make use of sustainable materials and solutions with a low environmental impact (over their life cycle). Furthermore, this cluster foresees initiatives that include the production of electricity through the installation of photovoltaic panels in roadway appliances to meet the needs of the facilities and buildings along the motorways, and in the case of excess, to contribute to the energy needed for hydrogen production.*
5. ***Urban Mobility.*** *This is the cluster that creates systems that make it possible to integrate motorway mobility with that of metropolitan areas through journey "personalisation". These operations will be enabled on the one hand by collecting data and information coming from the urban environment - the availability of a rest stop in a parking area adjacent to the motorway exits and the availability of alternative means for continuing the journey (MaaS - Mobility-as-a-Service), up to the optimisation of local traffic mobility through the integration of innovative devices, such as those enabling vehicle-infrastructure communication.*

The Mercury programme and its projects are open and constantly evolving, as are the underlying technological solutions.

A35 - SOCIETÀ DI PROGETTO BRE.BE.MI. S.P.A.

INSTALLATION OF ELECTRIC CAR CHARGING STATIONS TO PROVIDE AN IMPORTANT CONTRIBUTION TO GREEN MOBILITY

Since March 2021, Brebemi-Aleatica has activated a charging service for electric cars at the Adda Nord and Adda Sud service stations, marking another important step in the path undertaken by the Company to promote green mobility. There are a total of 5 electric car charging stations at each of the two service stations, 1 universal with AC charging, and 4 Tesla Supercharger models.
The Brescia-Milan direct route has undertaken initiatives in this area for some time now, with the aim of contributing to de-carbonisation of the transport sector. In 2019, it was in fact the first toll motorway in Italy to provide LNG (Liquid Natural Gas) refuelling stations at its service areas and the first to introduce a green discount of 30%, starting in June 2020, dedicated to full electric vehicles and LNG trucks.

A35 - SOCIETÀ DI PROGETTO BRE.BE.MI. S.P.A.

"ARENA DEL FUTURO" PROJECT– ERS DWPT SYSTEM TESTING OF THE DYNAMIC CHARGING SYSTEM FOR ELECTRIC VEHICLES

During 2021 Brebemi started and completed work for the construction of what has been called the "Arena of the Future", an area located near the A35-Brebemi motorway, dedicated to the study and testing of inductive power transfer systems to charge electric vehicles.
With the aim of making its own contribution to the challenge of de-carbonisation of the transport sector, in 2020 Brebemi began a technical-scientific collaboration with industrial, scientific and institutional partners aimed at creating the conditions for the development of an innovative zero-emission mobility system for people and goods along motorway transport corridors. The synergistic cooperation of this consortium led to the creation of a track for experimentation with ERS-DWPT technology and to the subsequent test and study phase of this system. The track consists of an asphalt circuit of about 1,050 m in which a system of coils powered by 1MW of electricity have been positioned in the top layers of the surface. The coils are capable of contactless transfer power to specific plates positioned under vehicles, allowing them to be charged not only statically, but also dynamically during their movement along the track. The tests that will start in 2022 will involve 1 light vehicle, a Fiat 500, and one heavy vehicle, an Iveco Bus. The tests will be indicative, not exhaustive, and will have the following objectives:

- *study of the power supply, distribution, protection and electromagnetic field system;*
- *the optimisation of the road surface to increase its durability and performance without altering the efficiency of the inductive load;*
- *analysis of national and international regulations and reference standards;*
- *assessment of the potential of advanced connectivity through IoT technologies to ensure maximum road safety and productivity of commercial vehicles;*
- *definition of safety procedures in the event of accidents and of preventive and protective measures, on the infrastructure side and the vehicle side;*
- *assessment of the environmental benefits and LCA analysis of the System.*

AUTOSTRADA DEL BRENNERO S.P.A.

