

TRAFICOM
Finnish Transport and Communications Agency

Traficom's year 2022



Table of contents

Management review	3
Reliable transport and communications connections and services	5
The transport system is developed collaboratively	5
Nationwide internet access	6
The transformation of the transport market	7
Towards transport automation	7
Accelerating the development of communications services	7
Traficom's online services are being reformed	7
Trust in the safety of transport and information society	8
Cyber attacks have increased across the globe	9
Practical assistance for improving cyber security	10
Developing traffic safety	10
Reliable wireless communications networks	12
For cleaner transport	13
Sustainable mobility reduces emissions	14
Electric aviation being looked into	14
Environmental efforts in transport and communications	14
Approximately EUR 300 million in government support	15
Development of personnel competence and operations	17
Our staff in figures	18
Traficom in figures	19
Our services in figures	20

Management review

During the past year, we stabilised our operating methods, continued to clarify our decision-making and developed our internal operations in a systematic manner. Although the year was challenging, we managed to achieve nearly all of our performance targets.

Traficom is a responsible and dynamic expert organisation for transport and communications. Our tasks are to

- ensure the availability of reliable, safe, secure and reasonably-priced connections and services
- anticipate changes and produce information and data to support decision-making and consumer choices
- support the sustainable development of Finland's information society and transport system
- support experimentation and the creation of innovative services
- serve as a licencing, register and supervisory authority.

Global political situation

The Russian invasion of Ukraine had impacts on Finland's transport system and traffic flows, the ways in which the resilience of communi-

cations networks is managed and the ensuring of reliable and secure digital services in 2022. The war in Ukraine also re-emphasised the importance of common situational awareness and understanding. The year also saw the establishment of a cross-administrative cooperation group on resilience and preparedness, the work of which is headed by Traficom.

Cyber security threat level high

During the past year, the threat level of cyber security rose higher than it has ever been before. As a result, we also significantly developed our capacity to produce situational awareness of and analyse cyber security in cooperation with our stakeholders.

The war in Ukraine has caused cyber security incidents to grow more severe and targeted. Even in Finland, the everyday lives of citizens and the everyday operations of organisations have been impacted by scams, denial-of-service attacks, malware, phishing and ransomware attacks targeting the ICT environments of organisations.

In 2022, we expanded our technical detection capabilities and developed our capacity to provide support to organisations affected by major cyber incidents. The National Emergency Supply Agency serves as one of Traficom's most notable partners in the development of the resilience of organisations critical to security of supply. The processing of information security incidents and



” We ensure the availability of reliable, safe, secure and reasonably-priced connections and services.

support provided to citizens by the National Cyber Security Centre Finland (NCSC-FI) operating under Traficom provide significant benefits to Finnish society each year.

Transport system analysis to support decision-making

Together with our stakeholders, we produce strategic situational awareness and analysis of the transport system and its development needs to support decision-making.

Our June 2022 transport system analysis included a summary assessment of the impacts of the current global situation on Finland's transport system. The analysis covers, among other things, changes in cross-border traffic to and from Russia caused by the war in Ukraine and its effects on traffic flows.

Discretionary government grants help secure services and protect the environment

In 2022, we granted approximately EUR 300 million of government support, which has far-reaching impacts on Finnish society.

According to impact assessments, the government funding of public transport services is effective, as it ensures a sufficient level of basic public transport services outside urban areas and increases the share of sustainable modes of transport. Furthermore, the allocation of climate-based government funding contributes to the reduction of the carbon dioxide emissions generated by bus traffic and other public transport services by accelerating the deployment of clean vehicles and new fuels.

The importance of having access to fast and secure communications connections is constantly increasing and only further emphasised in various crises. Meeting the connectivity needs of Finnish households and companies requires not only mobile network connec-

tions, but also optical fibre, which has the required speed and quality for decades to come. Through broadband aid, we facilitate the building of optical fibre networks in the sparsely populated areas of Finland as well.

Support for reducing transport emissions

In 2022, we continued to grant conversion and purchase subsidies for low-emission vehicles. The subsidy scheme was expanded to also cover electric and gas-powered vans and lorries as of the beginning of 2022. Facilitating the reduction of transport emissions is one of our key tasks in accordance with Finland's Roadmap to fossil-free transport. The aim is to halve transport emissions by 2030 from 2005 levels and to reduce emissions to zero by 2045.

