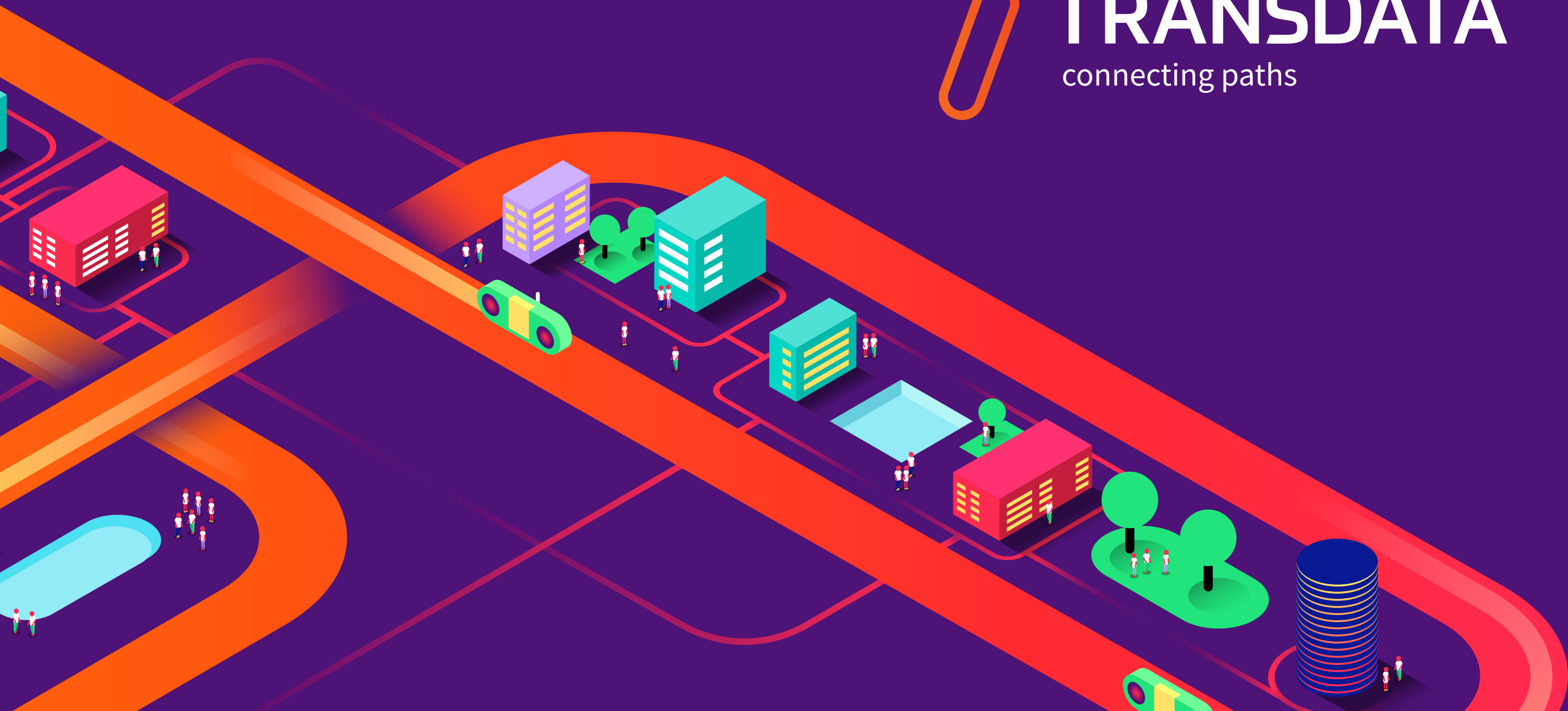




TRANSDATA

connecting paths





Let's create ways to expand mobility together?



That's our purpose. Transdata aims to create new paths for urban mobility through creative and innovative ideas and solutions.

Wherever there are people talking about connectivity and smart cities in search of technological innovations that optimize transportation and automated fare collection, Transdata will be there. We employ our knowledge, structure, and widespread experience to expand mobility and take convenience, security, and quality of life to everyone.

Not only have passengers' necessities have changed but also the way in which they interact with modes of transport. We must evolve and keep up with these transformations. For more than 25 years, Transdata operates in a precise and collaborative manner with transit operators and authorities through modern and integrated solutions that streamline passengers' day to day lives and greatly improve the efficiency of transport system management.