C-ROADS ITALY, THE A22 AS A LABORATORY FOR CONNECTED DRIVING

A motorway that communicates with vehicles, which are in turn interconnected, so that travel is increasingly safer, faster and greener. This is the great result achieved by Autostrada del Brennero together with the entities that have implemented various projects developed along the A22 over the last four years as part of C-Roads Italy. C-Roads is part of the European programme aimed at developing uniform Cooperative Intelligent Transport Systems (C-ITS) across the European Union. The main achievement has been the development of a C-ITS message transmission protocol. Autostrada del Brennero built the C-ITS server, developed the Pyc-roads software that handles conversion of the message into binary format according to ETSI specifications, installed 63 Road Side Units (RSUs) for short-range communication and developed the Virtual Road Side Unit, implemented in collaboration with TIM, which makes it possible to integrate short-range and long-range signals, thus defining the Italian standard for hybrid communication. A solution developed by Autobrennero is already active today, allowing the presence of construction sites, accidents, adverse weather conditions and the like to be transmitted to on-board vehicle computers. Tomorrow it will be the tool through which to manage each vehicle like the wagon of a train, ensuring high travel speeds in perfect safety while respecting the environment. A goal that is anything but science fiction when we consider that Iveco has already been able to test Truck Platooning on the A22, that is, a convoy of trucks driven only by the first vehicle that is able to interact safely with the rest of the motorway traffic. Likewise, CRF (Fiat Research Centre) was able to test the Highway Chauffeur, the vehicle automation feature that allows you to adjust speed, maintain trajectory and change lanes automatically.

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A

NEW PROJECT MANAGEMENT OFFICE

INNOVATIVE MANAGEMENT TO CONFRONT AND MANAGE INTERFERENCE IN HS/HC WORKS

In 2020, work began on the construction of the Brescia-Verona HS/HC line, which, in addition to the conventional railway line, will be developed alongside the section managed by Autostrada Brescia Verona Vicenza Padova in the area between Brescia and Verona. Roads and traffic will be significantly impacted by the construction of this new work.

The construction of the infrastructure will involve the community in 11 municipalities in the provinces of Brescia, Verona and Mantua. Autostrada Brescia Verona Vicenza Padova has taken daily steps to actively manage any type of interference on roads and traffic to which travellers could be exposed during the construction period.

The project calls for a series of activities on the part of the concessionaire connected to the construction of the works relating to the HS/HC Brescia-Verona line currently being built, and to their impact on the road system, ranging from the authorisation phase of the interfering aspects of the project's execution, up to their reduction and management. Considering the number and scale of the disruptions, there will be several construction sites that will inevitably have an impact on traffic in both directions along the stretch of motorway involved. The success of the project - whose complexity is dictated in particular by the fact that the works will be planned and executed by a third party, and that they will interfere with A4 Brescia-Padua operations - is linked to the ability to face various challenges through a proactive approach to planning, management and quality control of processes.

To this end, in addition to strengthening prior information on work scheduling and the strengthening of teams dedicated to site surveillance activities, a highly specialised dedicated PMO - Project Management Office team has been set up. This team has the task of grounding the PMP - Project Management Plan and therefore of supervising and coordinating the development of engineering activities and those relating to motorway operations from a management point of view.

The complexity of the project requires close coordination of activities between the internal and external structures to create a strong synergy in the management and governance phases of the work.

One of the most significant contributions that the Project Management Office can make to the overall performance of deliverable activities is the definition, development and internal dissemination of best practices in project management.

The ambition of Autostrada Brescia Verona Vicenza Padova is to define a PMO best practice which can also lend itself to future experiences.

CONSORZIO PER LE AUTOTRADE SICILIANE CAS

SICILY SMART ROAD

CONSTRUCTION OF A FIBRE OPTIC NETWORK ALONG A STRETCH OF THE A20 MOTORWAY, WHICH WILL CONNECT THE MESSINA HEADQUARTERS, LOCATED IN CONTRADA SCOPPO, WITH THE OFFICES OF THE VILLAFRANCA, ROMETTA AND MILAZZO TOLL STATIONS TO COMPLETE THE EXISTING SYSTEM

Implementation of the traffic control service and use of Multi-function cameras with new technology: this will allow static or dynamic vehicle classification. The project will focus mainly on the port of Milazzo, which ensures territorial continuity with the smaller islands, and the port of Messina, which ensures territorial continuity between the island and the mainland, to improve waiting times and avoid queues at motorway junctions.

The SICILY SMART ROAD project is intended to launch a process of digital transformation aimed at introducing observation and monitoring platforms for the entire motorway, related facilities and structural equipment, and especially traffic flow using data and information processing models: this will enable accurate and immediate transmission of data, not only to the infrastructure manager (control room) and to the competent public administration (P.S.), but also and in particular to road users.

The purpose of the multifunctional stations is to house the equipment necessary for the provision of video surveillance services with Multi-function cameras as indicated above, as well as environmental analysis and information via a dedicated information panel. Depending on the area of installation, they provide connectivity for the user, with advanced functions through APs (access points).