In addition, we granted approximately EUR 25 million in discretionary government grants for the promotion of walking and cycling to approximately 80 projects in 2022. The aim of increasing everyday walking and cycling is to reduce transport emissions.

Developing more flexible operating culture and working methods

In early 2022, we drew up a human resources strategy based on our values – trust, coop-

eration and capacity for renewal. During the year, we continued to develop an interactive operating culture and launched a coaching programme for supervisors to strengthen our coaching-oriented approach to work. In August 2022, our head office moved from Vallila, Helsinki, to the Pasila Office Centre (Pasilan Virastokeskus). Following the lifting of COVID-19 restrictions, we adopted a flexible multi-location working approach.

Active stakeholder cooperation and international advocacy

In addition to engaging in national cooperation, Traficom continued its international advocacy for the interests of Finland in 2022. The development of environmental regulation and security, in particular, progressed well at the EU level and in international organisations. In addition to this, we also advocated for the human-centred utilisation of new technologies and the promotion of innovations.

During 2022, the importance of extensive cooperation and continuous dialogue was even more concretely highlighted than in previous years. Together, we will succeed in taking care of Finland in future as well.

Kirsi Karlamaa
Director-General

Reliable transport and communications connections and services

The transport system is developed collaboratively

Finland's National Transport System Plan covers all modes of transport of passengers and goods, the transport networks, services and the transport system's support measures. The plan takes into account the environmental issues of future transport, social and economic sustainability objectives and sufficient accessibility for individuals and businesses.

During the year, we participated in regional transport system planning as an expert on transport services, the functioning of the market, the utilisation of data and the promotion of automation, in particular.

Traficom collects and analyses data to support decision-making in cooperation with the administrative branch of transport and communications and regional actors. We publish regular transport system analyses, which we expanded in 2022 to also include situational pictures of road safety, transport automation and the environment. In 2022, we also drew up new national transport forecasts for road, rail and maritime transport volumes.

We also published a new Finnish National Travel Survey, which collects basic data on mo-

bility in Finland. The COVID-19 pandemic had notable impacts on mobility in Finland in terms of the numbers and lengths of journeys. The impact of increased remote work on total mobility was small.

In 2022, Traficom also defined a review framework for the international accessibility of Finland. The assessment of international accessibility has become increasingly topical due to the changing global political situation.



Nationwide internet access

The importance of having access to fast and secure communications connections is constantly increasing and only further emphasised in various crises. Finland has comprehensive mobile networks, but households and companies also need optical fibre, which can provide the kind of speeds and quality required in the future as well. That being said, there are still many areas in Finland where the number of customers is too low to make the building of optical fibre connections commercially viable. Because of this, Traficom grants government support for the building of optical fibre connections to provide reliable internet access throughout Finland.

In February 2022, we launched a new broadband aid programme when the Act on Broadband Construction Aid entered into force. Over the course of the year, we conducted over 80 market analyses on the eligibility for aid of project areas. At the end of 2022, we issued the first aid decisions to network builders selected through competitive tendering procedures organised by regional councils.

Our increasingly digital society is becoming more and more reliant on wireless connectivity. Based on international comparisons, Finland is a major consumer of mobile connections. In recognition of this, we support the fast connections required by Finnish society by promoting the building of communications networks based on 5G technology. Together with the Ministry of Transport and Communications, we are also working to ensure that Finland is a leading country in 6G development as well.



The transformation of the transport market

The transport market is transforming both in Finland and globally, with new mobility services also improving the usability of existing services. Together with transport sector operators, we are building a transport market where data can be leveraged to create new and comprehensive transport services for consumers.

In spring 2022, we collected for the first time data on the demand and supply of passenger transport mobility services and the prices of taxi services. The collected data will serve as a basis for public discussion and decision-making.

Towards transport automation

It is Finland's aim to be one of the pioneers of transport automation, which is why the Finnish Government has issued a resolution on promoting transport automation to guide the automation development to meet people's needs in a sustainable and safe manner. Traficom contributes to this development by facilitating experimentation that allows transport and communications operators to develop new business and services. In addition to this, we also guide the automation projects of cities and municipalities by providing advice to

parties planning experiments and issuing permits for them.

We also organise events to promote the exchange of information between the Government, cities, municipalities and private operators. In addition, we influence transport regulation so that automation solutions can be used safely in the future as part of the transport system.

