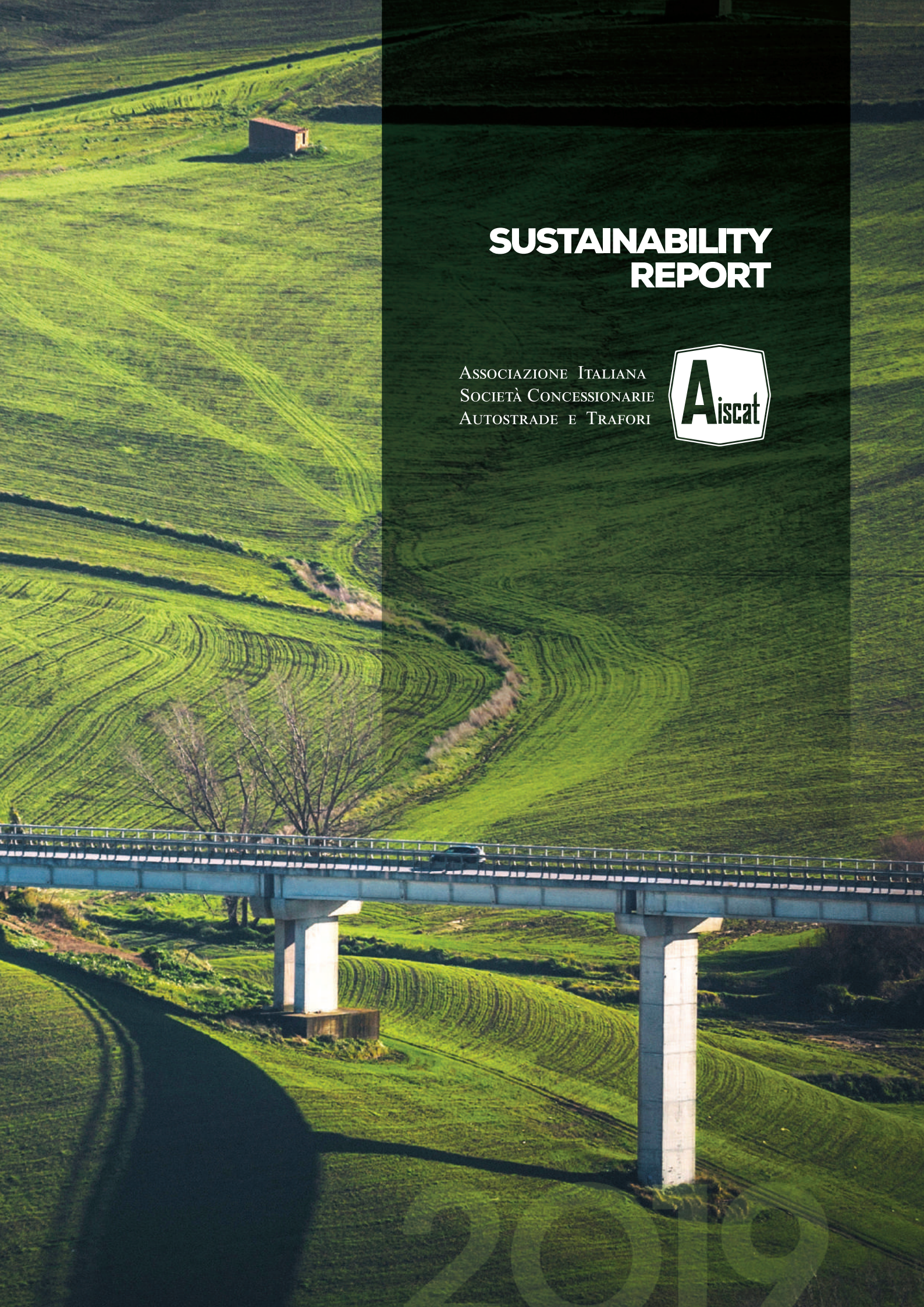


# SUSTAINABILITY REPORT

ASSOCIAZIONE ITALIANA  
SOCIETÀ CONCESSIONARIE  
AUTOSTRADE E TRAFORI



2019



## INTRODUCTION BY THE PRESIDENT OF AISCAT

It is with great pride that AISCAT is today publishing, at a time of unprecedented economic and health crisis, its first Sustainability Report. The Report relates to 2019, which we may refer to as the year “zero”; a year to be praised for systematically collecting the contribution of AISCAT’s Associates towards “Corporate Social Responsibility” and for a promise to develop, over the coming years, a way for structured sustainability.

AISCAT’s Sustainability Report summarises and illustrates, within an overall industry framework, the numerous activities of sustainable mobility carried out by the Association’s concessionaires, and does so whilst looking at sustainability within a broad prospective. Indeed, the report is not limited to purely environmental aspects, but also addresses ones relating to the services provided to users, the sector’s contribution to economic development, the improvement of road safety, the development of human resources and the social impact connected with the work activities of road operators.

At this extremely critical and difficult moment for us all, both as citizens and as representatives of an industrial sector, we can state that our sector, with its many years of experience and know-how acquired over decades of field work, can still play a fundamental role for its country’s growth, competitiveness and modernisation. It can do so by effectively addressing the demand for sustainable mobility and by triggering many positive repercussions that reach far beyond the mere financial and operating aspects of a motorway concessionaire’s business. This document, which is the result of careful study and capillary analysis carried out by the “Sustainability” Work Group to which mobility experts from AISCAT represented concessionaires have given significant and valuable contributions, presents the sector’s aggregate data in relation to key sustainability related quantitative parameters and performance indicators. The report opens by presenting the motorway network operated under concessions and the elements that characterise it – construction works, vehicle traffic, service areas – and then turns to a more specific analysis of the sector’s contribution to economic development and its investments in terms of environment, technological development and innovation applied to road transportation, work safety and corporate social responsibility.

In order to achieve this (again with the aim of giving a homogeneous picture and a uniform view of sustainable development across the entire sector represented by AISCAT) the document has been enriched by taking a close look at the specific sustainability initiatives of Italian concessionaires. In fact, in this document, the Association has put its concessionaires in the spotlight, for it is these road operators that are the main players of sustainability, promoting work on a daily and direct basis in accordance with the objectives of sustainable mobility.

In collecting and collating this information, we have been able to appreciate our Associates’ ability of successfully interacting with all stakeholders, starting from the local communities and the environment, with which the motorway network has to work during all design, construction and operating phases. Within this scope, we have presented herein several initiatives of excellence aimed at measuring and curbing the environmental impact of motorway infrastructures, seeking a delicate balance between ground, air, noise, flora and fauna. We have also documented several initiatives relating to safety, which is the main value for our users. These projects concern vehicle-fleet control systems as well as educational and awareness campaigns run across all available channels, in agreement with the responsible authorities.

The President  
*Fabrizio Palenzona*





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## AISCAT MEMBERS

### FULL MEMBERS



AUTOSTRADe PER L'ITALIA S.p.A.



AUTOSTRADe MERIDIONALi S.p.A.



MILANO SERRAVALLE MILANO TANGENZIALI S.p.A.



**AUTOVIE VENETE**

AUTOVIE VENETE S.p.A.



**A4autostrada**  
Brescia | Verona | Vicenza | Padova

AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.p.A



**Autostrada del Brennero SpA**

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

AUTOMOBILE CLUB D'ITALIA

**spea**

ENGINEERING

gruppo Atlantia

SPEA ENGINEERING S.p.A.



AUTOGRILL ITALIA S.p.A.



TAMOIL ITALIA S.p.A.



CHEF EXPRESS S.p.A.



ECOGEST S.p.A.





## AISCAT IN FIGURES: HIGHLIGHTS

HIGHLIGHTS		
INDICATOR	UNIT	2019
Tolled motorway network operated under concessions (Italy)	Km	6.026
AISCAT motorway network	Km	5.005
Traffic	Vehicles *Km (million)	73.517
Environmentally significant expenses and investments	Euro	129.620.032
Total number of staff	n	11.350
Network affected by procedures for work accidents to contractor companies' staff	%	86%
Accidents with injuries and/or deaths per 100 million vehicle-km	n	7,25
Existence of procedures to select suppliers according to ESG criteria	%	74%
Globally generated value added	Euro	2.446.781,446
Related industries (costs for services)	Euro	1.626.781.894
<i>Equal to the annual gross remuneration of 54,000 workers</i>		



## L'AISCAT

### 1.1 | WHO WE ARE AND WHAT WE DO

AISCAT is the Association of motorway and tunnel concessionaire companies operating in Italy, founded in 1966 as a hub where the national motorway sector could meet and discuss. The Association essentially collects, analyses and shares the experience and requirements of its Associates, with a special eye to promoting the development, strengthening and modernisation of the infrastructure network whilst improving conditions for sustainable mobility. Through its Technical Committees and Work Groups, which consist of experts broken down into specific areas, the Association analyses infrastructural, operating, legal and administrative issues that are of interest to its Associates. Within this context, the work of AISCAT and of its Technical Committees has always paid particular attention to environmental and social aspects as well as to the motorway sector's characterising need for ongoing technological innovation.

The Association promotes the harmonisation and standardisation of the sector's procedures and activities, especially in terms of service operating conditions and relations with users. The Association also assists its Associates by representing them before the main national, European and international political and administrative institutions, supports them in actions that protect their interests and rights, carries out study and research work, and organises meetings and conferences on subjects of common interest to the sector.

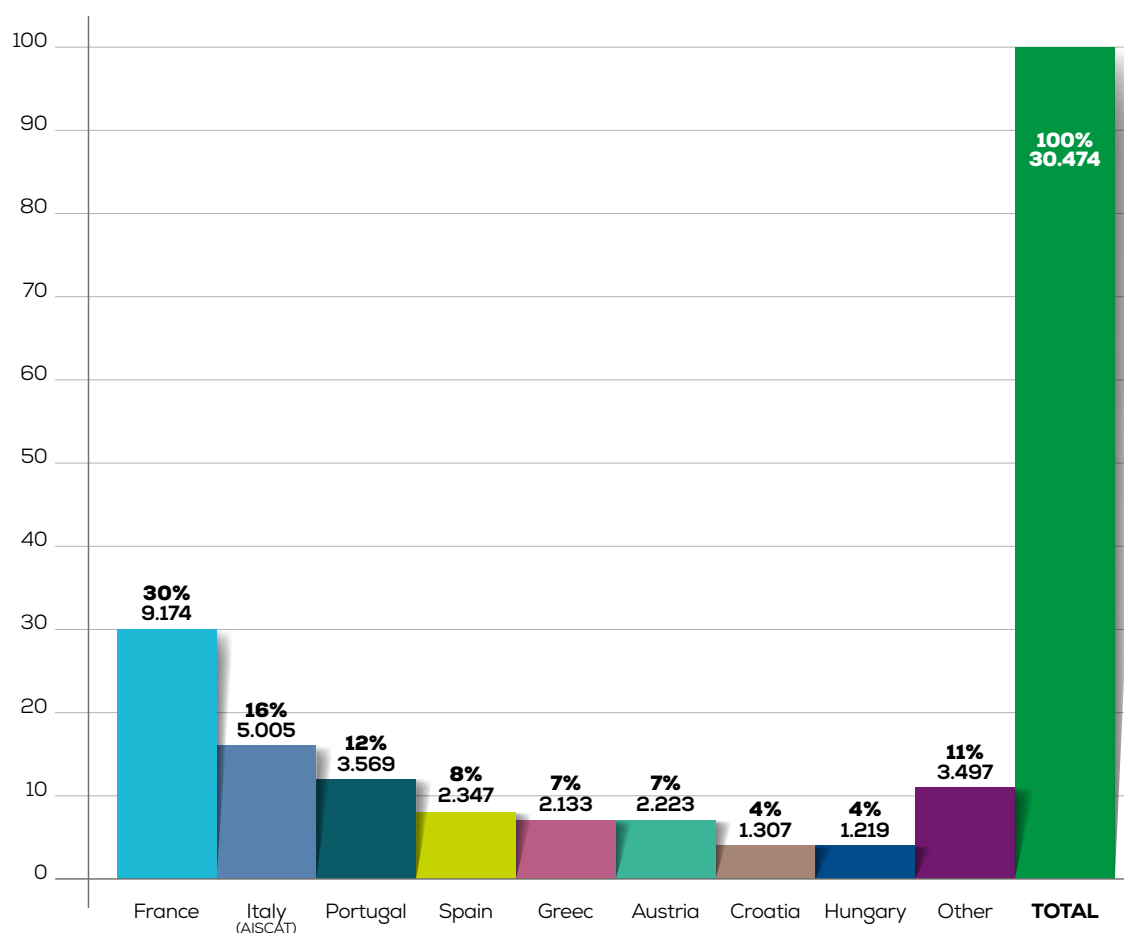
### THE INFRASTRUCTURAL CAPITAL

INDICATOR	UNIT	2019
Motorway network operated under concessions	Km	5.005
Traffic	Vehicles *Km (million)	73.517
Type of toll payment (electronic toll) number of transactions	n	796.064.534
Motorway network by number of lanes (1 lane)	Km	19
Motorway network by number of lanes (2 lanes)	Km	3.138
Motorway network by number of lanes (3 lanes)	Km	1.755
Motorway network by number of lanes (4 lanes)	Km	111
Motorway network by number of lanes (5 lanes)	Km	2
Traffic by vehicle class (heavy)	Vehicles *Km (million)	17.049
Traffic by vehicle class (light)	Vehicles *Km (million)	56.468
Type of toll payment (manual) number of transactions	no.	153.280.521
Type of toll payment (manual) number of transactions	n no.	293.607.583