It will be possible to provide users with:

- *services to divert traffic flow in case of accidents;*
- *suggestions for alternate routes;*
- *speed interventions to avoid traffic situations;*
- *management of access points, car parks and fuel stations;*
- *timely intervention in case of emergency.*

Part of the project is intended to expand the communication system by creating specific application on mobile devices, capable of providing:

traffic information: all conditions such as delays, congestion, the presence of accidents, construction sites and in general all information related to causes of traffic events will be provided in real-time to users. This information will be provided by integrating conventional communication systems such as variable message signs and radio bulletins; weather information: relating to the presence of heavy rain, wind, and fog obstructing visibility, and in general of critical weather conditions that could cause temporary traffic stoppages and/or indicate alternative routes;

information on alternative routes: in the event of traffic incidents or adverse weather situations, information will be provided immediately about the diversion of vehicle flows to alternative routes, with a view to suggesting the optimum itinerary.

Management of emergency situations through "SOS on board": this will make it possible, in case of difficulty, to send an emergency request communication directly to the police, to the CCG of the CAS or to request assistance for vehicle breakdowns. Information relating to the services provided by the rest areas along the route will also be provided: the refreshment points along the route, the services offered in the service areas (Wi-Fi, any shops, special assistance, etc.), fuel prices, and the presence of vehicle repair shops; also information relating to points of tourist interest along the route, such as tourist routes, indications of places of interest, etc.

CONCESSIONI AUTOSTRADALI VENETE S.P.A CAV

SKYTRAFFIC PROJECT - USING DRONES TO OVERSEE VIDEO SURVEILLANCE AND INFRASTRUCTURE MONITORING OPERATIONS, AUTOMATICALLY IDENTIFYING ANOMALIES

The project therefore demonstrates the feasibility and advantages deriving from the adoption of drones and an appropriate associated software platform for video surveillance and infrastructure monitoring operations, such as the identification of anomalies on guard rails, signage, etc.
The SkyTraffic platform, designed and built to the TRL 8 spec (Technology Readiness Level 8 - the current system was completed and "flight qualified" for this level through tests and demonstration), is based on the SAPR Capture-X system owned by CAV. This system consists of a drone multicopter equipped with different types of cameras (conventional and 360 degree), along with sensors for the acquisition of images and three-dimensional data relating to infrastructure and the surrounding land, and an associated active housing which functions as a charging station and shelter during stand-by phases.
SkyTraffic, a project aimed at monitoring traffic and infrastructure, is considered the solution that brings together all the components which make it possible to guarantee video surveillance and monitoring operations functional to Venetian Motorway Concessions from Drones or UAS. The project is made up of three fundamental parts:

- *flight devices and their related firmware/software solutions;*
- *control devices supplied to road crews;*
- *the software platform that deals with data transmission and real-time analysis and visualisation in the Control Room.*

The video streaming and acquired data will be transmitted in real-time to the operations centre via the ultra high-speed network infrastructure that will be developed.
The SkyTraffic software platform allows:

- *Viewing the real-time video streams acquired by one or more drones, selectable via the user interface;*
- *Storage of the video streams within a dedicated infrastructure based on cloud technology;*
- *Post-processing of stored video streams through the use of specific cognitive algorithms.*

These algorithms will allow identifying and "marking" (auto-tagging) the anomalies detected by automatically tracing them (auto-tracking) within the video. The anomalies considered in the context of the POC will be those relating to guard rails and signs.
The Sky Traffic hangar consists of two geodesic domes. The system is designed and built for outdoor installation, for resistance to atmospheric agents such as snow, wind and rain, and is insulated with isolation panels. The system is completed with a suitably sized support base which is equipped with a double mechanism for the automatic movement of the upper dome (opening time of 30-60 seconds).

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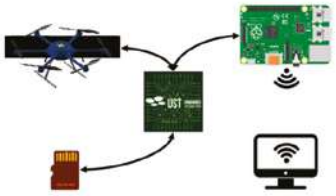
The analysis of the flow of images obtained by the drone begins with a validation procedure carried out on the complete set of downloaded frames to remove images that are not compatible with the mission profile. Subsequently, the analysis and transformation procedures shown in the pipeline block diagram are performed for each of the remaining frames.