Accelerating the development of communications services

We analyse, regulate and supervise the telecommunications and media markets in Finland. We monitor the development of the communications market by collecting and publishing market information produced by telecommunications operators, for example.

We guide telecommunications operators in contractual matters related to consumer telephone and broadband services. A new service that became mandatory in 2022 allows consumers to check the end date of their fixed-term mobile subscriptions via SMS. We also ensure that telecommunications operators comply with the terms of their network licences. In 2022, we obligated mobile network operators to supplement the road coverage of the mobile network in the northern parts of the Sámi Homeland in accordance with the terms of their licences.

We promote the operational preconditions of television and radio broadcasters for the benefit of consumers. The technological transition to high-definition broadcasting in terrestrial television broadcasting (DVB-T2) continued in 2022.

We promote the accessibility of audio-visual services. During 2022, we collected action plans for promoting the accessibility of services from audio-visual content service providers, the implementation of which we will also monitor.

Traficom's online services are being reformed

In 2022, we developed the usability, accessibility and appearance of Traficom's own e-services. Examples of updated services include the parking card for people with reduced mobility and high-volume services related to the viewing of register information, registration and taxation of vehicles. In addition to this, we improved e-services related to purchase subsidies, such as the purchase subsidy for fully electric cars. We also raised public awareness of Traficom's e-services through campaigns.

Trust in the safety of transport and information society

The global political situation has been reflected in Finland's transport system and traffic flows, the ways in which the resilience of communications networks is managed and the ensuring of reliable and secure digital services.

During 2022, preparations also had to be made for potential electricity scarcity, restrictions on electricity distribution during the winter season and power outages that, if realised, would also affect communications services.

The war in Ukraine gave rise to new potential scenarios, and the priorities of preparedness were adjusted to align with the updated threat assessment. The year also saw the establishment of a new cross-administrative cooperation group on resilience and preparedness, the work of which is headed by Traficom.



Cyber attacks have increased across the globe

Finland has a long tradition of promoting cyber security in a cross-sectoral manner. The changed global political situation further emphasises the importance of organisations' and companies' preparedness and protection against cyber threats. The NCSC-FI, which operates under Traficom, plays a major role in these efforts. We monitor and analyse digital society and cyber security phenomena and help companies and authorities prepare for the future.

Cyber attacks increased across the globe during 2022. As regards cyber attacks against organisations operating in Finland, there was a clear increase especially in malware attacks, phishing and denial-of-service attacks in 2022. Attacks have also become increasingly targeted.

Following the start of the war in Ukraine, we communicated via various channels that cyber threats could potentially increase. For example, the number of recorded malware incidents that paralysed information systems

related to functions critical to Finnish society was two in 2021, whereas in 2022 the number of recorded incidents rose to 15. The NCSC-FI supported the affected organisations in their recovery efforts.

In 2022, the number of verified information security incidents recorded was approximately 13,000, in addition to which there were about 190,000 automatic reports on information security incidents. However, we did not detect any major cyber incidents with widespread impacts on Finnish society as a whole in 2022.

In 2022, the NCSC-FI also carried out assessments on a number of information systems used to process classified information critical to the security of Finnish society. We also improved the scalability of our technical detection capabilities in order to be able to serve a broader range of operators critical to Finnish society.

” We help companies and authorities prepare for the future.



Practical assistance for improving cyber security

In October 2022, the Finnish Government issued a decision on fixed-term support for the development of information security intended for companies critical to security of supply, i.e. the information security voucher. The purpose of the support is to raise the level of information security of these companies and thus improve Finland's overall resilience against cyber security threats. In just a few days, we received more support applications than there was funding available for it.

We create methods to support the development of organisations' cyber security. Our Kybermittari (Cybermeter) tool helps organisations assess their level of cyber security, providing management with a means to assess critical functions, processes and dependencies. Kybermittari has already been utilised by a large number of organisations, and assessments using it are underway in several sectors.

In 2022, we published instructions for strengthening cyber security at Finnish organisations aimed at management and experts. In addition to being targeted directly, organisations can also fall victim to cyber attacks through their subcontractors, partners or customers. Because of this, organisations should take cyber security into account comprehensively as part of their risk and continuity

management. The instructions provide support for doing just that.