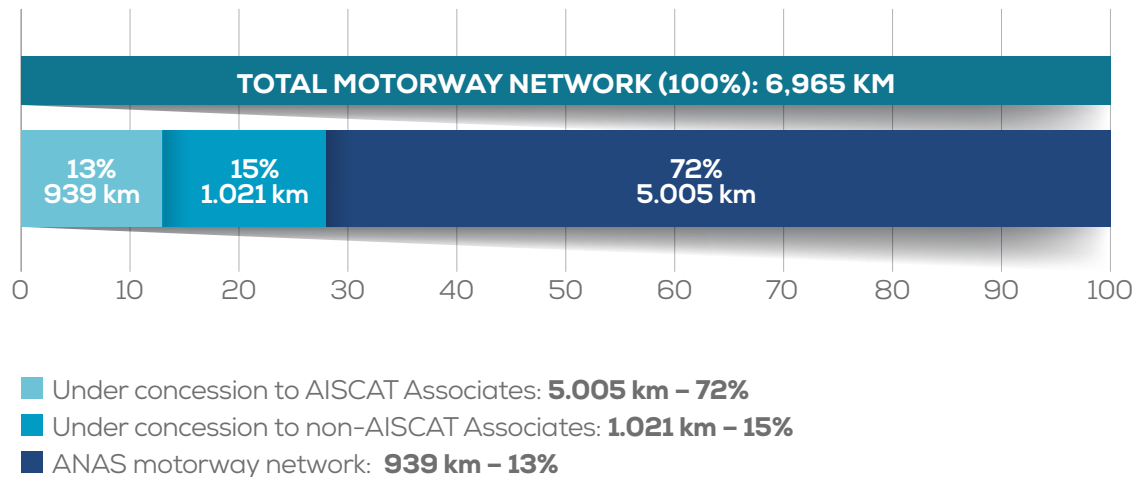
AISCAT Associates operate a total of 5,005 km of motorway network under concessions, representing more than 80% of the entire Italian tolled motorway network and 70% of the total Italian motorway network. More than 37% of the AISCAT operated motorway network has three or more lanes.

**GRAPH 1**



Source: ASECAP Statistical Bulletin 2019, p. 10

GRAPH 2



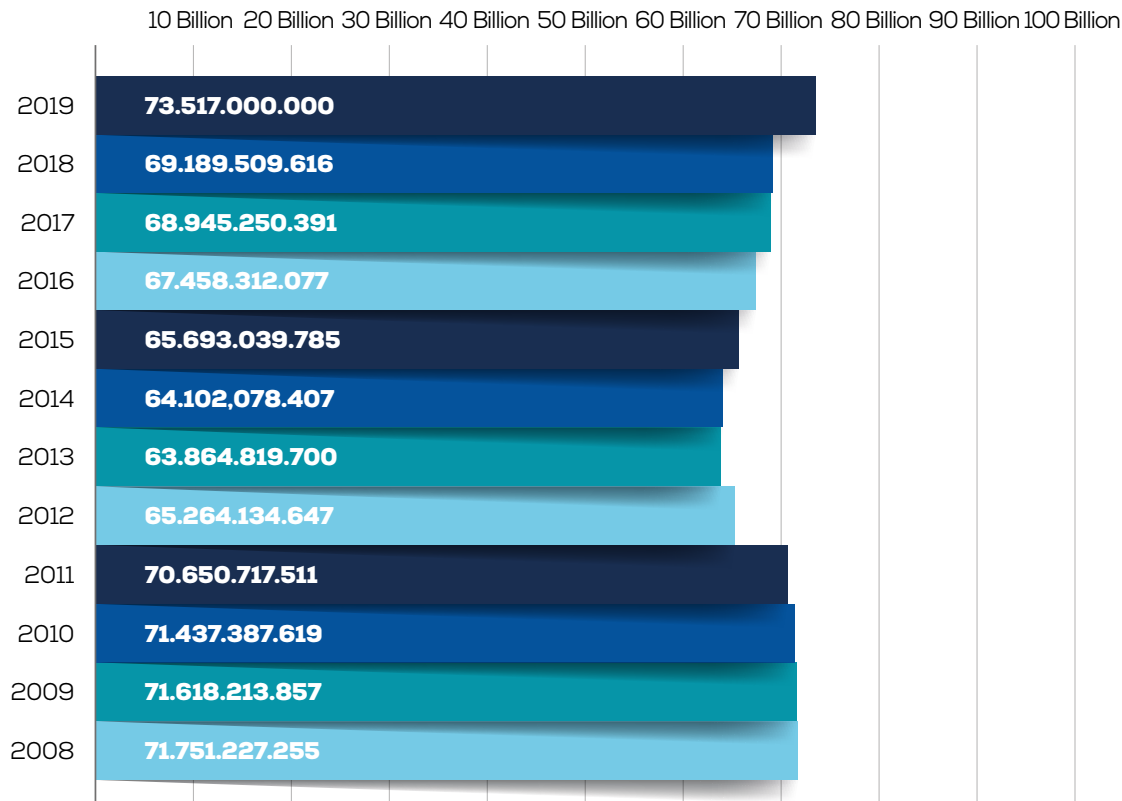
Source: AISCAT Half-year Information 3-4 2019, p. 5

The infrastructural capital of AISCAT's Associates includes many valuable construction works (bridges, viaducts, flyovers and tunnels) connected with the geomorphological complexity of our country and, in many instances, are a symbol of our nation's engineering prowess. One need only consider how the Alps and Apennines cover 35% of our country's surface, whilst at a European level the percentage of mountainous surface is significantly lower (about 20%). This geomorphological fact helps us better understand the complexity and special nature of AISCAT's network, which is also characterised by the existence of three international tunnels; namely two connecting Italy with France (the Fréjus and the Mont Blanc) and one connecting Italy with Switzerland (The Great St Bernard), which cumulatively stretch more than 30 km, of which half fall under the responsibility of AISCAT Associate Italian companies. In addition to these elements (which are evidence of the complexity and articulation of the network) the Associates' infrastructural capital also includes a significant amount of technological and systems equipment.

The following table provides details of the infrastructure's composition. It should be noted that the table only includes works that are at least 100 metres in length; if all works were shown the number would be significantly higher.

% OF NETWORK COVERED BY SAFETY "TUTORS"		
INDICATOR	UNIT	2019
Works (bridges, viaducts, flyovers and tunnels)	no.	6.703
Variable Message Signs	no.	3.410
% of network covered by safety "tutors"	%	32
Noise barriers (km)	Km	1.067
Road cameras	no.	7.728
Emergency stopping places	no.	7.450
SOS Emergency call posts	no.	7.023
Parking areas	no.	2.400
Service areas	no.	358
Toll lanes (non-electronic payment entry lanes)	no.	899
Toll lanes (electronic payment entry lanes)	no.	1.016
Toll lanes (exit lanes manual payment)	no.	502
Toll lanes (exit lanes with automatic teller)	no.	853
Toll lanes (electronic payment exit lanes)	no.	1.709
Weather stations	no.	523
Ice detectors	no.	350
Fog detectors	no.	296
Solar power systems	no.	194

Vehicles transiting on the motorway network in 2019 covered a total of 73.5 billion Km. Most of the traffic consisted of light vehicles (77%), whilst heavy vehicles accounted for 23% of all kilometres covered.



Most toll user transactions were carried out by means of electronic payment (64%). Automatic teller transactions accounted for 24% of all transactions, whilst only 12 of every 100 transactions were carried out manually (i.e. with the assistance of toll booth staff).

## 1.2 | AISCAT'S SUSTAINABILITY MISSION AND STRATEGY

Thanks to an extraordinary level of know-how acquired over decades of activity, AISCAT and its Associates continue, still today, to play a fundamental role in the growth of the country's competitiveness and modernisation in order to face the global challenge posed by the supply of transport and the demand for sustainable mobility.

Within this framework, AISCAT is pursuing the modernisation of the national infrastructural network and the objectives of transport efficiency and sustainability that are key to both European and national policies. Accordingly, AISCAT believes that the contribution of the knowledge, experience and know-how that the sector of motorways operated under concessions can give (given its history and technical-operating skills developed over the years) in terms of the ability of financing, executing and operating sustainable road infrastructure, is fundamental.



### 1.3 | HISTORY

The concept of “motorway” was born in Italy in the early 1920s with the construction of the first world infrastructure exclusively designed for motor-vehicle traffic<sup>1</sup>: this historical Italian leadership and record, together with the introduction of the “concession” model (during that same historical period), contributed to the country’s socio-economic growth also thanks to private funding.

The history of motorway development contains a large part of the history of Italy in the past century: indeed, the network’s expansion accompanied and sustained the progressive process of urbanisation and industrialisation, changing the habits of citizens and increasing national wellbeing. Within the scope of this rapid evolution, which especially marked the 1960s when Italy had the broadest motorway network in Europe at the time, concessionaire companies came face to face with new problems of a technical-operating and legal-administrative nature, and realised the need to find common and standardised solutions across the sector.

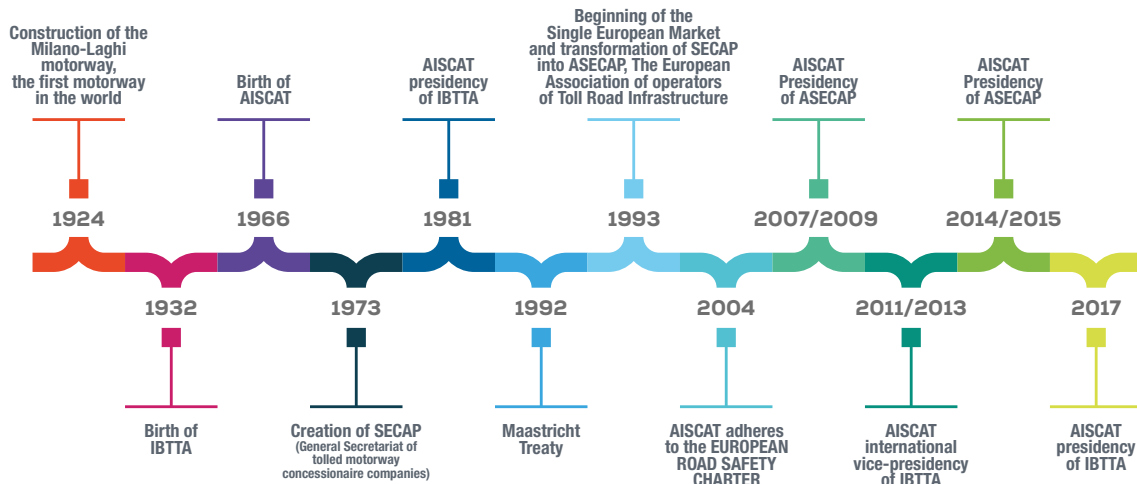
The need to share experiences and problems, standardise construction, operating and management systems and liaise, as a sole body, with the works awarding Authority and national institutions, provided the strong impulse for the birth, in January 1966, of a single representational entity for the entire tolled motorway sector.