+25 years
of experience



+600
projects



+400
cities



30 million
transactions/day



+25,000
buses in operation

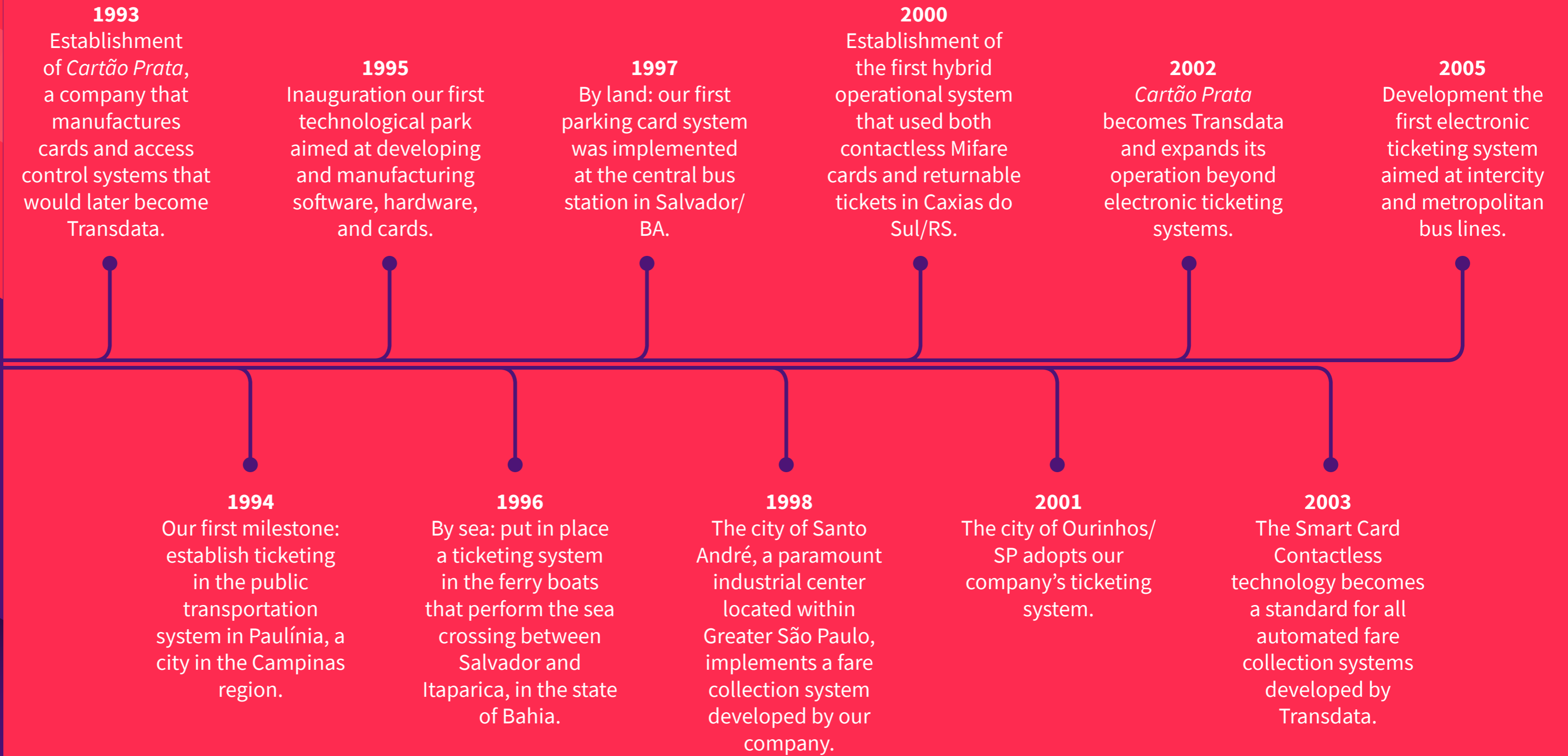
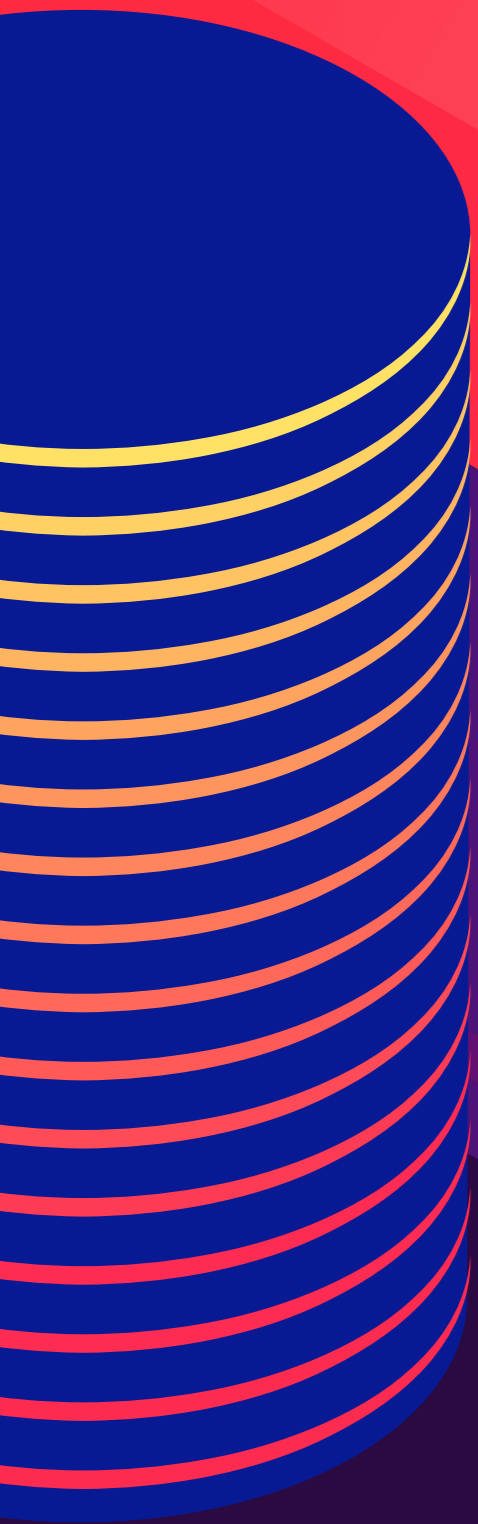