The Finnish Cybersecurity Label is the world's first information security label issued by a public authority to consumer smart devices and applications. The label serves as an indication that the product bearing it meets the information security requirements set by Traficom, which are based on a standard issued by European Standards Organisation ETSI. As such, the label communicates to consumers that they can trust in the manufacturer of the product to take their responsibilities related to the protection of customer data seriously. In future, the international cooperation between authorities related to the Finnish Cybersecurity Label will make it easier for Finnish companies to sell their secure smart devices on the international market.

HAVARO is a service that helps detect serious information security threats and issues alerts. It is aimed particularly at companies critical to security of supply and central government. In 2022, the service model changed from a government service to a service jointly provided by commercial operators and the NCSC-FI.

In 2022, we published a report on the security threat of AI-enabled cyberattacks in collaboration with the National Emergency Supply Agency. Artificial intelligence (AI) and different kinds of machine learning models can improve the cyber security monitoring of organisations, but they can also enable new attack methods.

Developing traffic safety

Promoting traffic safety is one of Traficom's key tasks. In 2022, the Ministry of Transport and Communications published Finland's new Traffic Safety Strategy, which will steer future traffic safety development. According to the Zero Vision of the Strategy, by 2050 nobody shall die or be seriously injured in traffic, regardless of the mode of transport.

We influence the safety of different modes of transport by carrying out our statutory duties related to driver training, qualifications, market surveillance and licences, for example. We also develop traffic safety in cooperation with other organisations and authorities.

Finland's new micromobility network commenced operation in 2022. The network is tasked with collecting and exchanging up-to-date traffic safety data and identifying ways to improve road safety. In 2022, the network focused on the traffic safety of electric scooters.

During 2022, we distributed EUR 1.2 million in government grants for projects to municipalities and other operators for the development of traffic safety and related experimentation.

Finland's reformed Driving Licence Act entered into force on 1 July 2018, changing the driving instruction provided for light vehicle categories and related examinations. In 2022, the positive development of road safety continued, with accidents resulting in personal injuries decreasing in all age groups.

The Finnish Aviation Safety Programme, which was updated in 2022, includes measures for strengthening the performance and sustainability of Finnish aviation and keeping risks under control. The key focus areas of the updated programme include improving cyber security and resilience in the aviation industry.

The war in Ukraine has had an exceptionally major impact on aviation as a result of the flight routes of air services to and from Asia becoming longer and decreasing in number. Aviation authorities and operators were also kept busy by various sanctions, restrictions, cyber security issues and risk management related to the airspace of conflict zones and nearby areas.

In 2022, the laser interference of aeroplanes and helicopters presented a serious threat to air transport. During the year, we also received an exceptionally large number of reports of GPS disruptions and GPS signal loss from aircraft.

Despite these developments, aviation has remained safe. Incidents affecting aviation are monitored and processed by international aviation organisations.

A new EU regulation harmonising drone operation throughout the EU entered into effect at the start of 2021. According to the new regulation, drone users are required to register as drone operators, familiarise themselves with the rules of flying a drone and, in most cases, pass an examination.

The state of railway safety in Finland remains good and passenger safety in particular is at an excellent level. We contribute actively to the development of railway safety, cyber security and regulation at both the national and international level. As regards cyber security, our aim is to increase the awareness of rail transport operators about cyber threats and vulnerabilities and to provide information and tools for developing the management of cyber security.

The state of maritime safety in Finland can be considered stable and good. The number of accidents in 2022 decreased slightly compared to previous years.



Reliable wireless communications networks

Finland's digitalising society relies heavily on the use of wireless communications networks in all sectors. We are responsible for ensuring the disruption-free operation of wireless communications networks through frequency planning, investigating radio interference and monitoring the availability of frequencies. In 2022, we allocated radio frequencies for back-up connections and systems that safeguard functions important to businesses and public authorities.

The radio frequencies of communications networks critical to the functioning of society serve as a foundation that needs to operate reliably both in the event of disruptions during normal conditions and during exceptional circumstances. During the year, we engaged in cooperation with other authorities to develop this reliability. Critical infrastructure companies have also developed their own preparedness independently.

” We improved the reliability of communications networks critical to society.



For cleaner transport

In 2022, we continued to grant conversion and purchases subsidies for low-emission vehicles. The purpose of these subsidies is to encourage households and businesses to switch from vehicles powered by fossil fuels to ones powered by alternative fuels. The subsidy scheme was expanded to also cover electric and gas-powered vans and lorries as of the beginning of 2022.