An associative body, AISCAT, which started its work in a strictly national context, but which soon – especially thanks to the foresight of its founding members – projected itself into a supranational scenario to meet the increasingly pressing requirements of its Associates for permanent and constant interaction with what was happening in other countries.

This innovative approach, which looked well beyond national borders, led AISCAT to join the main international private and public organisations and associations operating in the motorway or general transport sectors, and to hold key positions on a number of management boards and technical committees. AISCAT soon joined IBTTA (the *International Bridge Tunnel and Turnpike Association*), which brings together the tolling industry’s world representatives, followed by ASECAP (*Association européenne des sociétés concessionnaires d’autoroutes et d’ouvrages à péage*), the European Association of Operators of Toll Road Infrastructure headquartered in Brussels, and then PIARC (*Association Mondiale de la Route/World Road Association*), which unites public and private operators and promotes specific sector studies on matters relating to road safety, infrastructure financing, the use of technology in road transportation and sustainability.

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<sup>1</sup> From Rios and Rivelli. “Autostrada Milano-Laghi”, in *1925-1935: Le autostrade della prima generazione*, Arti Grafiche Leva A & G, 1984



## 1.4 | THE ECONOMIC CONTEXT

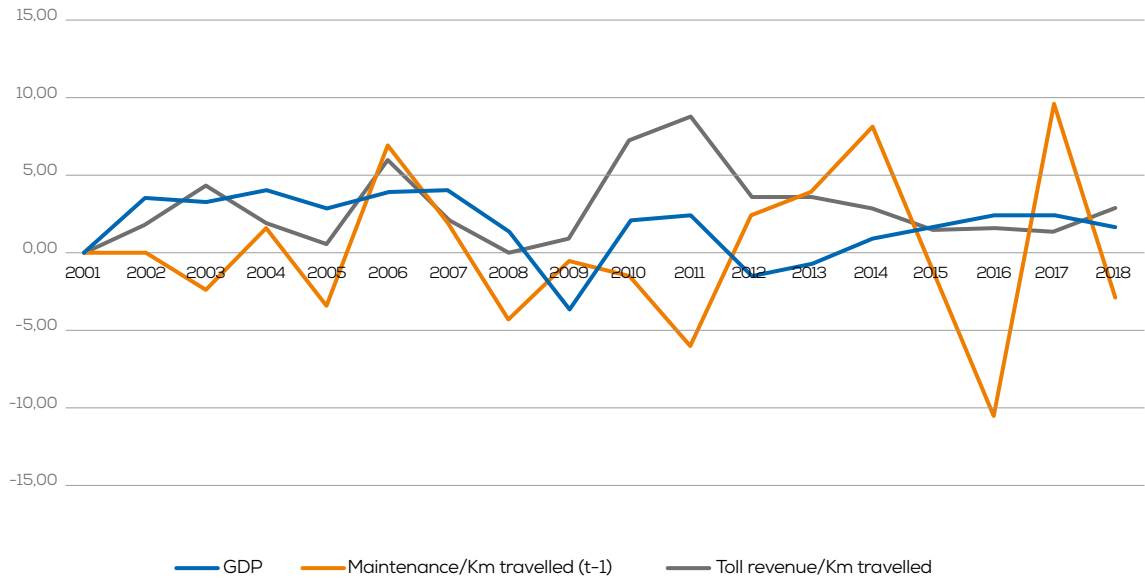
The activity of AISCAT's Associates is inextricably tied to the country's economic development. On the one hand, AISCAT contributes to the development and competitiveness of Italian companies ensuring the quality and efficiency of its infrastructural network. On the other hand, the number of vehicles transiting along the network is in turn influenced by macroeconomic cycles.

The following graph depicts, for the period 2001-2018, the percentage change of Gross Domestic Product (GDP) compared to the previous year, the maintenance for previous year traffic, and the revenue from tolls for the year's traffic.

The motorway network maintenance that is needed is significantly affected by the traffic that the network has had to sustain in the previous period. The "maintenance expenditure change per Km travelled in the previous year" indicator has a discontinuous trend, with positive and negative variances typical of the sector. However, over the entire 20-year period, these variances offset each other, thereby producing an overall constant maintenance expenditure amount.

The revenue per Km of traffic percentage increase compared to the previous year is generally lower or, at any rate, aligned to, the GDP variance. This holds true except for the 2009-2015 period, which, owing to the financial crises, witnessed relatively low or even negative GDP variances.

GDP, MAINTENANCE/KM TRAVELLED, REVENUE/KM TRAVELLED



## CHAPTER 2

2019

### THE ENVIRONMENT

An analysis of the relation with the environment requires, first of all, that three key moments in the activity of the motorway concessionaire be recognised: the designing of new works, their construction and, lastly, their operating.

ENVIRONMENTAL IMPACTS DURING INFRASTRUCTURE CONSTRUCTION AND OPERATING		
	CONSTRUCTION	OPERATING
Air	*	**
Water	*	**
Ground	**	*
Noise	*	**
Fauna	*	*
Flora	*	*

Unlike what one may generally believe, many of the environmental impacts of infrastructure construction and operating phases are determined by the design work. One need only think of ground use, and the impact on landscapes and the consequences on flora and fauna. Impact mitigating operations on existing works are sometimes inevitable because they are brought about by a development in technological know-how (such as the detectability of previously unknown new polluting agents) or sensitivity towards certain issues (such as landscape impact). However, impact mitigation on existing works is often more costly and less effective than that achieved by infrastructure designing that takes into account potential problems from the outset. Consequently, the involvement of local communities and of other important stakeholders during the design phase of new works is key. AISCAT's Associates allot significant resources to managing this first phase.

#### AUTOSTRADA PER L'ITALIA S.P.A. AND INFRASTRUCTURE DESIGNING

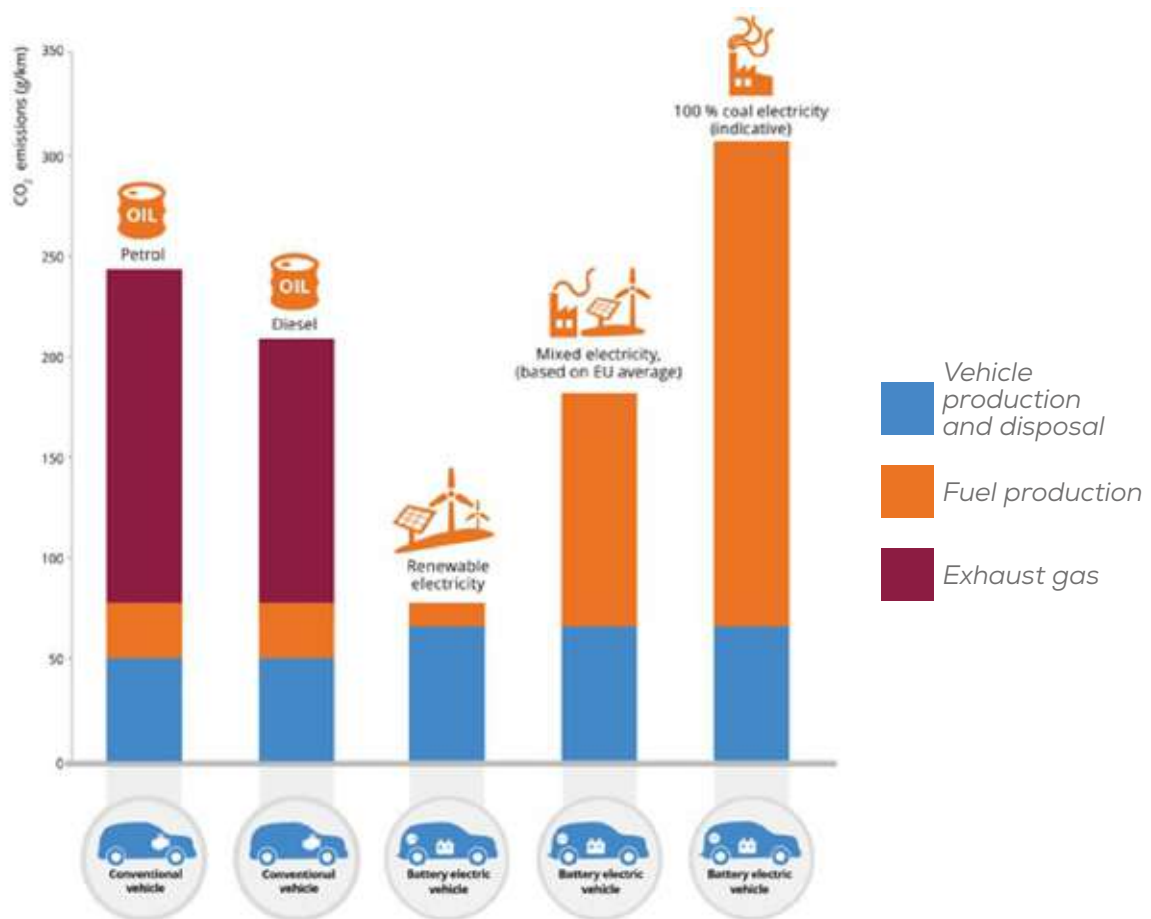
The construction and operating of a motorway network cannot happen without direct involvement and continuous dialogue with institutions, authorities and local communities. The works are of a clear strategic importance and take place constantly even in non-institutionalised phases. AUTOSTRADA PER L'ITALIA S.p.A. is certainly an Italian company best-practice example. Among the institutionalised initiatives carried out, the following have assumed particular relevance:

- The public debate for the Gronda di Genova bypass project.
- The socio-environmental observers established during the construction of the Variante di Valico motorway deviation
- The public debate related to the Passante di Bologna bypass (<http://www.passantedibologna.it>).



Infrastructure operating generates, among other things, atmospheric emissions. Of particular importance, even in the light of climate change problems, are the emissions of CO<sub>2</sub>. We should first say that the transport sector generates 24% of all national CO<sub>2</sub> emissions<sup>2</sup>. Companies operating in other sectors and activities (such as residential heating) produce the remaining 76% of CO<sub>2</sub> emissions. If we focus our attention on motorway concessionaires, then, according to international studies, most emissions are caused by the actual use of the motorway network i.e. by vehicles travelling on the network. Specifically, for each ton of CO<sub>2</sub> attributable to the concessionaire (Scope 1 and 2), there are 8 tons that are attributable to the light and heavy traffic that use the infrastructure<sup>3</sup>.

It is therefore clear that the reduction of CO<sub>2</sub> emissions connected with the motorway network depends predominantly on the characteristics of the vehicle fleet that travels on it. A recent study carried out by the European Environmental Agency shows the different levels of CO<sub>2</sub> emissions for different combinations of vehicle and fuel type. The analysis discloses significant differences: for example, a conventional petrol-fuelled vehicle releases more than twice the CO<sub>2</sub> of an electric vehicle.



Source: "Range of life-cycle CO<sub>2</sub> emissions for different vehicle and fuel types",  
European Environmental Agency, 2019.

<sup>2</sup> See the National inventory report 2020 and the Informative inventory report 2020 drafted by ISPRA.

<sup>3</sup> Other empirical evidence shows that for each ton of CO<sub>2</sub> released directly by the motorway concessionaire there are another 150 tons released by the light and heavy traffic that use the infrastructure.

## BREBEMI ON DECARBONISATION

Ever since opening the A35 Brescia-Milano motorway, Brebemi S.p.A. has been an advocate of sustainable mobility through a process of decarbonisation of the transport sector.

At the fortieth kilometre of the A35 Brescia-Milano motorway, near the town of Caravaggio (BG), there are two service stations: Adda Nord and Adda Sud. In September 2019 these two stations were fitted with Liquefied Natural Gas (LNG) facilities to refuel the cryogenic tanks of heavy vehicles and automotive compressed natural gas (CNG). Each of the two stations has a fixed vertical above-ground cryogenic cylinder having a volume of 40 cubic metres to fuel the system.

Assessing and seizing every innovative opportunity for environmentally respectful economic and social development, with its eyes focused on the future, are among the values that the A35 is pursuing. These LNG fuelling stations, the first of their kind in northern or central Italy, installed directly on the motorway network, were strongly sought after by Brebemi and its partner Socogas S.p.A., the oil services concessionaire for these two service stations.