CONCESSIONI AUTOSTRADALI VENETE S.P.A. CAV

ENVIRONMENTAL SMART ROAD

IMPLEMENTATION OF A TECHNOLOGICAL SOLUTION TO ENSURE THE EFFICIENT AND UNIFIED MANAGEMENT OF DECENTRALISED AND DISPERSED GROUPS OF AREA TREATMENT PLANTS FOR WATER DERIVING FROM THE MOTORWAY ROADBED

For the management of chronic impacts deriving from rainwater runoff, the Passante di Mestre and the Tangenziale di Mestre are equipped with runoff water treatment plants in line with regulatory provisions. These have been developed with different concepts and technologies based largely on when they were constructed. The redevelopment of these plants, aimed at improving their existing environmental protection systems, calls for the automation of existing plants in order to make them independent, with a view to protecting the environment from accidental and non-accidental spills, which can take place on the motorway regardless of human-caused external factors.

The intervention involves the installation of an "intelligent" system with integrated software designed to ensure totally automatic operation via a specific programme. The system will also be designed to be connected to the network, thus ensuring remote management of the system through a supervision, control and data acquisition system, in addition to the automatic and local operation of each system.

The goal of the project, starting from the technological revamping of the run-off rainwater treatment plants, is to develop a unified solution based on artificial intelligence which will guarantee the efficient and unified management of the currently decentralised and dispersed treatment plants in an economic and scalable manner. The challenge is to raise the management level of the plants by creating a unique and intelligent structure capable of autonomously managing all of the plants along the motorway sections, checking their efficiency and proper functioning, and planning maintenance activities to ensure reduction of the pollution load of the water. The revamping project for the plants in question also calls for the creation of a multi-parametric and multi-functional monitoring station for each water treatment plant aimed at characterising the rainwater runoff, along with smart systems capable of detecting any spillage and activating an emergency system that prevents the dispersion of pollutants into the environment.

Each plant operates according to "stand alone" logic, and is therefore operationally independent to ensure maximum effectiveness in safeguarding the environment. However, all of the plants will be managed remotely through a data capture system specially developed to manage the entire network. The following sensors will be placed in the systems to verify proper plant operations and treatment efficiency: a rain sensor, a monitoring system (consisting of a pH, conductivity and turbidity probe), a flow sensor, and a level sensor.

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The control units installed in the rainwater treatment plants are connected to a SCADA system to which the data from the water monitoring sensors and the operation of the plants are sent. The ongoing experimentation is aimed at using artificial intelligence systems to make the collection, processing and control of data as automated as possible, reducing or even eliminating the need for human supervision and bringing together the multitude of systems spread throughout the area into a single integrated system. The founding principle of this innovation is the confederation of the data coming from the single sensors distributed in the different plants through a framework that combines Big Data Analysis and Artificial Intelligence to produce more general behaviour models. This approach is able to offer much higher levels of accuracy than what is obtainable from the observation of a single sensor or system. This principle, generally known as Big Data Confederation, has proven to be effective across the board in all the fields where it has been applied.
The development of "citizen science" functions in the system is also envisaged, allowing citizens and stakeholders to view the performance values and guaranteeing an active presence of citizens in interactions with the Administration that can go beyond the mere reporting of any problems.

SOC. ITALIANA TRAFORO AUTOSTRADALE DEL FREJUS S.P.A. - SITAF

ITALY-FRANCE POWER LINE

The project in question is unique in the world for its technical, technological and environmental solutions. Its object is the construction of a connection between the electrical stations in Piossasco, Italy, and Grand'Ile, France, calling for a completely underground path of over 200 km that crosses the national border in correspondence with the "Second Tube" of the Frejus.
This connection will make it possible to increase the import capacity of electricity from France to Italy by 60%, also guaranteeing greater reliability and continuity of supply for the national grid.
Activities relating to the construction of the power line were almost entirely completed at the end of 2021.

SOC. ITALIANA TRAFORO AUTOSTRADALE DEL FREJUS S.P.A. - SITAF

LONG-DISTANCE FIBRE OPTIC INFRASTRUCTURE

As part of the Memorandum of Understanding between SITAF and the Metropolitan City of Turin, and on the basis of the Agreement stipulated between SITAF and Top-IX, data transmission infrastructure is active for offering broadband services in Val di Susa through 6 broadcasting points located along the A32. The networks are connected with the Top-IX PoP (Point of Presence) in Turin.
In agreement with the Top-IX operator, work is underway to improve the distribution of data flow on the pairs of optical fibres in use to optimise management in the event of a cable service outage and redundancy of the access point to services provided to SITAF and other customers. This will be done by commissioning a second access point that can be activated through the new infrastructure built on the SP589, with certification at Avigliana Laghi.