During the year, we prepared a report on the current state of Finland's public electric vehicle charging infrastructure to support the development of national distribution infrastructure. According to the report, more than one in three new passenger cars were powered by new fuels in 2022.

Sustainable mobility reduces emissions

One part of environmental goals is to increase walking and cycling to reduce transport emissions and improve the functioning of the transport system. Doing so will also improve the pleasantness and safety of urban environments and have a positive impact on public health. In 2022, we granted over EUR 25 million in discretionary government grants to approximately 80 projects for the promotion of walking and cycling.

Electric aviation being looked into

Electric aviation is a viable alternative for the small passenger volumes in Finland in the future. In 2022, we commissioned a report on the potential and boundary conditions of electric aviation in Finland. According to the report, the future demand for electric aviation will be driven primarily by industrial and tourism needs, and it is estimated to become more commonplace in the 2030s.

” Electric aviation is estimated to become more commonplace in the 2030s.

Environmental efforts in transport and communications

The international environmental regulation of the maritime sector is carried out by the International Maritime Organization (IMO). Traficom plays an important role in this regulatory work, in which the aim is to develop technical and operational solutions to reduce the harmful environmental impacts of ships. In 2022, we advocated actively for the promotion of cleaner seafaring and for taking the special characteristics of winter navigation into account in decisions concerning greenhouse gas emissions targets.

In 2022, we published the first pilot study on the energy consumption of communications networks in Finland. The energy efficiency of communications networks is important for electricity consumption, as the energy consumption of networks is estimated to account for approximately one quarter of the total carbon footprint of the ICT sector. The information and communications technology sector produces solutions that promote emission reduction, but attention must also be paid to the sector's own carbon footprint and other environmental impacts.



Approximately EUR 300 million in government support

In 2022, we continued to grant government support and grants intended to support mobility, transport and reliable network connections and to help Finland achieve its emissions targets.

During the year, we granted over EUR 20 million of support to drivers to reduce transport emissions. This support consisted of purchase subsidies for the purchase of electric passenger cars, electric or gas-powered vans and electric or gas-powered lorries and conversion subsidies for converting passenger cars to run on ethanol or gas.

During the year, we also granted over EUR 25 million in government grants to promote walking and cycling:

- a total of EUR 24 million to 63 projects through the investment programme for walking and cycling for building high-quality and safe pedestrian and cycling infrastructure as part of the municipal street networks, including transport nodes, such as park-and-ride facilities for bicycles
- EUR 500,000 to a total of 16 projects for the preparation of municipal and regional programmes promoting walking and cycling
- approximately EUR 200,000 to cycling associations Pyöräilykuntien verkosto ry and Pyöräiliitto ry for the operation of the Finnish

Center for Cycling Tourism and for projects of a programme on agile pedestrian and cycling pilots (in Finnish, 'Jalankulun ja pyöräliikenteen nopeat kokeilut').

In 2022, Finland subsidised scheduled air services with EUR 17.6 million. To this end we organised a tendering procedure for scheduled air services for the routes Helsinki-Joensuu, Helsinki-Jyväskylä, Helsinki-Kajaani and the triangular route between the Helsinki, Kokkola-Pietarsaari and Kemi-Tornio airports. The scheduled air services were commenced in late 2022.

In 2022, we granted a total of approximately EUR 114 million in government grants for public transport and mobility management.

We granted approximately EUR 20.7 million of basic funding and EUR 19.2 million of climate-based funding to large and medium-sized urban areas for public transport. Through supplementary budgets, we also granted a total of EUR 65.5 million in additional grants to urban areas to compensate for 50% of the loss of ticket sales revenues resulting from the COVID-19 pandemic. The aim of these grants is to ensure and improve the service level and accelerate development.

For mobility management, we granted a total of EUR 1.2 million in government support to municipalities, joint municipal authorities and non-profit organisations for 35 projects across Finland. The supported projects focused on themes such as the mobility management of workplaces and the promotion of sustainable travel chains.

We supported the planning and construction of urban rail transport with EUR 10.5 million. Of this amount, EUR 460,000 was allocated for the general planning of the Tampere Tram and approximately EUR 1.8 million was allocated for the planning of Vantaa Light Rail. In addition, we granted a total of EUR 8.3 million for the construction of the Hatanpää extension and second phase of the Tampere Tram.