LNG is an economical product with a low environmental impact, increasingly used in many sectors, and especially in heavy road transportation. When used for vehicle fleets, Liquefied Natural Gas reduces CO<sub>2</sub> emissions by 15% compared to traditional fossil fuels, nitrogen oxides by 50% and has almost "zero emissions" in terms of particulates and sulphur oxides. LNG also allows for key cost savings of 43% compared to diesel oil. A35 Brebemi intends to continue working towards decarbonisation by offering discounted toll charges to LNG fuelled heavy vehicles.

## BREBEMI ON THE ENVIRONMENTAL OBSERVATORY AND THE TERRITORIAL INFORMATION SYSTEM

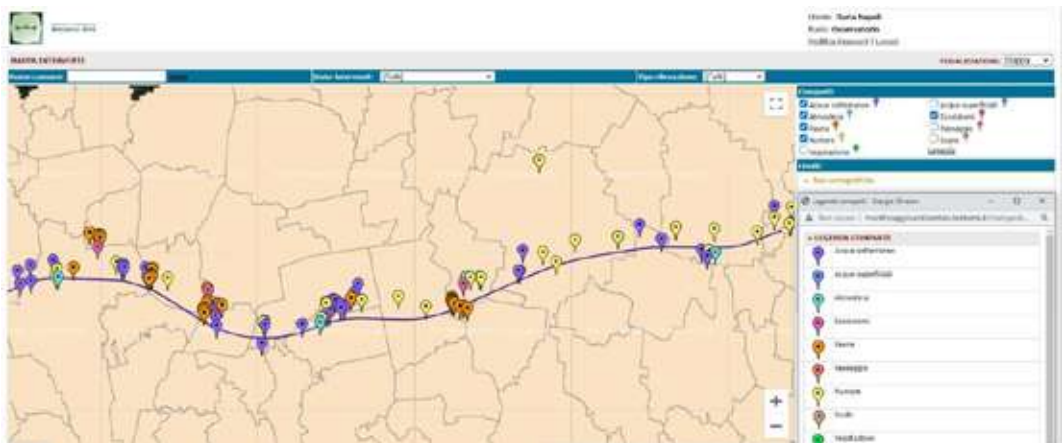
An increasing awareness of the fact that mitigating the impact of works from their early design phase is more effective than trying to reduce them during the operating phase has, over the last years, led to the introduction of rules and procedures for an early assessment of environmental and public health impacts.

Under this principle, special attention is paid to the most impacting works, such as high traffic intensity roads and railways, providing for the setting up of an Environmental Observatory (EO) from the project's very first phases.

A specific EO was also established for the A35 infrastructure. This kept the proper execution of the Environmental Monitoring Plan under constant observation, especially in relation to the management of specific critical issues, the way in which results were handled, the dissemination of information and the solving of issues between stakeholders. For all this work the EO avails itself of technical support provided by Arpa.

The Environmental Observatory is also tasked with ensuring that citizens are informed of works, providing real and validated data. Data publishing and updating of the relative communication tools are the Concessionaire's responsibility and are achieved through a specific Territorial Information System (TIS) website. On this website one has access to the environmental monitoring results and the stage of progress both in text and graph form.

The TIS website is [www.brebemi.it](http://www.brebemi.it) and registration with a username and password gives users access to EO validated data.



## THE A22 BRENNER MOTORWAY – DECARBONISATION

Decarbonisation of the Brenner corridor is one of the big strategic objectives of Autostrada del Brennero Spa. While waiting for the opening of the Brenner tunnel and for a transfer of part of the current road freight onto rail, the company has already started work on projects aimed at reducing CO<sub>2</sub> emissions as much as possible. The first solar powered sound absorption barrier in Italy was installed near Isera in 2009, and the electricity since then produced by it has covered the domestic needs of 600 inhabitants. In 2014, in southern Bolzano, the first and so far only centre for the production and distribution of green hydrogen (from hydroelectricity) in Italy was inaugurated. The production currently powers the busses of the Municipality of Bolzano, as well as the company's hydrogen-powered vehicles. The Bolzano plant is considered to be one of the largest and most innovative ones in the world. The three modular electrolyzers have a production capacity of 180 Nm<sup>3</sup>/hour in normal conditions (Nm<sup>3</sup>= m<sup>3</sup> at 15°C). The company's board of directors has also already approved a plan for sustainable mobility that provides for the development of the electricity charging network (50 charging units installed to date) and the realisation of five refuelling points for hydrogen-powered vehicles, ensuring coverage of all 314 km of the A22 to a future zero-emission fleet of vehicles. Another environmentally related initiative is the European BrennerLec project: effective from 2016 (when the European Commission approved the project), a software has been developed that cross-references weather, traffic and air quality data to calculate the ideal cruising speed to be kept by road users to keep the traffic flowing smoothly, reduce journey times by up to 30% and reduce roadside pollutants (with a 10% reduction in the average concentration of NO<sub>2</sub>).

## ENVIRONMENTAL INDICATORS

INDICATOR	UNIT	2019	2018	2017
CO <sub>2</sub> Emissions	Tons	233.884	231.507	238.798
Environmentally significant expenditure and investment	Euro	129.620.032	110.234.119	110.807.611
CO <sub>2</sub> Emissions (direct- scope 1)	Tons	52.855	53.131	54.631
CO <sub>2</sub> Emissions (direct- scope 2)	Tons	122.049	126.068	132.073
CO <sub>2</sub> Emissions (direct- scope 3)	Tons	58.620	52.307	52.093

Within the scope of the activities of AISCAT's Associates, a total of 233,884 tons of CO<sub>2</sub> were released into the air in 2019. This amount refers to (i) direct emissions (Scope 1), i.e. those that are generated directly by the Associates (e.g. heating consumption for offices and worksites), (ii) indirect emissions (Scope 2), i.e. emissions resulting from the use of electricity for tunnel lighting and ventilation and (iii) other emissions (Scope 3), among which those additional ones due to motorway congestion, fugitive methane emissions, emissions related to the purchase and transportation of raw material and emissions related to the disposal of waste product. 2019 emissions were slightly higher than those of 2018, but lower than those of 2017. For the sake of a more informed interpretation of this information, it is worth noting that in 2014 every Italian citizen produced an average of 5.3 tons of CO<sub>2</sub><sup>4</sup>. If 2019 AISCAT Associates' CO<sub>2</sub> emissions were shared between all Italians we would have CO<sub>2</sub> emissions of 0.004 tons per person. Therefore, the percentage bearing of AISCAT Associates' emissions on the total average emissions of Italian citizens is less than 0.1%.

Environmentally related expenditure and investments carried out by Associates increased significantly in 2019, reaching a level of 129.6 million euros. In 2018 and 2017 these investments amounted to 110.2 and 110.8 million euros, respectively.

The following table provides information on the consumption of petrol, LPG, Oil/Diesel, electricity, natural gas/methane, thermal energy and renewable energy sources relating to concessionaires' activities. The economic costs of the energy, water consumption and produced waste are also provided.

Water consumption relates primarily to network irrigation needs and facilities. In 2019 AISCAT Associates' water requirements amounted to 1.4 million cubic metres. This value has been relatively over the 2017-2019 three year period. Recent studies have shown that a family consumes an average of 200 cubic metres of water per year, so the water used by AISCAT's Associates would be equal to that of about 8,000 families.

Avoided CO<sub>2</sub> refers to emissions that were prevented thanks to the development of renewable sources, energy efficiency improvements and the recycling of road surfaces which, in 2019, amounted to 6,507 tons.

<sup>4</sup> Source: Gapminder, <https://www.gapminder.org/data-blog/co2-emissions-per-person-energy-use-total-and-per-person-updated/>



## ENVIRONMENTAL INDICATORS

INDICATOR	UNIT	2019	2018	2017
Petrol energy consumption	TJ	3,50	2,45	3,57
LPG energy consumption	TJ	15,11	12,29	10,31
Oil/Diesel energy consumption	TJ	509,85	517,46	548,99
Electrical energy consumption	TJ	1.284,90	1.289,91	1.325,47
Natural Gas/Methane energy consumption	TJ	149,04	148,77	144,37
Thermal energy consumption	TJ	9.417	9.307	ND
Renewable energy sources consumption	TJ	8.799	7.874	ND
Energy cost	TJ	78.931.010	71.523.386	73.237.049
Water consumption	m <sup>3</sup>	1.402.883	1.362.852	1.482.710
CO <sub>2</sub> avoided	Tons	6.507	8.112	10.155
Waste produced	Tons	42.226	41.422	53.404

## AUTOVIE VENETE • TREATMENT OF MOTORWAY WASH-OUT WATER

Autovie Venete S.p.A. has always paid special attention to environmental protection and pollution prevention. The motorways that it operates, namely the A28 and A34, as well as newly built stretches and those under construction of the A4 three-lane motorway expansion, have always had collection and purification systems for wash-out water. These systems involve separation of first flush rainwater, decanting of sedimentary solids and separation of light substances. The treatment of first flush rainwater centres on the removal of separable pollutants, such as sand (and especially mineral oils and free hydrocarbons) by means of gravity. There are currently 184 such purification systems and another 60 are about to be put into service.

Most of the plants described above have the water collected in waterproofed ditches that flow into the treatment systems; thanks to a system of bulkheads, these plants also work as containment basins in the event of spills from vehicles involved in accidents or having other motor problems. Consequently, the polluting liquids never reach the main environmental matrices (soil, subsoil, surface waters and/or aquifers) but are stored until they are collected and handled as waste.

Autovie Venete S.p.A. also holds (and has so for more than a decade) several ecological safety contracts that require its intervention in the event of emergencies, such as spills of hazardous substances having potential soil and water contaminating effects.



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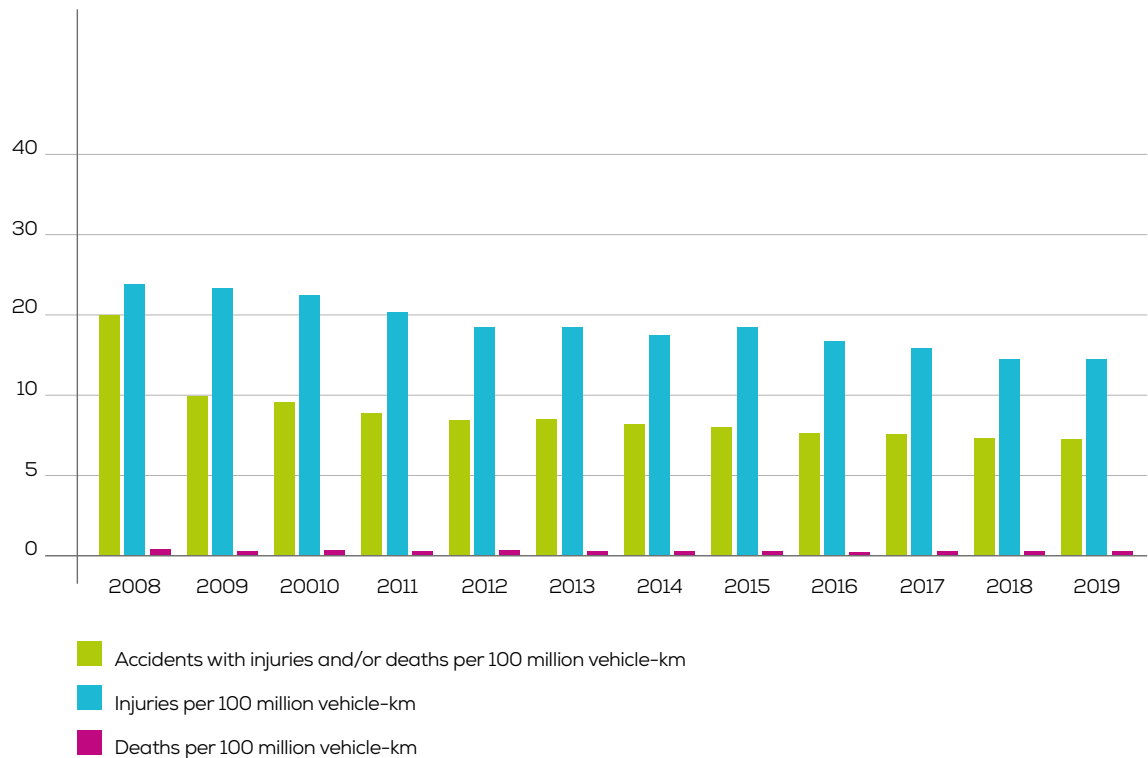
## ROAD SAFETY

Road safety is one of the most important elements in the activities of AISCAT's Associates and accident rates are one of the main performance objectives monitored, also in terms of the network's operating. Even though 90% of accidents<sup>5</sup> are due to dangerous and/or unlawful driving (as proven by official statistics and numerous studies and research papers), as well as by the state of repair of vehicles, utmost attention is paid to infrastructure safety, technical standards and service levels, especially in terms of accident "prevention".