MILANO SERRAVALLE-MILANO TANGENZIALI S.P.A.

SMART ROAD

The Ministry of Sustainable Infrastructure and Mobility has taken up the challenge of digital innovation and made it a fundamental element for achieving the country's infrastructure objectives. The digitisation process at national level strives to guide the country towards a process of the digital transformation of existing road infrastructure, introducing observation and monitoring platforms, data and information processing models, and advanced services to infrastructure managers, concessionaires, to the public administration and to road users. As part of this Smart Road programme, in 2021 Milan Serravalle prepared a feasibility study relating to the implementation of innovative digital solutions for traffic management.

During the year the Company replaced the fibre optic lighting, installing multifrequency equipment that multiplies the transmission capacity, allowing the implementation of "smart road" technologies without further infrastructure investments related to data transmission.

In line with the aforementioned objectives, Milano Serravalle Milano Tangenziale S.p.A. has increased the number of toll booths that do not require the supervision of toll collectors through the installation of automatic tills. It has also designed a photovoltaic field and a storage unit for the production of green hydrogen. The pandemic slowed the launch of the preliminary project. Barring any difficulties in terms of procuring electronic equipment, the entire implementation is expected to be complete by the end of 2025, while the preliminary design for the contract is scheduled for 2022.

CORPORATE GOVERNANCE

Corporate governance steers the company towards the achievement of its goals and is a key component of the sustainability approach. 86% of members (managing 93% of the network km) have a Supervisory Body established in accordance with Italian Legislative Decree 231/2001. This body plays a fundamental role in promoting ethical conduct and in preventing unlawful acts. All members (100%) have anti-corruption procedures in place. 50% of members (managing 93% of the network) have procedures in place for selecting suppliers according to sustainability criteria (Environmental Social Governance). This figure is fundamental because it allows members to contribute to disseminating sustainability rationale also within the supply chain.

HEALTH AND SAFETY OF HUMAN RESOURCES - CORE INDICATORS

INDICATOR		2019	2020	2021
Supervisory Body presence (pursuant to Italian Legislative Decree 231/01)	% network km	93%	93%	93%
Supervisory Body presence (pursuant to Italian Legislative Decree 231/01)	% Members	86%	86%	86%
Presence of anti-corruption procedures	% network km	100%	100%	100%
Presence of anti-corruption procedures	% Members	100%	100%	100%
Existence of procedures for supplier selection according to ESG criteria	% network km	93%	93%	93%
Existence of procedures for supplier selection according to ESG criteria	% Members	50%	50%	50%

AUTOSTRADE PER L'ITALIA S.P.A.

SUSTAINABLE SUPPLY CHAIN

The Autostrade per l'Italia Group is part of the Open-es partnership, a system alliance aimed at the sustainable development of supply chains and production chains via an open and free digital platform for all businesses.
Joining the Open-es platform will allow the Group to optimise the process of quantifying and monitoring the degree of sustainability of all the players that make up the Group's supply chain, accelerating the achievement of de-carbonisation targets.
Joining Open-es also puts the Group in a position to play a leading role within the collaborative areas of the platform, a place where companies belonging to the community share experiences, best practices and solutions to accelerate reciprocal sustainable development. A virtuous path of mutual improvement, modelled on the four pillars of the Stakeholder Capitalism Metrics defined by the World Economic Forum.
Autostrade's goal is to promote the definition of a sustainability strategy throughout its entire supply chain by creating an ecosystem for shared sustainable development.

AUTOSTRADE PER L'ITALIA S.P.A.

ESG RATINGS

The path of sustainability undertaken by Autostrade per l'Italia has also been positively reflected in the assessment of financial analysts. In fact, in January 2022 Moody's ESG Solutions gave a Robust rating, a value that positions the Group in the first quartile of companies in the sector. Among the factors supporting the Sustainability Rating are the investments planned for the period 2020-2024 for the modernisation of the motorway network, with the reduction of environmental impact in terms of emissions, noise and light pollution. Furthermore, the company was rated positively for its planned investments for the construction of major works (such as the Bologna Bypass project), essential for decongesting the key centres of the motorway network, the planned installation of 100 high-power charging stations for electric vehicles along the road network, and the recent creation of Elgea, a Group company established for the production of renewable energy through the installation of photovoltaic panels located on the motorway. Lastly, the Group's positioning in the areas of "Human Capital" and "Social" has also improved.
In July 2022, the Group received a "Negligible" ESG Risk Rating of 6.2 points from the Morningstar Sustainalytics rating agency, ranking first in the transportation infrastructure sector and among the top twenty out of the over 14,000 companies rated worldwide. The score obtained confirms the concrete implementation of the Group's sustainability strategy and the results it has achieved in the environmental, social and governance areas.