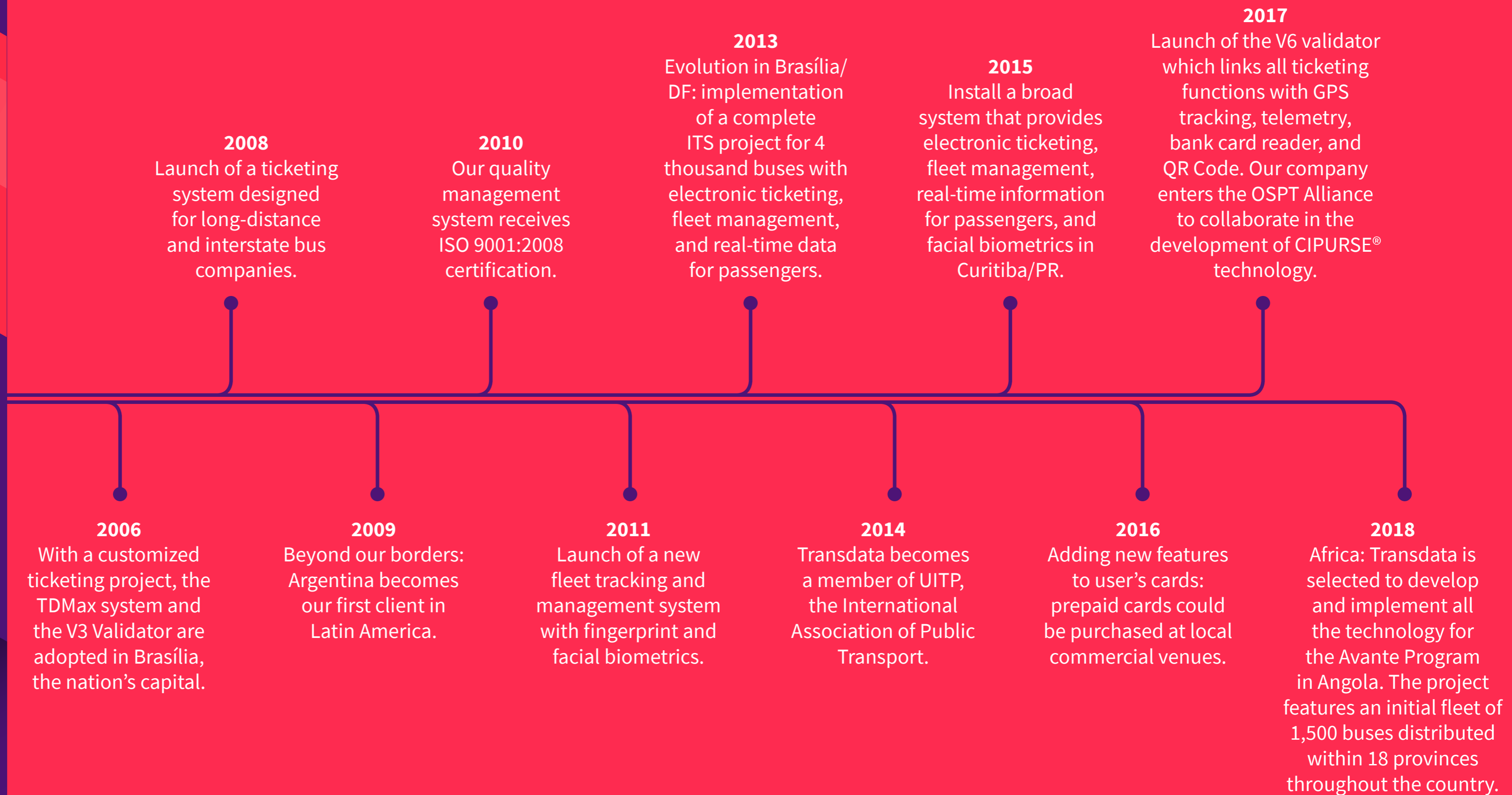
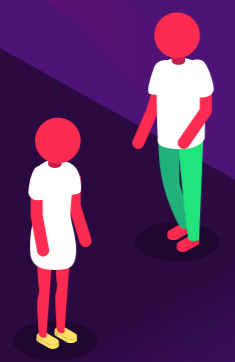
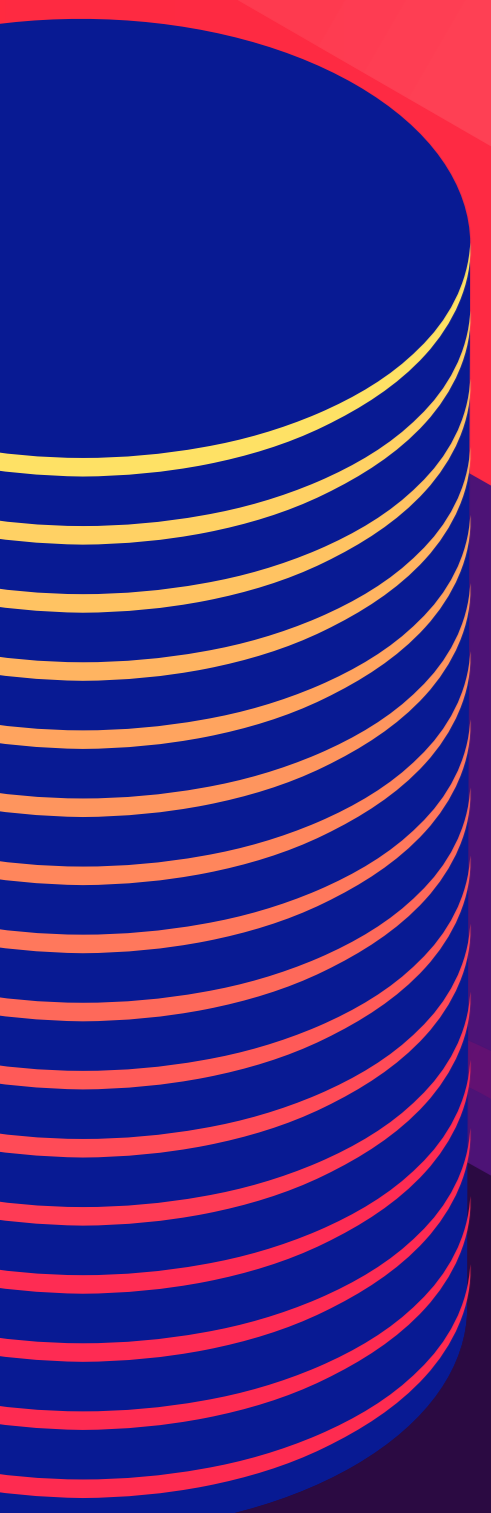
+68,000
devices produced





**A history connected
with the future.**







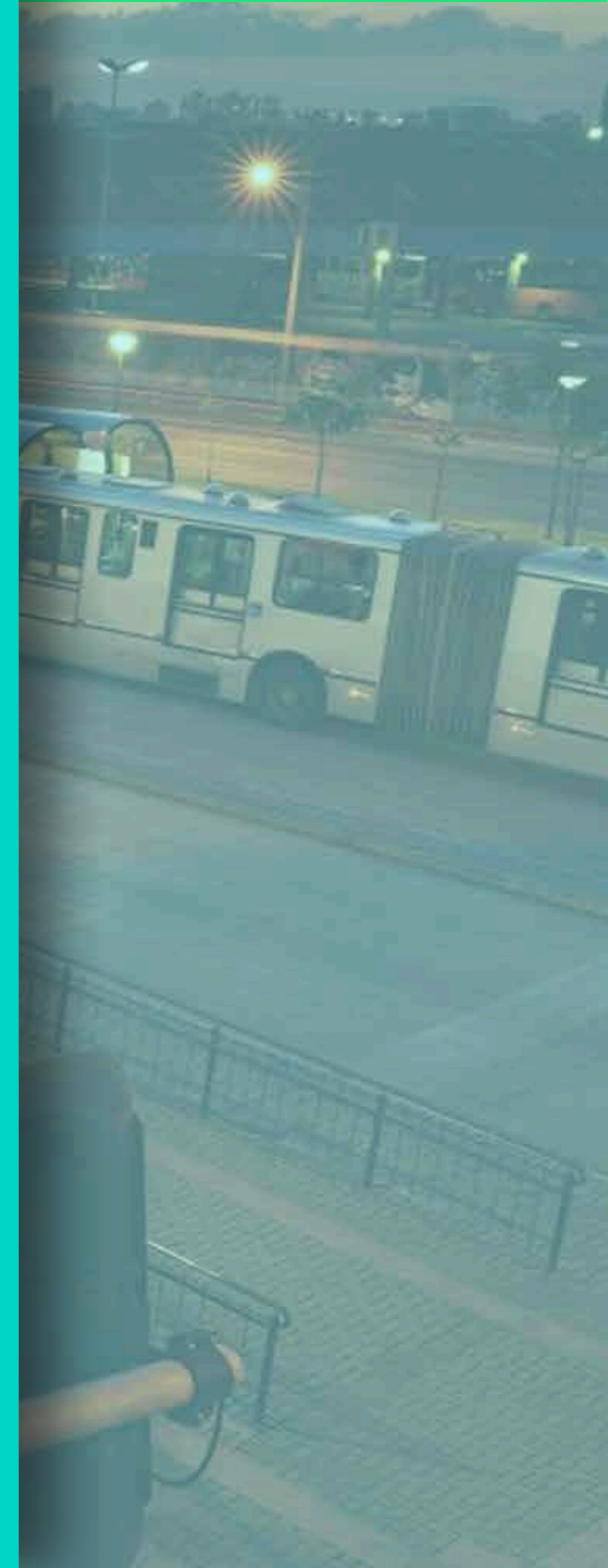
Our proposal allows transit operators to focus on what they do best: transporting people.