AISCAT's Associates are involved in a series of initiatives aimed at reducing the causes of accidents and, therefore, the number of accidents, well beyond their legal requirements. In this regard, significant importance is given to the communication of events and information to users in real time through different channels: on the road (with variable Message Signs) as well as via the web, radio, television and special apps.

5,333 accidents with injuries and/or deaths were recorded in 2019. Among these, 180 were fatal accidents causing 202 deaths. The number of injured persons was 8,981.

INFRASTRUCTURE SAFETY	
INDICATOR	2019
Number of accidents with injuries and/or deaths	5.333
Number of fatal accidents	180
Number of injuries	8.981
Number of deaths	202



AISCAT's and its Associates' attention and effort in mobility and road safety policies is also witnessed by their direct participation in the main national bodies of a strategic and technical-operational nature, such as "Viabilità Italia - The National Coordination Centre for Road traffic conditions, CNEL's "National Board for Road Safety and Sustainable Mobility" and CCISS - The Centre for the Coordination of Road Safety Information (of which AISCAT is a founding member), thereby ensuring the sector's representation in public utility services and motorway user information.

AISCAT is also very involved in international road safety. Indeed, the Association is active on the European Road Safety Charter Forum, which is a civil society platform on road safety created in the mid-2000s to promote actions and initiatives to strengthen road safety culture across Europe, improve knowledge on the causes of accidents and contribute to the creation of preventative solutions. Through its constant presence in ASECAP in Brussels, AISCAT also actively participates in ASECAP's technical bodies dealing with road safety - a key EU political priority in the transportation sector. In this regard, ASECAP members promote their motorway concessionaires' activities before EU institutions to guarantee the best possible road safety performance by concretely demonstrating that their road operators are all fully committed to contributing to the European accident rate reduction "Vision zero" objective.

## AUTOSTRADA MERIDIONALI SPA - INFRASTRUCTURE SAFETY

In 2019 Autostrade Meridionali S.p.A. started a project to install heavy vehicle traffic control systems by using "weigh-in-motion" sensors.

The system's objective is to measure the weight of heavy vehicles that enter and transit the motorway, identify those that weigh more than is allowed on select stretches, and prevent their access to and transit along such stretches.

Such a system is in line with the GUIDELINES FOR THE CLASSIFICATION AND MANAGEMENT OF RISK, THE ASSESSMENT OF SAFETY AND THE MONITORING OF EXISTING BRIDGES issued by the Public Works National Council in April 2020

## BREBEMI'S BLUE COACH AND MOBILE OFFICE

Brebemi S.p.A. contributed to the development of the Blue Coach project together with the Road Police. The coach is a concrete instrument for this awareness-raising project on proper driving behaviour: equipped with multimedia instruments, the coach is a true and proper travelling classroom for road education. Among its tools are ones that allow risk simulations to be run based on wrong driving behaviour, such as speeding, lack of attention or driving under the influence of alcohol and drugs.

The Blue Coach has been used by the Road Police since 2016 on educational projects with schools, at large events and in service stations during peak holiday road traffic periods.

Continuous and constant collaboration with the Road Police also led to the development of a mobile office operated by the Chiari Road Police subsection. The vehicle is equipped with means to measure alcohol and drug levels and with weight sensors to measure loads.

Education and awareness raising of road users and youngsters, together with continuous and constant infrastructure checking, are the active policies adopted by the concessionaire and by the other parties involved, such as the Road Police, to secure high levels of road traffic safety and flow.





**AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A.  
PROVIDING A ROAD SAFETY CULTURE EDUCATION:  
#USALATESTA, #THEBLACKOUT AND ISOLA SICURA**

One of the main objectives of the A4 Holding Group is a progressive reduction in the number of road accidents: in this regard, a number of campaigns have been run during the years to spread road safety culture especially among children and young adults, i.e. tomorrow's drivers. The #usalatesta (use your head) and #theblackout campaigns, and the Isola Sicura (Safe Island) project are key examples of this commitment.

#usalatesta (use your head) is the campaign aimed at educating students in their last two years of high school, who have therefore just got (or are about to get) their driving licences. The project has ran in a number of different forms since 2001. It consists of more than 20 meetings a year, involving more than 3,000 students. During these meetings traffic wardens describe, in simple and direct terms, their everyday experience and the ideal motorway behaviour required to protect everyone's safety, especially in the event of an emergency.

The project pays a lot of attention to the all too terribly common Saturday evening accidents that are primarily caused by driving under the influence of alcohol and drugs, lack of attention and speeding. It is for this reason that during these meetings the video message of Carlos Rubio is screened. Carlos Rubio is the young deponent of #theblackout, the social campaign launched in 2019 to raise youngsters' awareness about road safety. In #theblackout video Carlos recounts his experience from a prison cell: after a night out dancing, whilst driving under the influence of alcohol, he caused an accident which injured two people very seriously and killed his best friend. The message was projected on a screen, unexpectedly, at 4.00 a.m. on 7 June 2019 at the Sesto Senso discotheque in Lonato del Garda, in the province of Brescia, suddenly blacking out all lights, music and entertainment. Whilst the message was being screened the reactions of the young crowd were filmed, and these reactions later became part of the campaign on the social networks of the A4 Holding Group and on the campaign's official website [www.theblackout.it](http://www.theblackout.it). The campaign was sponsored by Regione Veneto and the Provinces of Brescia, Verona, Vicenza and Padua, and won the Areté Corporate Communications Award.

"Isola Sicura" (Safe Island) is a road safety educational project for children aimed at instilling in them the first seed of awareness on this important issue. The project was first launched in 2018 at the Tocati International Festival of Street Games. "Isola Sicura" is a road replica platform with road signs, lanes, pedestrian crossings and roundabouts where young children have the chance of driving around on scooters, wearing helmets, under the supervision of a tutor. In this way the important basics of road safety (such as wearing a safety belt, the consequences of using a mobile phone whilst driving and speeding) are taught in a game-like fashion. At the end of their rides each young rider who has shown to understand these principles is awarded a "responsible driver" certificate.



## AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. DRIVING STYLES OBSERVATORY

The "Driving Styles Observatory" is a project entailing the periodic surveying of drivers' behaviour along stretches of the A4 Brescia-Padua and the A31 Valdastico to closely analyse risk behaviour. Communication campaigns are then developed and the Observatory's monitoring of the results provides a picture of the best projects to be pursued over mid-to-long-term timeframes.

The monitoring is carried out from permanent and mobile workstations. The total sample of vehicles monitored from permanent workstations amounts to an average of more than 1 million vehicle transits, whilst that from mobile workstations involves a mix of more than 1,000 heavy and light vehicles.

The Observatory's results identify motorway behaviours with the highest risks. Among all such risky behaviours, improper use of mobile phones, failure to respect safety distances and failure to use direction-indicator lamps definitely need working on.

Data collected by the Observatory therefore helps develop awareness raising efforts in terms of both message type and target.



## THE BRENNER MOTORWAY - MOTORWAY EDUCATION

Now in its sixth edition, this project involves more than 1,000 higher secondary school students every year from areas falling within the boundaries of the A22 motorway. The work focuses on drivers' inabilities to assess certain risks (especially in situations of apparent safety), their inability to assess their own psychological and physical conditions or level of alcohol intake, their poor knowledge of the possible consequences of lack of attention and all those other potentially fatal elements that make up the "human factor". Each stage of the event is opened by a screening of the "Young Europe" film - a full-length film produced by the State Police and co-funded by the European Commission - followed by a road safety lesson held by two training parties: Autostrada del Brennero SpA and the State Police. The event is supported by images and videos sourced from cameras situated along the Italian motorways and other specially made exhibits. Over the course of the six editions so far organised, more than 50 educational meetings have been held, involving 33 municipalities falling within the scope of the A22 motorway and 82 higher secondary schools.

To date, the project has seen the participation of 10,600 students. Unfortunately, the 2019-2020 edition suffered the inevitable setbacks related to the COVID-19 pandemic, but new forms of the project that comply with the current healthcare restrictions are being assessed for the next edition.

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### **AUTOVIE VENETE SPA - THE SAFETY OF MOTORWAY USERS**

Since 2016 Autovie Venete S.p.A. has been certified, by an accredited third party, with the UNI ISO 39001 "Road traffic safety management systems" - a voluntary standard pursuing road users' safety and the objective of reducing and eliminating road accidents with serious injuries or deaths.

In this regard - and also in agreement with national rules governing the sector - Autovie Venete S.p.A. has increased the network's information to motorway users through the use of mobile boards positioned along high-risk motorway stretches. Moreover, whenever there are fatal or serious accidents, or particularly important traffic problems, the company carries out an analysis of the incidents to identify their cause and then implements any required organisational, technological or operational measures needed to prevent them from reoccurring in the future.

Also, over the past years, 4 permanent weighing devices have been installed along the network. These devices are used by company staff and by the Road Police to check and confirm the load weights of heavy vehicles entering and transiting on the motorway.

### **AUTOSTRADA PER L'ITALIA S.P.A. - SAFETY CAMPAIGN**

In 2019 Autostrade per l'Italia S.p.A. and the Road Police collaborated in the launch of a new road safety campaign: #Seisicuro (are you sure). The campaign focused on wrong driving behaviour, highlighting the risks connected with the use of mobile phones whilst driving, speeding and driving under the influence of alcohol or drugs. The campaign reached the masses through television commercials broadcasted by the main TV networks and ran on the radio, press, internet, social media and billboards.

### **AUTOVIE VENETE S.P.A. - SAFETY CAMPAIGN**

**GOOD PRACTICE TITLE:** #alvolanteconautovie (at the driving wheel with autovie)

**OPERATIONAL UNIT:** Autovie Venete

**STRATEGIC AXIS:** AREA Safety **ACTIVITY:** Communication

**CAMPAIGN PERIOD:** Summers 2018\_2019\_2020

**CAMPAIGN OBJECTIVE:** Promote road safety and user engagement

**DESCRIPTION OF THE ACTIONS UNDERTAKEN AND OF THE RESOURCES USED:**

Periodic publishing of 2D animations on Facebook, Twitter and Instagram, clearly and simply illustrating how one should drive on motorways, the most common mistakes observed, and wrong driving behaviour. Creation of the #laterzacorsia-sifastrada (the third lane is making way) site which collates all published material. Involvement of youngsters through the AutovieForKids site, specifically targeted at children and youngsters, and connected with the hosting of periodical educational visits at the Concessionaire.

**DESCRIPTION OF RESULTS AIMED AT BEST PRACTICES:**

Almost a million contacts reached in three months; significant user engagement, improvement of the company's corporate image and reputation.

**CAV-CONCESSIONI AUTOSTRALI VENETE S.P.A.:  
EXPERIMENTAL SYSTEM TO DETECT CARS DRIVING  
AGAINST THE TRAFFIC FLOW**

system's objective is to timely detect any vehicle that is transiting against the traffic flow in order to signal the imminent danger to its driver and give him/her the possibility of remedying the situation. The system is also capable of measuring the duration of such against-the-traffic-flow driving and send out further warning signals to the driver as and to all other drivers proceeding in the proper direction on the same motorway. Information concerning the situation and warning signals are sent to the Operating Centre so that emergency procedures to mitigate the dangerous situation may be implemented.

In short, the system has been conceived to:

- Immediately detect the seriousness of the against-the-traffic-flow driving;
- Intervene by signalling the error to the driver through a series of very prominent communication messages capable of catching his/her attention;
- Immediately pinpoint the whereabouts of the incident and tell the operators where they need to intervene;
- Collect information on the vehicle;
- If the dangerous driving persists, inform other drivers of the potential danger.