We granted a total of EUR 8.4 million in general grants to the Finnish Road Safety Council and the Finnish Crash Data Institute for statutory traffic safety duties and to the Government

” We support sustainable mobility, transport and network connections.

of Åland for traffic safety work. The themes of the project grants for the safety of road traffic in 2022 were the road safety of young people, the mobility of older people and the safety of commuting. The annual appropriation for project grants has been approximately EUR 200,000.

We granted approximately EUR 76 million in support for crew costs in seafaring. The aim is to secure the international competitiveness of cargo and passenger ships and the security of supply of Finland. We granted approximately EUR 13 million in support to shipping companies. The aim of this support was to secure sufficient maritime transport connections for security of supply, industrial transport needs and passenger transport during the COVID-19 pandemic. The support was used to maintain the most important transport connections for Finland's exports and imports and to secure transport connections between the Åland Islands, Mainland Finland and Sweden.

Between 2011 and 2019, Finland granted a total of EUR 76.6 million of government support for the construction of optical fibre networks. The broadband aid programme has contributed significantly to the construction of optical fibre networks in the sparsely populated areas of Finland. By the end of 2022, a total of EUR 59.9 million of the support had been paid out, of which EUR 3 million was paid out in 2022. In early 2022, Finland launched a new broadband aid programme, for which an appropriation of EUR 32 million has been reserved from the EU Recovery and Resilience Facility (RRF) for the period of 2022–2023.



Development of personnel competence and operations

In 2022, we stabilised our operating methods, continued to clarify our decision-making and roles and developed our internal operations.

In August, Traficom's head office moved to the Pasila Office Centre (Pasilan Virastokeskus). In cooperation with our staff, we defined new operating methods for the activity-based office facilities.

We continued to develop an interactive operating culture. We increased dialogue between the Agency's management and staff by organising discussion sessions with management for everyone and Q&A sessions focusing on topical themes for supervisors. Early in the year, we also launched a coaching programme for supervisors to strengthen our coaching-oriented approach to work.

We improved the monitoring of staff well-being at work by developing our Fiilismittari surveys. These surveys serve as an important feedback channel for developing operations and workplace wellbeing.

According to the VMBaro job satisfaction survey, job satisfaction at Traficom improved in all areas: the overall job satisfaction index was 3.66 (scale 1–5), compared to 3.52 in 2021.