Transdata has always worked very close with our clients. We understand demand and anticipate your needs. This is a collaborative process that aims at sharing ideas to multiply solutions. That's why our company stands out as an ideal partner for complete and integrated solutions in ITS.

We've united the best ideas in order to create technologies in which automated fare collection, operational control, antifraud control, and telemetry work together. Or separately. Whatever they may be, we meet the needs of Public Transport Authorities and Public Transport Operators.

With smart management and technology that serves mobility, we make public transportation much more attractive.





Tap in – Tap out

Segmented fare control.

Public transport clients wish to only pay for the service that they use. For that to happen, each boarding and departure must be logged.

The Transdata Automatic Fare Collection System permits each user to quickly and safely validate boarding (tap in) and departure (tap out).

After the tap in, the passenger validator charges the user's card the corresponding value of that line's greatest fare and opens the turnstile for boarding. If the user only travels a portion of the journey, the difference is reimbursed at the tap out performed at the passenger validator located at the exit.





Fare Collection System

Automatic fare collection.

The combination of passenger validators and turnstile provides a greater protection against evasion. The passenger validator V6 can execute an entire transaction for a card in 350 milliseconds, ensuring that tap in/tap out operations won't negatively impact boarding and departure times or the general quality of the service.

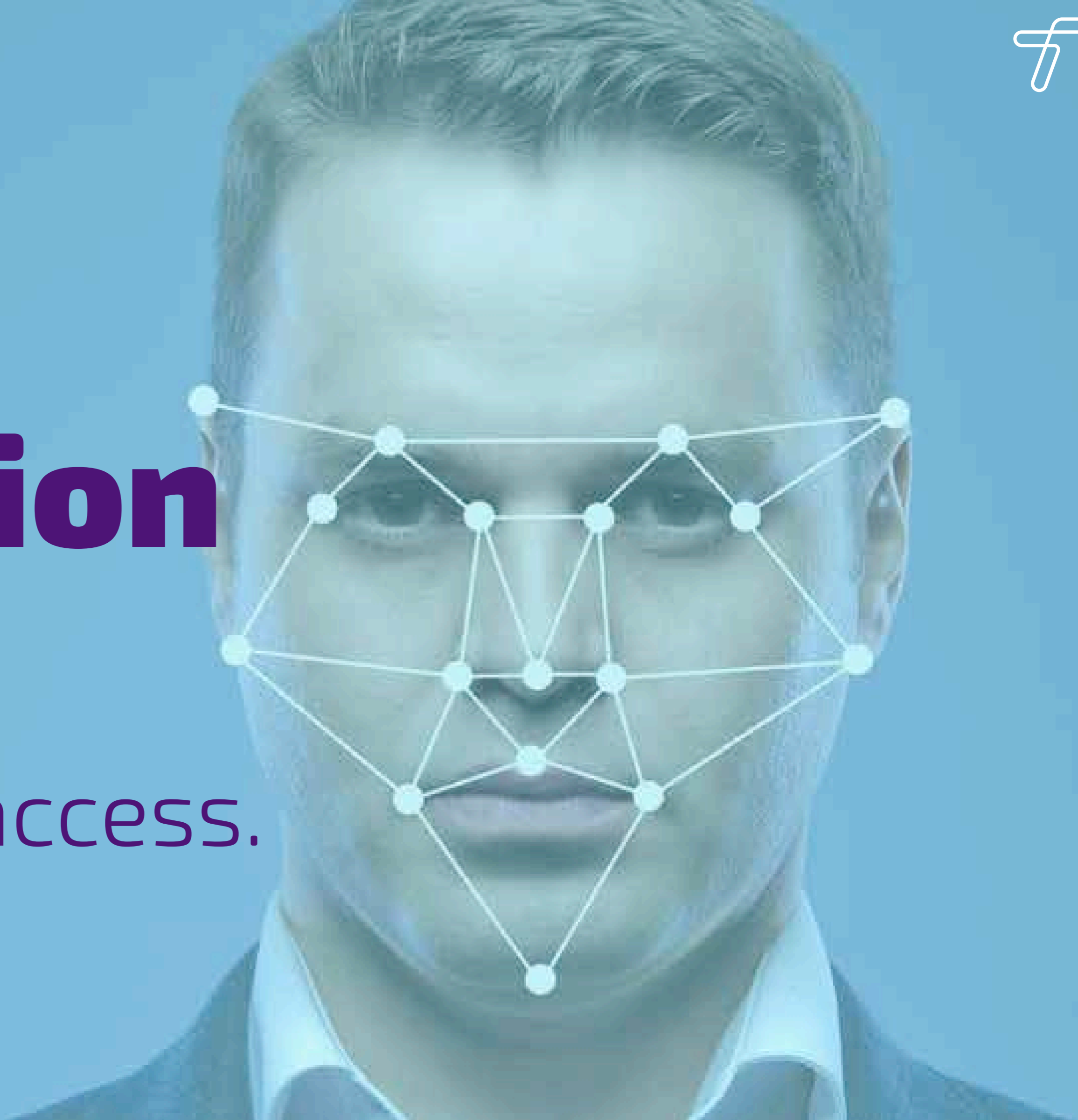
Users benefit from quick rides with fares that fit their needs while public transport operators improve their fare collection security.





Face Recognition System

Control at each access.





A public transportation system has the ability to implement a fare policy that provides discount or unique prices to different types of passengers.

However, when each user has an exclusive transportation card or pass that is personal and non-transferable, the system has to ensure that no one else can use that pass. Facial recognition technology, in integration with the passenger validator V6, checks automatically and efficiently every access made to a transport system. During the Tap in or Tap out, the system captures the user's image as soon as they access the validator. These images, after the end of daily operations, are automatically transferred to a server and are then compared to the images of users stored in the Face Collection System. A biometric analysis is made based on the bone structure of the face. The system generates a list that displays when there's been a mismatch between the owner and the actual user of the card effectively blocking whatever card that has been used irregularly.