**CAV-CONCESSIONI AUTOSTRALI VENETE S.P.A: WEIGH IN MOTION**

The main objective of the Weigh in Motion (WIM) system is to measure the precise weight of moving vehicles to monitor loads transiting on the infrastructure. The system also allows for the subsequent legal measuring of overloaded vehicles.

The WIM system is therefore used to identify vehicles that have infringed the road rules and to transmit images of the infringement to the operating centre.

Such systems can cover one or more lanes of the carriageway by using inductive loops and high precision weight sensors. The piezoelectric lines can be installed on any road surface and, being embedded, are essentially non-invasive.

Different road surface types have different impacts on the system's performance, as indicated by the WIM COST 323 European Specifications. The road surface therefore needs to be suitable for the desired measuring accuracy. Specifically, the geometric characteristics of the road's profile, deflexion parameters, surface features and qualities need to take into consideration the WIM COST 323 standard. The WIM standard also comes with a video system that uses a wide-angle camera and configured software to capture images of overloaded vehicles. The IP camera identifies the vehicle's main parameters, such as shape, number plate, colour, type and other characterising elements. Information generated by the WIM system may then be transmitted through wireless or wired networks.

### **CAV-CONCESSIONI AUTOSTRADALI VENETE S.P.A.: DIRECT CONNECTION TO THE AINOP DATABASE**

Following the introduction of Ministerial Decree no. 430/2018, it became a requirement to send AINOP (The National Archive of Public Works) information needed to draft ID forms for each public work to obtain an IOP (Public Work Identification) code. Concessioni Autostradali Venete S.p.A. has developed a computerised "connector" which, based on specifications shared with the Ministry of Public Works, translates the information that is in the information system managed internally by the company and sends it directly to the AINOP Webservice.

Work on the source database of this information started in 2014 with a collaboration between CAV-CONCESSIONI AUTOSTRADALI VENETE S.p.A. and the Department of Civil Engineering, Construction and Environment of the University of Padua. The objective was to develop a system for the rational management of works pertaining to its own road infrastructure network.

The database containing the works' information was developed in MySQL and then converted into a format compatible with the AINOP Webservice by using a programme developed in Microsoft.NET. This programme converts the database information into XML, signs the information digitally at several levels and transmits it in a safe and encrypted form to the AINOP system. The first phase, relating to the sharing of works' identification details and records, has been completed. Integration of this information with the ASSET MANAGEMENT system recently adopted by the Company (which enables transmission and monitoring of information relating to the condition of each work and the checks that have been carried out) is currently in progress. AINOP will therefore enable the creation of a "virtual archive" for each construction work, providing the elements to identify any safety problems and solutions to remedy them, and rank problems according to their urgency. For the sake of greater transparency, and in compliance with existing privacy and security laws, information characterising public works will progressively be openly published as it is fed into the AINOP.

## **AUTOSTRADA DEL BRENNERO SPA INFRASTRUCTURE MANAGEMENT**

Although the A22 is in large part an Alpine motorway, with a route affected by rugged landscape and reaching a height of 1,372 metres (with the consequent problems of ice and snow), its current accident rate of 16.99 (2019 Accounts) is among the lowest in Italy. This great result has many contributing factors. A very difficult, but extremely effective decision, was the one to progressively ban heavy-vehicles from overtaking; the ban was first introduced in 1999. Today this ban is enforced along all 314 km of the Brenner motorway. Since 1999 overall accidents have decreased by 54%, accidents with deaths have decreased by 69.7% and those with injured parties have decreased by 40.4%. However, if we consider the significant increase that there has been in traffic and we take into consideration the overall accident rate, these percentage decreases have been even more significant, amounting to 65.1%, 77.1% and 54.9%, respectively. Other important elements are the motorway's road surface total covering with permeable asphalt wherever permitted since 2001 and the installation of weathering steel central and side guardrails along the entire motorway stretch. These guardrails have been built according to a patent developed by Autostrada del Brennero Spa and ensure the best passive safety possible in terms of shock absorption. Excellent results have also been given by having the State Police Motorway Operating Centre (COA) and the User Support Centre (CAU) in the same building, since they are the eyes and brains of the A22. Indeed, with 211 cameras, multiple sensors and a video-wall that automatically screens the images of problem areas, a Support Unit can be despatched on site within an average of 7 minutes. Special attention has also been paid to driving against-the-traffic-flow: all service areas are fitted with alarms that trigger visual and sound warnings for the driver and simultaneously send camera footage to the CAU so that it may immediately intervene.





# CHAPTER 4

# 2019

## PEOPLE AND STAKEHOLDERS

### 4.1 | PEOPLE

HUMAN RESOURCES				
INDICATOR	UNIT	2019	2018	2017
Total number of staff	no.	11.350	11.597	11.788
Number of work accidents	no.	277	277	297
Number of fatal work accidents	no.	1	-	-
Number of work injuries (off-work for more than 6 months)	no.	5	NA	NA
Number of work injuries (off-work for less than 6 months)	no.	274	277	296
Work accident procedures involving subcontractor staff	%	86%	86%	86%
Subcontractor staff work accidents	no.	3.785	190	176
Turnover (hiring)	no.	1032	652	558
Turnover (leaving)	no.	1.151	860	699
Staff training hours	no.	222.556	183.336	151.354

HUMAN RESOURCES				
INDICATOR	UNIT	2019	2018	2017
Total number of staff	no.	11.350	11.597	11.788
(i) Number of staff (women)	no.	2.346	2.283	2.242
(i) Number of staff (men)	no.	9.004	9.314	9.546
(iii) Number of staff (on permanent contracts)	no.	10.924	11.127	11.316
(iii) Number of staff (on temporary contracts)	no.	426	470	472
(v) Number of staff (workmen)	no.	1.840	1.831	1.891
(v) Number of staff (collectors)	no.	3.785	4.075	4.233
(v) Number of staff (office staff)	no.	5.004	5.229	5.210
(v) Number of staff (managers)	no.	521	546	553

INDICATOR	UNIT	2019	2018	2017
(v) Number of staff (supervisors/directors)	no.	147	146	148
(vi) percentage of women workmen	%	1%	1%	1%
(vi) percentage of women collectors	%	20%	18%	17%
(vi) percentage of women office staff	%	25%	25%	24%
(vi) percentage of women managers	%	19%	18%	18%
(vi) percentage of women supervisors/directors	%	6%	6%	5%
Percentage of staff receiving periodical performance assessments.	%	66,85%	61,59%	63,41%
Average CEO-to-worker pay ratio	no.	6,01	6,91	7,01

People are essential for AISCAT's Associates to create long-term value and, indeed, AISCAT's Associates constantly monitor the quantitative make-up of their human capital. Total staff in 2019 were 11,350, slightly below the 2018 (11,597) and 2017 (11,788) numbers. This decrease reflects the evolution that motorway concessionaires have been experiencing over the past decades. In light of the sector's specific characteristics, as well as the current technological innovations, AISCAT Associates are increasingly brain intensive and require specific skillsets.

Accordingly, staff training has become one of the main priorities of human resources management. Such training is aimed at securing a constant updating and development of staff technical skillsets. In 2019 AISCAT Associates provided 222,556 hours of staff training. This value is significantly higher than that of 2018 (183,336 hours) and 2017 (151,354 hours).

The data provided in the above tables shows the qualitative composition of human capital in terms of gender, contract type and female gender representation. On average, in 2019, 80 staff out of 100 were men and 20 were women. The percentage of women is relatively high among office staff (25%), in line with the companies' average for collectors (20%) and supervisors/managers (19%), and below average in terms of workmen (1%) and directors (6%). Over the three year period the trend suggests a slight increase in women staff (in 2017 only 19 out of 100 staff were women).

AISCAT Associates' staff are generally on permanent work contracts (10,924 in 2019). Temporary contracts in the same year amounted to 426. Two thirds of all staff receive a periodical assessment of their performance.

Human resources safety is a very important indicator. In 2019, AISCAT Associates recorded a total of 277 work accidents compared to 297 in 2017. Unfortunately, one of the 2019 accidents had a fatal outcome. Five of the injuries arising from the aforementioned accidents were very serious, leading to work absence periods in excess of 6 months, whilst in 274 cases absences due to accident injuries had a duration of less than 6 months.

Associates monitor their own direct staff but also that of subcontractors. In fact, along 86% of the motorway network (the percentage has remained stable over the last 3 years) there is a procedure to monitor work accidents involving subcontractors. These accidents have gone up over the past years, increasing from 176 in 2017 to 209 in 2019.

The “average CEO-to-worker pay ratio” is the ratio between the annual fixed salary of the CEO (i.e. the person in the organisation with the highest salary) and the mean annual total salaries of all staff. In 2019 this ratio was 6.01, a decrease compared to previous years.

### **STRADE MERIDIONALI SPA – CORPORATE WELFARE**

In line with the approach of its holding company Autostrade per l'Italia S.p.A., Autostrade Meridionali S.p.A. promotes initiatives aimed at improving the welfare and work-life balance of its staff and families. To ensure staff have a better quality of life and an easier time dealing with everyday tasks, the Group offers services in such areas as (1) health and wellbeing, with solutions for staff and their families such as high coverage health insurance policies, medical preventative services, information and awareness raising initiatives, sport and fitness benefits; (2) initiatives aimed at improving personal-work life balance (e.g. kindergartens, summer camps, parental support, scholarships, support for elderly and disabled persons); (3) People care instruments to improve work life (e.g. work meal canteens, sustainable mobility, insurance policies, third-party processing of paperwork).

### **MILANO SERRAVALLE-MILANO TANGENZIALI S.P.A. CORPORATE WELFARE**

With the objective of improving the wellbeing of its staff and families, Milano Serravalle-Milano Tangenziale S.p.A. started a corporate welfare project in 2018 that covers different areas, from education and support for children and the elderly right up to free-time and supplementary pension-scheme plans. The project runs on a web-platform that each member of staff can access to manage his/her own needs and which may be extended to other family members.

The *welfare* plan was agreed with the workers' unions and is part of the company's second level labour agreement.

To raise awareness of the various personal services available and their use, the “Serravalle Per Te” project was activated. This project sees HR staff periodically visit the various operating centres to meet work colleagues, listen to their thoughts and give out information. Through the welfare service platform the company makes a pre-established annual sum available to each member of staff, including supervisors and directors. This sum may be increased by staff members wishing to allocate all or part of their Performance Related Pay (PRP) to welfare. This choice is made directly through the welfare platform. Serravalle also offers an incentive for Performance Related Pay conversions, starting from a minimum conversion level. The bonus is added to the annual amount on the welfare platform.

The welfare portal and company intranet services are further supplemented by agreements with local and national retail networks from which staff can purchase goods and services at a discount and/or at special conditions.

The *welfare* plan also provides for supplementary healthcare service, which may be extended to one's spouse and children at the same conditions. The cost for this extension is borne by the member of staff.

The healthcare plan is supplemented by extraprofessional injury insurance coverage measures and the availability of 6 scholarships a year for staff children graduating from high school or university with excellent grades.

Staff members may also purchase annual public transport passes (ATM and Ferrovie Nord) through the company at special prices and conditions: the company pays the transport provider upfront whilst the staff member is charged the amount in instalments from his monthly payslip.

Currently, before the beginning of every school year, a "Children at the Office" day is organised, where the Company opens its doors to staff's children. In addition to visiting the offices and their parents' work desks, children take part in games and theme workshops. In the past two years, for example, the themes of road safety and environmental sustainability were chosen.

In order to raise staff awareness about more social issues, on International Women's Day (8 March) Serravalle organises a cultural visit to an historic place (e.g. the "Scala" theatre in Milano), whilst all staff take part in the International Day for the Elimination of Violence against Women (25 November): last year a red bench was installed at the Company's main entrance.

#### **AUTOSTRADA DEL BRENNERO SPA – HEALTH**

Over the last years Autostrada del Brennero S.p.A. has carried out two important preventative projects to safeguard the health of motorway users and its staff. With its first project the company installed a semi-automated external defibrillator (DESA) unit at each of its 22 service stations, at the Plessi Museum and at the Sadopre and Rovereto Parking Areas, specifically training a total of 365 persons between its own staff, that of the Road Police and that of service areas. This is a contribution towards tackling the approximately 60,000 annual deaths in Italy that are due to cardiac arrest. The objective of the second project is to help prevent obstructive sleep apnea syndrome (OSAS) through an early diagnosis campaign. The campaign specifically targeted at lorry drivers and those who most use company cars for work, since people suffering from OSAS are prone to dangerous daytime drowsiness.