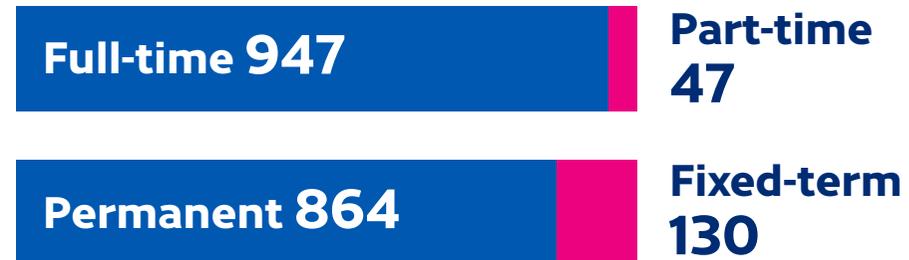
Our staff in figures



Workplace wellbeing

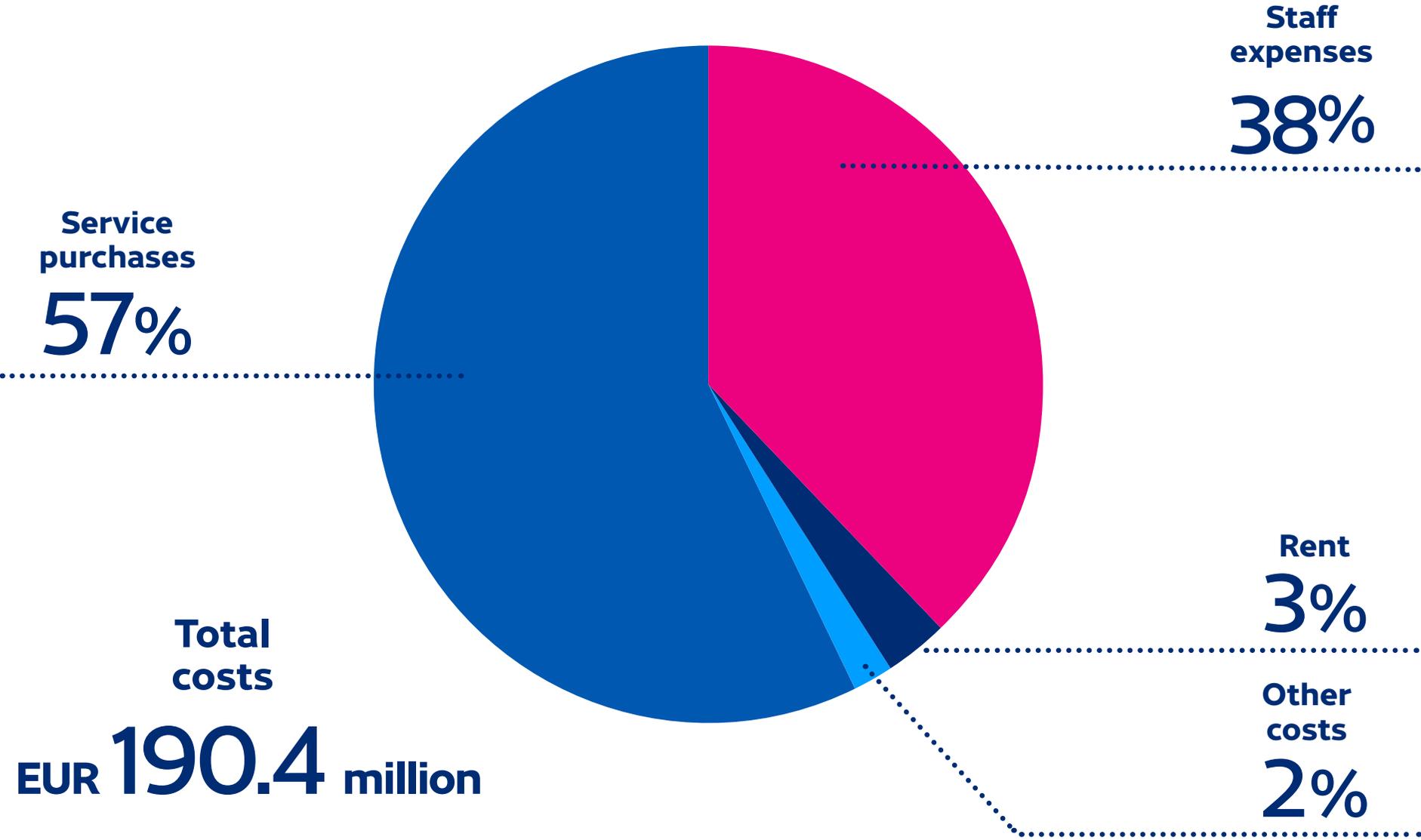
Job satisfaction index	3.66
Sickness absences	8.0 days/person year
Average age	46.4
Women.....	46.1
Men.....	47.7

Person years **942.6**



Traficom in figures

The Agency's realised costs in 2022



Our services in figures

• Data units transferred	827 million	• Commissioned vehicles	5.2 million
• Advisory events	580,000	• Driving licences	3.8 million
• E-services transactions	9.2 million	• Vehicle registrations	5.5 million
• Automatically processed information security incidents	189,000	• Approved road construction plans	64
• Information security cases requiring investigation and assistance	18,000	• Aircraft	1,447
• Fi domain names	540,000	• Railway rolling stock	10,800
• Kilometres of broadband built	27,000	• Train driving licences	2,200
• Driving examinations completed	101,527	• Electronic nautical charts on ships	5,300
• Aviation licences	7,160	• Printed nautical charts sold	10,355
• Maritime qualifications	4,800	• Sea areas covered by full-coverage surveys	73%
• Frequency assignments for radio licences	114,000	• Merchant ships	1,242

” We also function as a licence, registration and supervisory authority.



**Finnish Transport and
Communications Agency Traficom**

PO Box 320, 00059 TRAFICOM
tel. 029 534 5000

[traficom.fi](https://www.traficom.fi)

Traficom Publications 11/2023
ISBN 978-952-311-853-9
ISSN 2669-8757 (e-publication)

TRAFICOM
Finnish Transport and Communications Agency
National Cyber Security Centre