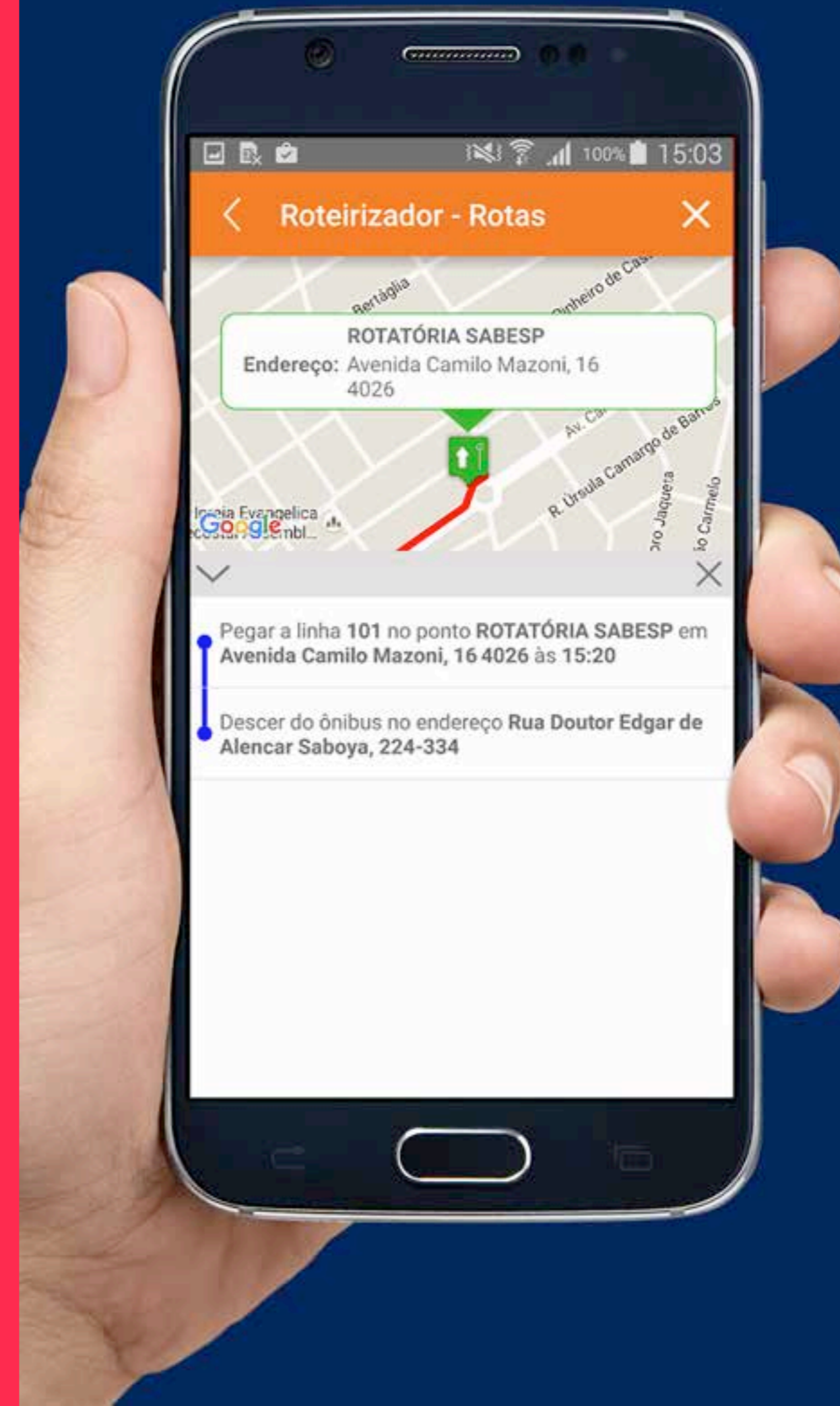
Real Time Passenger Information

Convenience in everyone's path.



Any user must have some knowledge to use a public transport network. What line to take? Where to board? What's the waiting time? When will it reach its destination? That's why an appealing transport service must provide easy access to information. Transdata offers integrated tools to the Fleet Management TDIts and Dispatch Center programs that display real-time data to passengers.

This data can be accessed through a private app, a Google interface, Moovit, Mobilibus or any software one may choose.

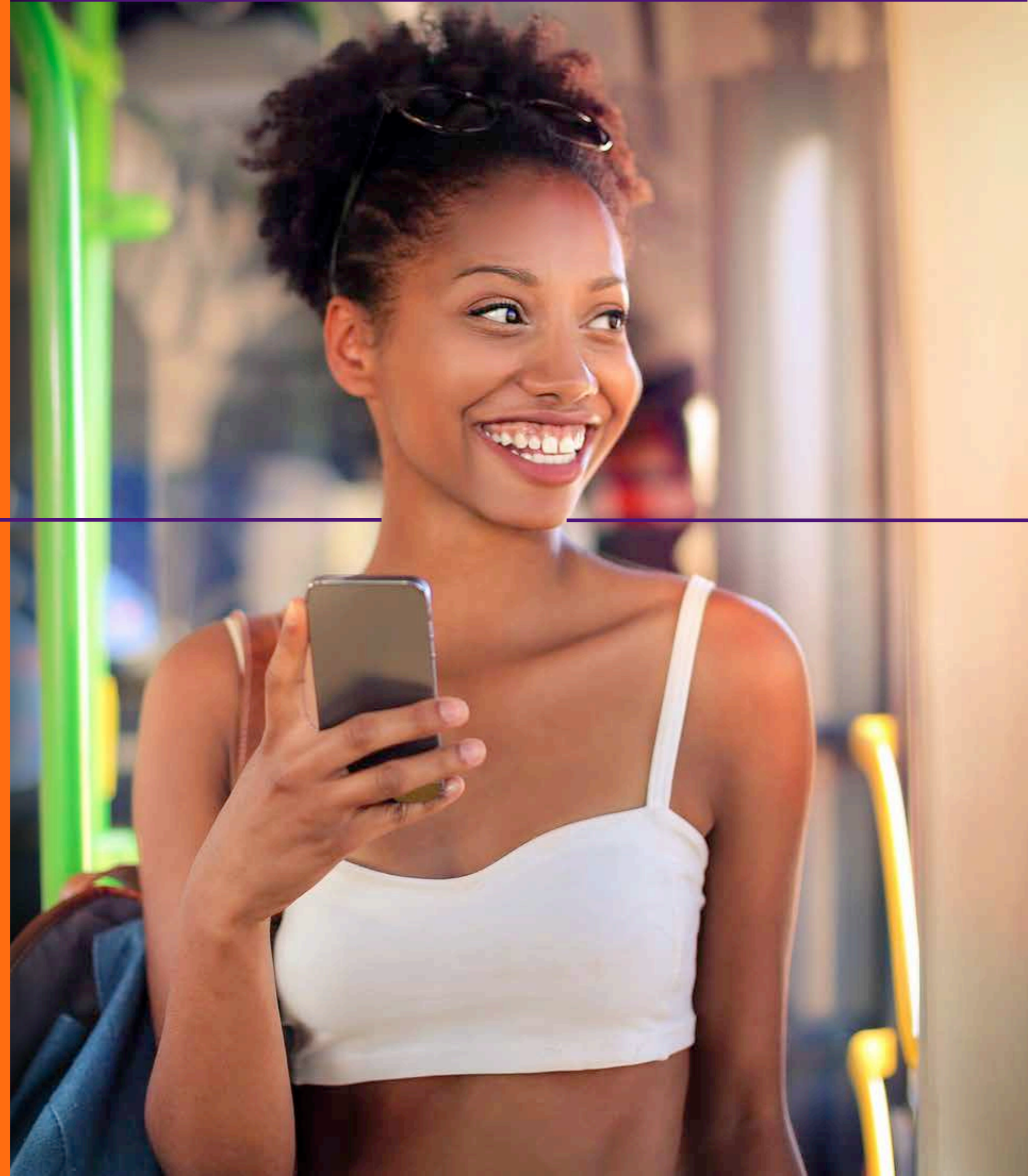


Onboard Computer

V6. Mobility inspires us.