### **AUTOSTRADA DEL BRENNERO SPA WELFARE AND FAMILY WORK HARMONISATION**

At Autostrada del Brennero S.p.A. people care is provided through focused initiatives to harmonise family and work life. Flexible working hours and scholarships for staff's children have been introduced.

In addition to implementing the measures provided for by work contracts, Autostrada del Brennero S.p.A. has, since 2009, proactively fostered its staff education, making available foreign language courses, computer courses, an e-learning platform, an experimental automated e-commerce locker system and a corporate book-crossing shop. In 2012 Autostrada del Brennero S.p.A. was awarded one of the first "Family Audit" certifications for a company in Trentino.

The aforesaid certification encourages cultural and organisational changes within companies, enabling organisations to adopt Human Resources policies aimed at the welfare of their staff and families.

### **AUTOSTRADA DEL BRENNERO SPA STAKEHOLDER ENGAGEMENT INITIATIVES**

In 2016 Autostrada del Brennero S.p.A. embarked on a sharing and cooperation journey with its stakeholders which culminated in the drafting of the first Sustainability Report. The aim of this ongoing journey is to keep a proactive approach with its many different interlocutors. At the time of drafting the second Sustainability Report, the Company continued carrying out interviews and hosting roundtables with the most affected parties. Discussion with external stakeholders such as the State Police, European project partners, road freight and travellers' trade associations, focuses especially on user safety, the environment and sustainable mobility issues. Such constant exchange also allows the Company to get the different parties involved in identifying possible areas for improvement.

Discussion with internal interest holders, especially its shareholders, is, for Autostrada del Brennero S.p.A., an occasion to identify the key issues that drive the implementation of its services, such as the adoption of state-of-the-art environmental technology and making environmentally and economically sustainable decisions. The Company is therefore constantly in touch with its internal stakeholders and gives the utmost importance to exchanges and consultations.



## **AUTOSTRADE PER L'ITALIA S.p.A. – CARING FOR PEOPLE**

In 2019 Autostrade per l'Italia S.p.A. channelled the attention of human resources towards initiatives concerning the health and welfare system, quality of life improvement and staff family support. In terms of health, mention should be made of insurance policies, free medical check-ups and offers encouraging staff and family to embrace the benefits of wellness and active lives.

In terms of other services, these include income support measures, family support schemes, incentive schemes for social and voluntary work and service customisable structured welfare plans. For families, specific innovative services have been introduced addressing life-work harmonisation, summer camps in Italy and abroad for staff's children, flexible working tools (which also help parenthood and post-maternity leave reinstatement), kindergartens for staff's children, personalised counselling in the event of reinstatement after long periods of absence (due to illness, maternity, etc.) and/or to improve the organisation's welfare, as well as the availability of special terms and conditions for elderly care.

### **4.2 | ECONOMIC IMPACTS ON LOCAL COMMUNITIES**

The creation and operating of a motorway infrastructure invariably generates environmental impacts which AISCAT's Associates minimise from the very first phases of design work, but may also generate significant positive impacts that trigger a development of local communities. Indeed, motorway connections can significantly improve the quality of life of communities, opening up new growth prospects and creating previously inexistent riches.

The value that AISCAT's Associates generate, and which is distributed between various stakeholder categories, can be quantified in economic terms. The most commonly used measurement standard for this quantification is the one proposed by the Social Group Balance (SGB), which allows us to calculate the Global Value Added generated by the company. The Global Value Added quantifies the economic effect that the business of AISCAT's Associates has on stakeholders directly involved in the companies' economic production activities and that take part in its distribution. Overall, in 2019, AISCAT Associates generated 2.4 billion euros of Global Value Added.

The SGB methodology entails calculating the Associates' total value of production, which amounted to 6.9 billion euros in 2019, almost all of which deriving from toll revenue. To provide a term of reference, and thus appreciate the magnitude of this value, one need only consider that Italy's GDP amounts to about 2,000 billion euros. Total intermediate production costs in 2019 amounted to 3.4 billion euros, most of which generated by the purchase of services, provisions and reserves and the consumption of raw materials, consumables and the purchase of goods.

Specifically, it is noted that the cost of services amount to 1.6 billion euros. Assuming an average annual staff member remuneration of 30,000 euros, one can conclude that AISCAT's contribution to the economic fabric is equal to the annual remuneration of more than 54,000 workers. Consequently, the gross characteristic value added amounts to 3.46 billion euros.

Finally, in order to calculate the global value added, one needs to take into consideration any extraordinary income and costs (which include financial income, write downs and impairments) and depreciation and amortisation charges which cumulatively amounted to 1.1 billion euros in 2019.

The Global Value Added that the Associates can distribute to stakeholders participating most directly in the companies' economic production activities therefore amounts to 2.4 billion euros.

<b>GLOBAL VALUE ADDED LINE ITEMS AND CALCULATION</b>	
Toll revenues	6.091.315.334
Revenue from construction work	175.768.028
Revenue from ordered work	11.743.152
Other revenue and proceeds	623.554.266
<b>TOTAL VALUE OF PRODUCTION</b>	<b>6.902.380.780</b>
Consumption of raw materials, consumables and cost of goods.	284.875.814
Cost of services	1.626.781.894
Cost of third work	16.195.018
Provisions and reserves	1.415.406.242
Other operating costs	98.292.017
<b>TOTAL INTERMEDIATE PRODUCTION COSTS</b>	<b>3.441.550.985</b>
<b>GROSS CHARACTERISTIC VALUE ADDED</b>	<b>3.460.829.794</b>
Extraordinary income and proceeds	137.470.521
Extraordinary costs and expenses	15.198.738
<b>GROSS GLOBAL VALUE ADDED</b>	<b>3.583.101.578</b>
Depreciation and amortisation charges	1.136.320.132
<b>GLOBAL VALUE ADDED</b>	<b>2.446.781.446</b>

The following table shows Global Value Added distribution details. The stakeholders who most benefitted from it were the Staff (943 million euros, or 39% of Global Value Added), followed by Public Administration which, through its income taxes, indirect taxes and contributions and other duties, enjoyed an overall 765 million euros (31% of the total). Credit remuneration (i.e. interest and other financial costs) amounted to 763 million (31%), whilst shareholders' risk capital was remunerated with 39 million euros (2%). The company's remuneration, represented by its profit (or loss) in 2019, net of distributed dividends, was a negative 64 million euros (-3%).

GLOBAL VALUE ADDED DISTRIBUTION DETAILS		
Staff remuneration	943.203.757	39%
Public Administration remuneration	765.242.454	31%
Credit capital remuneration	763.066.606	31%
Risk capital remuneration	39.046.666	2%
Company's remuneration	- 63.778.038	-3%
<b>TOTAL</b>	<b>2.446.781.445</b>	<b>100%</b>

### 4.3 | INNOVATION

In the motorway network sector innovation is not only necessary but essential for long-term value creation. For example, one of the initiatives AISCAT Associates are investing in is Smart Road: a new intelligent road concept aimed at enabling communication and inter-connection between transiting vehicles. Smart Road features include weather and traffic surveying systems that allow travellers to have real-time information on road and traffic conditions or on other situations and possibly receive alternative routes for their journeys. Innovation may also concern infrastructure changes and updates that facilitate technological changes on the vehicles that use them. Alternatively, innovation may concern the infrastructure itself, which, although retaining its primary function, may turn into a means to create environmental and social value. Other initiatives relate to efforts to keep an open line of communication with motorway users so as to better understand the causes of accident risk and timely intervene through risk mitigation actions.

## **AUTOVIE VENETE S.P.A AND CAV-CONCESSIONI AUTOSTRADALI VENETE 1 SPA. SELF-DRIVING / ASSISTED DRIVING**

### **C-Roads Italy**

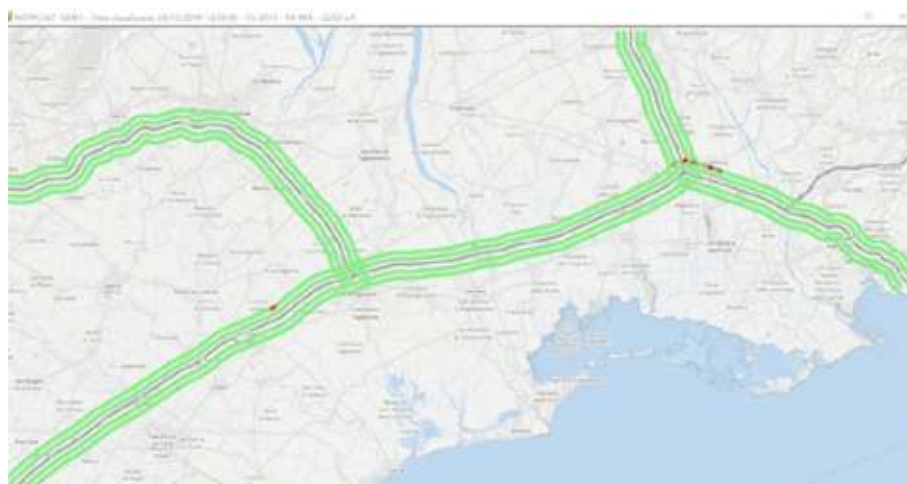
The project's objective is to develop road and telecommunication infrastructure aimed at creating a road that is connected to the vehicle (through ITS G5 systems), to provide self-driving services for heavy vehicles and assisted driving services for other vehicle types, integrating information coming from Traffic Control Centres with information coming from vehicles.

More specifically, the project's development concerns road worksite signalling services, on-board vehicle road, speed limit and recommended cruising speed signal repetition, V2V (Vehicle to Vehicle) signalling of approaching vehicles for emergency management and the signalling of traffic slowdowns and against-the-traffic-flow driving.

The work collaboration between the Ministry of Infrastructure and Transport, Nicom, Iveco, Fiat Research Centre Fiat, TIM, AZCom, the Polytechnic of Milan, the Road Police and two North East motorway concessionaire companies (Autostrada del Brennero S.p.A. and CAV-Concessioni Autostradali Venete S.p.A.) aims at testing the services along a road corridor bordering other European countries. This is because a high level of standardization will have to allow the aforesaid services to be applied across most EU countries. The objectives of the project are an improvement of the transport and traffic management system, better road safety, greater infrastructure capacity and traffic fluidity and decreased pollution through improved vehicle energy efficiency. The initiative is a pilot-project falling within the broader European development platform system and involves institutions as well as several international industrial, "automotive" and telecommunications partners.

## AUTOVIE VENETE 2 S.P.A. TRAFFIC FORECASTING MODEL NATIONAL RESEARCH COUNCIL (CNR) INSTITUTE FOR CALCULUS APPLICATION (IAC) REAL-TIME TRAFFIC MONITORING

2019 saw a continuation of the collaboration with CNR (The Italian National Research Council) on a project to develop an independently managed real-time traffic monitoring system of the motorway network. This system should be capable of running short-term traffic simulations and forecasts based on events and conditions along the motorway network. The project has developed a real-time forecasting model, based on an analysis of historical data, which can provide accurate traffic flow forecasts for up to about 30 minutes. It will take about 18 months to develop the forecast interface and its graphical interface. Among the input elements used for the forecasts there will be information provided by satellite system traces processed by QMap and Infoblu, which are used to analyse traffic events and conditions in real-time through a web graphic interface available on operator workstations and video walls.



## **THE PROJECT BETWEEN THE TRAFFIC OPERATING CENTRE (COV) OF AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. AND WAZE “CONNECTED CITIZENS”**

The “Connected Citizens” presentation (the international data and information exchange programme promoted by Waze which pools together administrations, institutions, transport companies, non-profit organisations and emergency and first aid services) triggered the integration project with the Traffic Operating Centre of Autostrada Brescia Verona Vicenza Padova S.p.A. Through Waze (a pioneer in social navigation) and its innovative community based traffic and navigation app, data from one of the largest driving community’s in the world were integrated with data from the Traffic Operating Centre (COV) of Autostrada Brescia Verona Vicenza Padova S.p.A. to increase client service and safety levels.