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. AND THE A4 HOLDING GROUP

CYBERSECURITY PROJECT

GUARANTEEING DATA SECURITY AND IMPROVING THE AWARENESS OF THE COMPANY'S INTERNAL POPULATION OF CYBERSECURITY ISSUES

Cybersecurity involves the adoption of effective measures to defend the company, employees and information from cyber threats, data loss and data theft.

The A4 Holding Group has implemented a security policy on multiple levels and certifications, and its evolutionary logic provides for the continuous strengthening of measures adopted to prevent risks related to IT security.

Considering that every employee is exposed to so-called "cyberthreats" daily, which are always new and different but above all present in the tools used in everyday work, an internal training and awareness campaign has been launched. The Cybersecurity programme was launched in 2021, with a primary objective of raising awareness among employees on the increasingly important issue of cyber-threats. Training courses and an internal communication campaign offered people practical and concrete preparation and awareness for the protection of their own and of company data. Reminders of good practices were also distributed to help remember and put them into practice on a daily basis.

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A.

ANTI-CORRUPTION GOAL

UNI ISO 37001 CERTIFICATION OBTAINED - MANAGEMENT SYSTEM FOR THE PREVENTION OF CORRUPTION

During 2021 the A4 Holding Group, of which Autostrada Brescia Verona Vicenza Padova is a part, acquired certification for the UNI ISO 37001 standard - a Management system for the prevention of corruption - a useful tool for fostering a culture of transparency and integrity, as well as the development of effective measures to prevent and address corruption.

The activity called for a detailed analysis of the existing processes and documentation in the Group, a risk assessment, the planning and implementation of anti-corruption measures and controls as well as a system for monitoring their application and periodic reviews of the suitability, adequacy and effectiveness of the management system in order to ensure its continuous improvement.

Furthermore, training was provided to all levels of the company population in order to increase a widespread awareness of corruption prevention.

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. AND A4 HOLDING GROUP

IN-HOUSE COMPLIANCE AWARENESS PROJECT

RAISE AWARENESS AMONG EMPLOYEES ABOUT THE CORNERSTONES OF CORPORATE CULTURE ORIENTED TOWARDS TRANSPARENCY AND ACCOUNTABILITY THROUGH THREE STEPS: PREVENTION OF CORRUPTION, WHISTLEBLOWING CHANNEL AND CONFLICT OF INTEREST

The Compliance training and communication campaign was developed in 2021 to raise awareness among employees on important issues and the cornerstones of the corporate culture that are oriented towards transparency, responsibility, integrity, correctness and respect. These principles are all contained in the Code of Ethics, the foundation of the A4 Holding Group's Organisational Model. The campaign was divided into three different steps, with the aim of pursuing the commitment to ensure compliance with the Code of Ethics and the regulations, policies and procedures applied to different professional figures.

- *The first step focused on the importance of **corruption prevention**, with the commitment pursued during the year 2021 to acquire the ISO 37001 certification. This certification is the first international standard developed in order to support companies in adopting a management system aimed at effectively preventing possible corruption and thus promoting a suitable and transparent business culture;*
- *The second step focused on creating the **Whistleblowing Channel**, a reporting tool available to employees and all those who might collaborate with the company that can be used to report illegal activities, with the aim of promoting corporate compliance with and respect for all the regulations contained in the company provisions;*
- *The third and final step focused on raising awareness around **conflicts of interest** to encourage everyone's commitment to respecting the Group's ethical culture, making decisions according to criteria of impartiality and objectivity and avoiding corruption.*

MILANO SERRAVALLE MILANO TANGENZIALI S.P.A.

STAKEHOLDER ENGAGEMENT AND MATERIALITY ANALYSIS

Milano Serravalle was involved in the 2021 priority analysis process, a process of assessing and updating the materiality matrix to review the material topics of the FNM Group. The update was necessary precisely due to Milano Serravalle's entry into the Group, in order to integrate the ESG risks and opportunities applicable to the "Construction of roads and motorways" sector (NACE F42.1.1).