Our first challenge: create a modular system that has everything in it. That's the V6. It ensures total mobility to manage operation and select which services performed by a fleet.

The V6 is all in one: the functionality of a validator added with the operational benefits of an onboard computer.



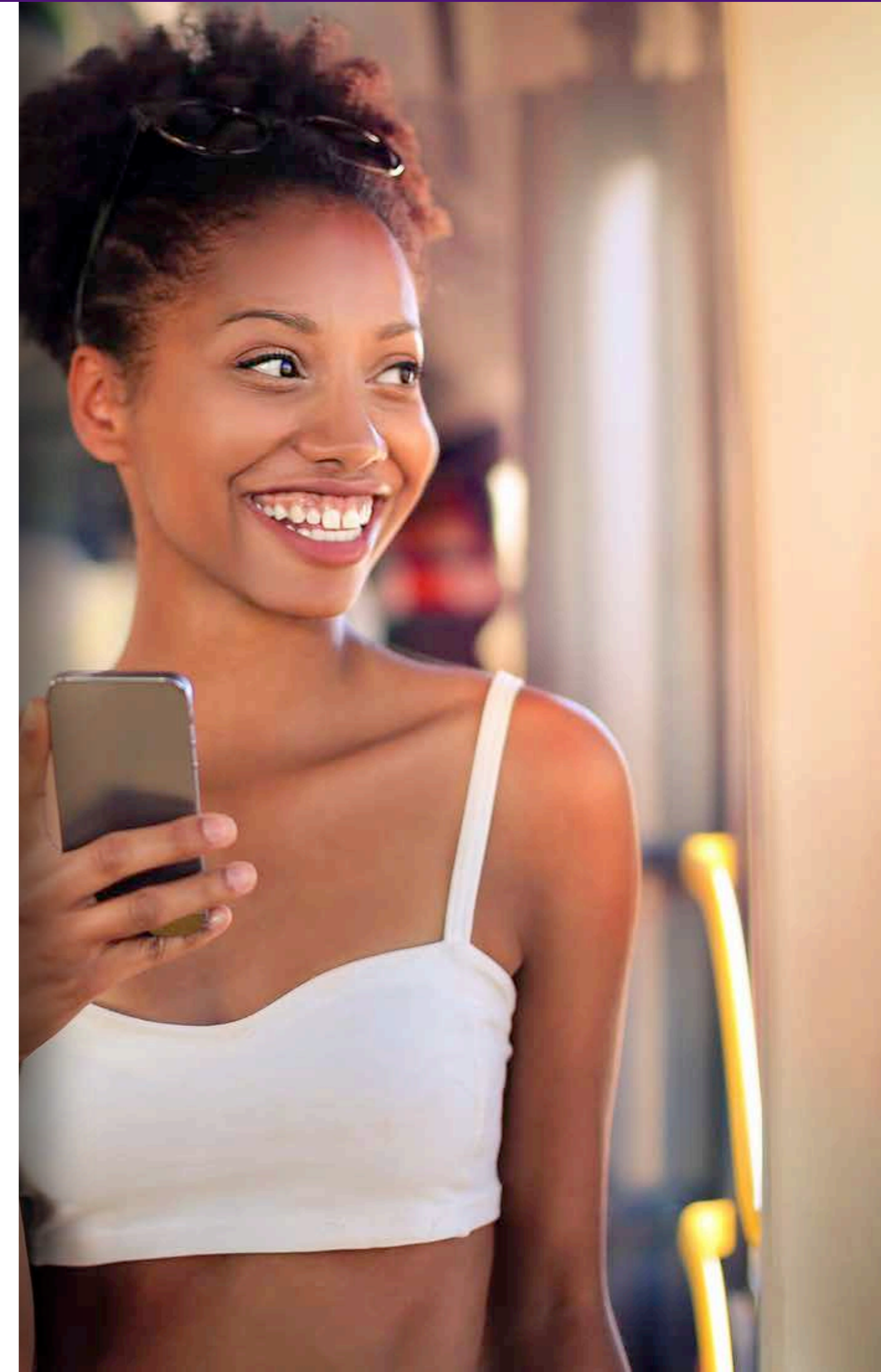


ALL IN ONE

Validator | AVL | on-board computer

- . Water and dirt protection rating IP54
- . Tamper-proof protection rating IK07
- . Cipurse® | Mifare | EMV* Cards
- . Cellphone purchases through NFC* or QR Code*
- . No lines: Scanning and validation within 0.35 seconds (350 milliseconds)
- . AVL System (position capture)
- . Connectivity – Wi-Fi | 3G | 4G
- . Telemetry – RPM | transmission | post-key | doors | windshield wipers

* Optional





Data Analytics

Full support for data management.



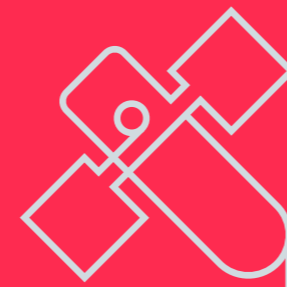


To be connected with current information allows for precise and dynamic operation management.

Access to online reports for data analysis is immensely valuable for any decision-making process. Transdata delivers close to 350 types of reports that can be exported in a variety of different formats, including for Business Intelligence tools.

The TDMax Reports system offers an ample menu for managers to visualize data such as access entries, embarked equipment, financial data, and much more. And to ensure that fleet management is always up-to-date, TD ITS Reports provide analytics on fuel, operational data, telemetry, and other data.





Connecting data and solutions.

These and many other reports are provided by Transdata:

- Sales report
- Transported passengers report
- Credit report
- Registration report
- Auditing report
- Facial biometrics report
- Equipment report
- Telemetry
- Operational performance





Cases

Our work generates great results.



Metropolitam Region

Curitiba

Innovation promotes appeal.





To win Metropolitan Region of Curitiba was a huge achievement. After all, it was Curitiba that invented the concept of Bus Rapid Transit (BRT), a system which is now adopted in more than 180 cities worldwide. Under the management of COMEC and the Government of the State of Paraná, the Metropolitan Region of Curitiba by employing technology in favor of urban mobility, experienced the positive effects that attract people to public transportation. The new validation system saw bus station robberies decrease by 42%. In addition, the adoption of facial biometrics integrated with electronic fare collection provided an annual gain of US\$ 1.2 million as it prevented fraud.