Real-time traffic information received from travellers via the app helps fine-tune information already collected from sensors and systems along stretches of the A4 Brescia-Padua and A31 Valdadastico, thereby providing a more accurate picture of the traffic situation. Waze app data feeds into the data of the Traffic Operating Centre providing travellers with continuous and accurate information. The purpose of all this information is to reduce traffic congestion by giving travellers the opportunity to make the best possible route decisions, thereby also improving road safety.



## **AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. BIM NEW TECHNOLOGY AND NEW SPECIALIST SKILLS FOR INFRASTRUCTURE DESIGNING**

Effective from 1 January 2019, the Italian Public Contracts Code has introduced a BIM (Building Information Model) mandatory works phase procedure. This infrastructure and building construction model contains information on the entire life cycle of a work, from its designing and construction right up to its demolition and dismantling. Autostrada Brescia Verona Vicenza Padova S.p.A. started adopting this methodology as early as 2017, thus becoming its pioneering agent in terms of experience and know-how. The use of BIM for infrastructure designing along the Brescia Verona Vicenza Padua motorway started with the new A31 North Valdadastico motorway. This was probably the first BIM project ever in Italy in terms of complexity and size. The experience demonstrated how the BIM methodology requires a new way of working, where maximum effectiveness is achieved by integrating and optimizing operational processes and collaboration between all operators along the production chain. This has led BIM to being used on all the most important new projects and construction works, regardless of their economic value or operating complexity.



### **CAV-CONCESSIONI AUTOSTRALI VENETE S.p.A.: THE COMPANY'S DIGITALISATION PROJECT: CONCESSIONI AUTOSTRADALI VENETE 2.0**

Concessioni Autostradali Venete S.p.A. will be the first fully digitalised motorway concessionaire. Its objective is to define a digital, coherent and integrated organisation, based on the use of innovative technology, within a scope of rationalisation and improved efficiency of all operating processes.

The project is in line with the motorway infrastructure modernisation and digitalisation mainstream effort promoted by the Ministry of Infrastructure and supported by the Public Works National Council, and involves transversal, technical, technological, legal and administrative skills.

CAV-CONCESSIONI AUTOSTRALI VENETE S.p.A. will operate the network and infrastructure through an integrated platform, which, based on a new organisation and operating system, will enable:

- To perform checks and inspections digitally.
- To monitor infrastructure conditions in real time using 4.0 technology;
- To monitor traffic and events through smart technologies (drones, sensors, totems, wearable devices) integrated with a SW to manage the integrated operating centre even on staff shift systems.

The project also entails a revision and integration of the management system to ensure that both the software platform and the system fully comply with ISO 9001, 14001, 39001, 27001, 45001 and SA8000.

### **AUTOSTRADA DEL BRENNERO S.p.A – EUROPEAN PROJECTS**

There are many technologically innovative European projects in the pipeline that are being followed closely by Autostrada del Brennero Spa. The aim of most of these projects is the implementation of self-driving connected with the motorway infrastructure. The following provides a brief summary:

- **C-Roads Italy**

This is a Connecting Europe Facility (CEF) European Programme Project based on the development of technologies and applications enabling an effective exchange of data and information between vehicles (V2V) or between infrastructure and vehicles (I2V) to create "Cooperative Intelligent Transport Services (C-ITS)" to improve safety.

The Brenner Motorway, the reference pilot, is equipped with the infrastructure required to ensure I2V communication <https://www.c-roads.eu>

- **Safe Strip (2017-2019)**

This is a Horizon 2020 European Programme Project working on the development a system of low cost-low energy consumption road surface integrated micro and nano sensors. Through state-of-the-art connectivity and technology these sensors enable information to be collected (such as road surface conditions, weather and environmental parameters, traffic data, etc.) that is needed to provide warning signals to vehicle drivers through I2V communication <https://safestrip.eu>

- **ICT4CART (2018-2021)**

This is a Horizon 2020 European Programme Project aimed at developing ICT (Information Communication Technology i.e. technology to handle and exchange digital information) that ensures that connected and self-driving vehicles have safe connections and are able to share data with the surrounding environment. The objective is to implement “smart” mobility of transport based on fully automated automation and connection. <https://www.ict4cart.eu>

- **5G-Carmen (2018-2021)**

This is a Horizon 2020 European Programme Project aimed at assessing the potential of 5G technology for the implementation of connected and self-driving vehicles. The project will concern a road stretch of 600 Km along the “Munich-Bologna corridor”, identified by the EU as one of the most important stretches requiring improvement for people and goods mobility across Europe. <https://5gcarmen.eu>

- **Ursa Major neo (2017-2020)**

This is a Connecting Europe Facility (CEF) European Programme Project which looks at Intelligent Transport Systems (ITS) to improve international freight along the Trans-European TEN-T network. Through a careful and constant monitoring of heavy-vehicle flows, the objective of the project is to improve services for freight vehicles, such as: lorry and truck parking spaces, port access, availability of information while traveling and journey safety. <https://ursamajor.its-platform.eu>

## **MILANO SERRAVALLE-MILANO TANGENZIALI S.P.A. THE PADERNO DUGNANO SOUND TUNNEL**

The Company is carrying out improvement works on the S.P.46 Rho-Monza Provincial Road and on the A52 Northern Bypass Road of Baranzate (lots 1 and 2), a work that will connect the Northern Bypass Road with traffic flowing to the Rho-Pero fair hub, thereby completing the bypass road system around the city of Milano.

Within the scope of these works the construction of a sound tunnel is planned in Paderno Dugnano, situated along the main project axis between km 1+460.360 (Monza) and 1+721.46 (Rho). The overall length of the tunnel will be 260 m.

The work entails covering the motorway (essentially for noise purposes) along certain residential areas of Paderno Dugnano. The road stretch is mostly straight, with variable transversal sections due to enlargements required by the road design. The road section also features a ledge held up by support walls on both sides with 7.50 m high vertical façades.

The support structure is characterised by metallic elements having a polycentric shape and installed orthogonally to the road axis. It consists of 32 “H calandered composite type” HEB 600 or HEB 650 profile sheets, with a variable overall length of between 29.1 m and 32.6 m and a typical pitch length of 9.00 m, anchored to the top of the support structures. Orthogonally to these elements, secondary metallic girders (HEB 240 for the “walls” and HEA 240 for the “roofing”) are positioned, on which glass sheets and “caïman® type” external covering of the sidewalls are laid. The sidewalls are made of steel and are held in position by a metallic frame.

The shell of the tunnel consists of two distinct parts: a transparent roof made of glass and non-transparent sidewalls made of soundproof panels. The transparent roof is made of rectangular-plane stratified glass sheets measuring 1.50 x 2.00 and 1.50 x 400 metres, connected by means of a support spider, and PMMA acrylic glass sheets at the ridge of the tunnel to allow for a quick discharge of fumes in the event of fire.

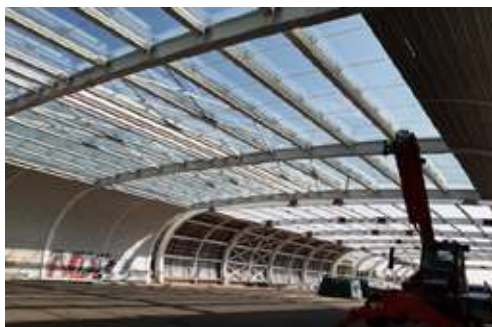
The walls of the tunnel, starting from the base of the tunnel right up to the maintenance platform, are built according to traditional soundproof panelling with vertical calendered support structures positioned at 4.5 m pitches and metal-frame rock-wool filled soundproof panels.

The surface of the panels facing the road have holes in them that ensure their sound-absorbing properties. Additionally, a covering on the external side (towards the receptors) is provided for with "Caiman®" type shingle sheets. This external side covering increases the overall sound absorption capacity of the wall but also has an architectonic function.

The installation of photovoltaic modules (having a height of about 5 metres and running along the entire longitudinal stretch of the tunnel) is planned on the higher part of the tunnel's southern wall.



Project: Inner tunnel rendering



Construction: main and secondary structures, sound walls.



Construction: overview

## CORPORATE GOVERNANCE

Corporate governance steers companies towards their objectives and is a key component in the approach to sustainability. All AISCAT Associates have a Supervisory Board in accordance with Italian Legislative Decree 231/2001. The Supervisory Board plays a fundamental role in promoting ethical behaviour and preventing the perpetration of unlawful acts. Almost all AISCAT Associates (94%) have anti-corruption procedures in place, and 74% of Associates adopt supplier selection procedures that adhere to sustainability criteria in place (Environmental Social Governance). This is fundamental because it allows Associates to contribute towards the sustainability effort also within the scope of their supply chain.

### HUMAN RESOURCES HEALTH AND SAFETY - CORE INDICATORS

INDICATOR	2019	2018	2017
Existence of a Supervisory Board (pursuant to Leg. D. 231/01)	100%	100%	100%
Existence of Anti-Corruption procedures	94%	94%	94%
Existence of ESG criteria Supplier Selection procedures	74%	74%	74%

### AUTOSTRADA BRESCIA VERONA VICENZA PADOVA S.P.A. WHISTLEBLOWING

For the A4 Holding Group, the *Whistleblowing* signalling channel was introduced to promote compliance with the Group's Code of Ethics and its rules and regulations. The channel is a safe two-way communication platform that promotes collaboration between the Ethics Committee and any member of staff, collaborator, supplier or other party who has had or intends to have a business relationship with the Company and wants to report a fact or make a request for the purpose of protecting the Company's ethical culture.

The *whistleblowing* platform was implemented to allow staff and stakeholders to warn about and report offences, crimes, unlawful activity or irregularities they have come to learn of and for which they fear they might suffer retaliation or discrimination, in total anonymity.

Only members of the Ethics Committee have exclusive access to the channel, handling warnings and requests so that they may be safely documented from the moment they are sent until the moment they are settled.

## METHODOLOGY

This Sustainability Report gives a picture of the environmental and social performance of AISCAT Associates for the year ending 31.12.2019. Unless otherwise stated, all information should be understood to refer to 31.12.2019.

This Sustainability Report was drafted by AISCAT management with the contribution of a Work Group consisting of representatives of the association and its Associates. The international standards of reference used in this report are the Sustainability Accounting Standard Board (SASB) and the Global Reporting Initiative (GRI). SASB guidelines, especially those relating to the “engineering and construction services” sector, were used to objectively identify the most relevant issues to address. Among these, SASB identifies the following: structural integrity and safety, workforce health and safety and business ethics. Identification of the relevant issues also benefitted from benchmark analyses carried out on several pioneering European concessionaires in terms of accounting and sustainability. In this regard, it must be noted that AISCAT is the first national association to have drafted a sustainability report. After having identified the relevant issues, appropriate indicators for them were identified (also on the basis of standards issued by the Global Reporting Initiative) and their calculation data was collected. In 2019, AISCAT Associates operated an overall motorway network of 5,005 km. In drafting this Sustainability Report data was successfully collected for 4,396 km (88%) of the AISCAT network, and then parameterised to 100% of it. Data relating to years prior to 2019 were made comparable by correlating the kilometres of network operated in 2019 to those operated in previous 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 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 enables the toll fee to be charged to a credit card.

**Construction work (work):** bridges, viaduct/flyovers, tunnels

**Scope 1 (CO<sub>2</sub> emissions):** Direct emissions (Scope 1) are generated directly the Associates (e.g.: office and other work site heating).

**Scope 2 (CO<sub>2</sub> emissions):** Indirect emissions (Scope 2) are indirectly generated by the activities the Associates. These include, for example, C<sub>o2</sub> emissions resulting from the use of electricity for tunnel lighting or ventilation purposes.

**Scope 3 (CO<sub>2</sub> emissions):** Other emissions (Scope 3) are the outcome of the activities of the Associates, but the sources of which are not owned or controlled by the Associates. These include, for example, additional emissions due to motorway congestions, fugitive methane emissions, emissions connected with the purchase and transportation of raw materials and emissions connected with product waste disposal.

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

**Tunnel:** a roughly horizontal perforation of high ground soil that puts two points into communication.

**Environmentally significant expenses and investments:** relate to activities carried out by Associates 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).













ASSOCIAZIONE ITALIANA  
SOCIETÀ CONCESSIONARIE  
AUTOSTRADE E TRAFORI