The process of prioritising the topics involved both internal and external stakeholders, including a select panel of academics, NGOs, foundations, media, industry and motorway sector representatives, with considerable engagement: 85% of internal stakeholders and 46% of external stakeholders.

The issues of environmental sustainability and safety are recurring, even when attention is focused on the Group's entry into the motorway sector. On one hand, sustainability, as it applies to the motorway sector, concerns activities such as the installation of refuelling points for low environmental impact, the maintenance and adaptation of structures (e.g. bridges and viaducts) for the needs of freight transport. On the other hand, issues such as health and safety become an essential condition. Infrastructure safety, careful selection of materials, periodic maintenance, user safety, as well as safety for those working on motorway construction sites and innovation in safety systems are just some of the issues mentioned by the stakeholders.

The 2021 update to the materiality matrix highlighted eight top material topics:

- *energy consumption, atmospheric emissions and climate change;*
- *quality of service and safety of users while stationary and in motion (Security and Safety);*
- *health and safety in the workplace;*
- *accessibility of services and infrastructure;*
- *intermodality and integration of services;*
- *sustainable infrastructure management;*
- *business ethics and integrity;*
- *technological and digital innovation.*

METHODOLOGY

Once again this year the Sustainability Report of Italian concessionaire companies aims to present the environmental and social performance of AISCAT members for the year ending 31 December 2021. All the information, unless otherwise specified, refers to data as at 31 December 2021.

This study has been drawn up by AISCAT management, together with the contribution of a Work Group composed of representatives of the association and its members. The international reporting standards of reference are those of the Sustainability Accounting Standards Board (SASB) and of the Global Reporting Initiative (GRI). In order to identify the relevant issues to be reported, in an objective and non self-referencing manner, SASB guidelines have been used, in particular relating to the "engineering and construction services" sector. Among others, the SASB identifies the following topics as material: structural integrity and safety, workforce health and safety and business ethics. The identification of material topics also benefited from a benchmark analysis of some of the most advanced European concessionaires in terms of sustainability reporting. It should be noted in this regard that AISCAT is the first national motorway concessionaire association to draw up a sustainability report.

After identifying the material topics, the indicators were then identified (also based on standards issued by the Global Reporting Initiative) and the data for their calculation were collected. In 2021, AISCAT members managed a total of 4,874 km of motorway network. In the preparation of this report, it was possible to collect data referring to 4,490 km of the network, i.e. 93% of the AISCAT network. The data contained in this sustainability report have been parameterised on 100% of the network under AISCAT management on the basis of the network km managed. The data referring to previous financial years relate to 100% of the network under AISCAT management in the various years.

GLOSSARY

ASECAP: the European Association of Operators of Toll Road Infrastructures

IBTTA: International Bridge Tunnel and Turnpike Association

PIARC: World Road Association

Traffic: represents the utilisation of the motorway network, measured as the total number of km travelled by all vehicles (light and heavy) that have transited on the network.

Electronic Toll Payment: Electronic motorway toll collecting system: a device installed on the car that enables the toll fee to be charged to credit card.

Construction work (work): Bridges, flyovers and tunnels.

Scope 1 (CO_2 emissions): Direct emissions (Scope 1) are generated directly by Members (for example consumption for office and other work site heating).

Scope 2 (CO_2 emissions): Indirect emissions (Scope 2) are indirectly generated by the activities of Members and include, for example, CO2 emissions due to the use of electricity for tunnel lighting or ventilation.

Global Value Added: quantifies the economic effect that the activities of AISCAT Members has on stakeholders most directly involved in the companies' economic production activities and that take part in its distribution.

Tunnel: roughly horizontal perforation of high ground soil that connects two points.

Environmentally significant expenses and investments: these relate to activities carried out by Members to reduce the environmental impacts of their construction works or of their operating beyond the levels required by the law. The table provides details of amounts spent or invested broken down by type of activity (water, ground and landscape; waste treatment and management; treatment of emissions; noise; environmental reclamation and remediation works; renewable energy plants and energy efficiency works; other operating costs; environmental impact studies and surveys).

Vehicle-km (millions): the indicator used to measure the traffic that has transited on the network. It is the sum of km travelled by all vehicles on the network.

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