Expanding on the concept of a smart city, a new electronic fare model was established in partnership with MasterCard which added new features to user's cards: the ability to purchase pre-paid credit in physical and online stores. Passengers can also access the urban transportation system by means of their bank cards through EMV technology or smartphones with NFC technology.

With creativity and innovation, people become interested and are attracted to public transport.



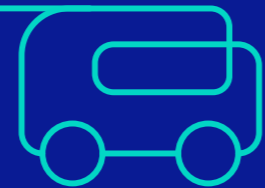
6 million
passengers/month

21 companies
operators

264
lines

44 different
types of fares

29
counties





Brasília

Mass transport.



Everything in Brasilia is large-scale. Including its public transport network. Brazil's capital has a fleet of 3,460 buses that transport 33.3 million passengers each month. Transdata has been operating in the city since 2006 with widespread presence in its bus fleet, BRT services, and even in the subway. We're intelligently connected to the capital to expand mobility in a variety of different ways.

That's how much we value people and strive to improve everyone's quality of life.





33.3 million
passengers/month

3,460
buses

24
subway stations in operation

8
Bus Rapid Transit stations

Since 2006
as a Transdata client

EMV Cards
+implemented in 2018





Piracicaba

Success in antifraud control.



In Brazil, Piracicaba is located in the state of São Paulo, and aside from being a regional industrial center, the city hosts many universities. That's why it requires an urban infrastructure that can service its nearly 400 thousand inhabitants.

The company saw their revenues rise as they invested in antifraud technology. Aiming at a higher operational efficiency and the decrease of revenue evasion, the integration of Transdata solutions was the starting point for the implementation of a high-end system that's easy to maintain and operate, reducing in 8% the number of wrongful accesses in its first year in use. Over four years, more than 7,000 registries were blocked. Today, out of every 100 accesses, 22.5% are free of charge. Without the facial recognition system, that number was 25.5%. In terms of student benefits, the number went from 9% to 7.5%.

These statics prove the efficiency of the antifraud system, and the funds that come from these initiatives can be reinvested in the fleet and used to improve the company's financial health.

If technology helps prevent fraud,
it is a benefit for all.



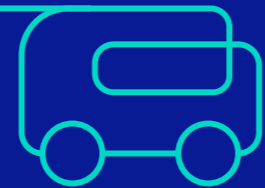


2.4 million
passengers/month

236
vehicles

+7,000
registries blocked

-8% evasion
regarding irregular accesses
(in the first year of operation)





Angola

Our story in Africa began here.



Angola welcomed us with the same enthusiasm as we developed one Transdata's most gratifying and challenging projects. Avante is inspiring. It's the first project in the African continent that focuses on education and countrywide reconstruction. We couldn't just provide equipment and software. We had to get ourselves involved with the operation to reach the user. At Avante, our equipment controls from turnstiles to the buses' electronic itineraries, and the entire system runs in a cloud. Transdata has high-level partners in this enterprise, and as we dedicate ourselves and see the evolution of Avante, we feel great pride.

Transdata is the exclusive provider of all ITS solutions for the Avante Program, from electronic fare systems to the fleet's telemetry and operational monitoring through GPS. The project is also based on our cloud platform that is hosted at Transdata's private datacenter.

This is how Transdata connects paths
and transforms the future.

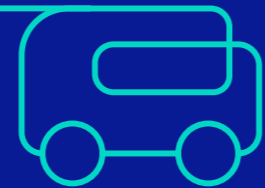




1,500
vehicles

18
provinces

161
cities





Cascavel

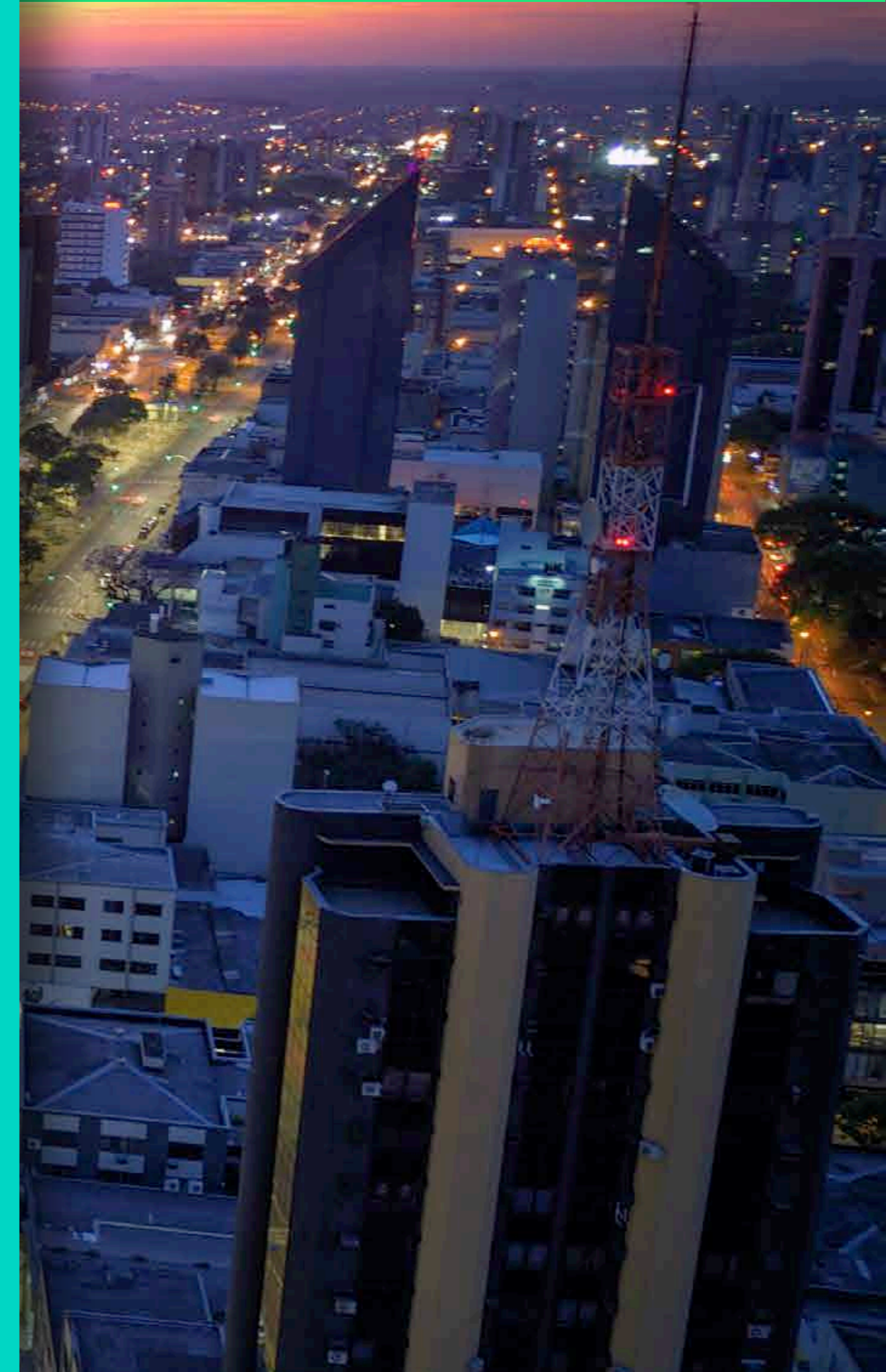
Greater sales coverage.



Located in Paraná, Cascavel has a population of 320,000 people and is 491km from Curitiba, the state capital. The city's large streets and well-distributed neighborhoods call for an efficient public transportation network. ValeSim operates Cascavel's transportation system, and since 2008, Transdata has been tasked with providing technology to optimize their lines. Aside from employing our smart electronic ticketing system with time and space reference integration, they've adopted our facial biometrics antifraud features and our tracking and telemetry packages. When they expanded the use of our Sales Network tool, increasing the numbers of sales points and ATM terminals, Cascavel managed to achieve an immensely desired result: eliminate on-board cash by 100%.

By applying our technology to their operation, trips have become more convenient and safer. Passengers can buy credits whenever they want, receive real-time data on bus schedules through apps such as Google, Moovit, and Mobilibus, and operators have even seen a reduction of revenue evasion.

Sales network: no on-board cash exchanges and more convenience to passengers.



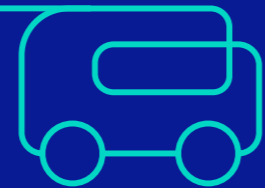


1.7 million
passengers/month

94
lines

100%
prepaid fares

Complete ITS
in all vehicles since 2017





Pernambuco

Dynamic technology.

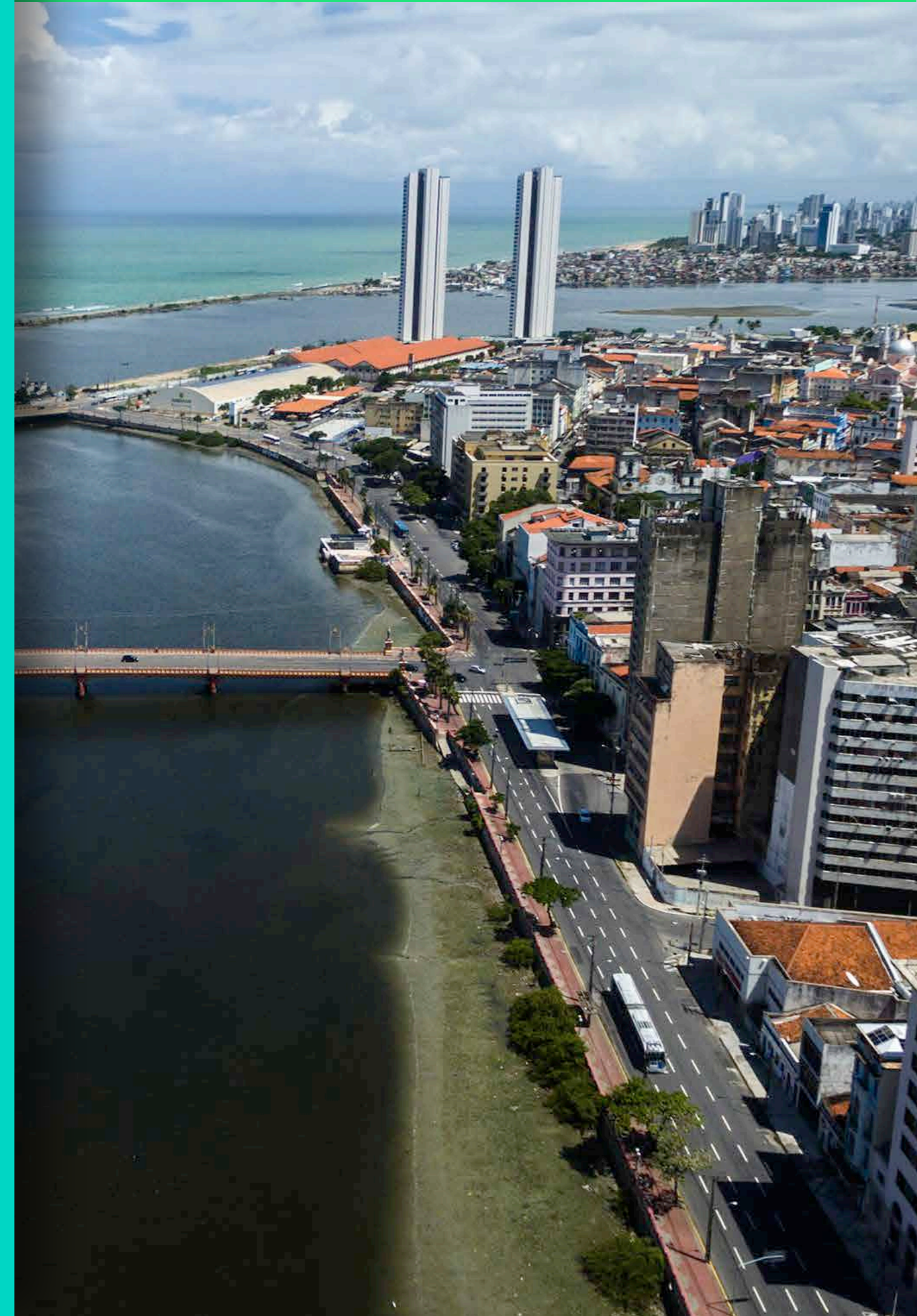
Operational intelligence.



Pernambuco has many attractions, from historical cities, to lively entertainment and amazing natural landscapes. This state has the entire package. Its urban areas are densely populated and city life is fast-paced, demanding smart solutions in public transportation. With exciting destinations spread throughout different cities, travel fares have to be dynamic, practical, and welcome both tourists and locals. Plus, the operator must be able to easily configure and manage the system.

All of these smart operational tools are delivered in Transdata's solution package. Present within 45% of the cities in the state, Transdata offers georeferenced fares with flexible ticketing policies through an intercity bus service that includes e-tickets, online sales venues, variable payment methods, and many other advantages to passengers. All of these features are even helping companies manage their transportation networks.

With technology and innovation, we brought convenience to bus travel.



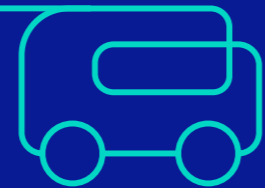


+9.4 million
state population

6th greatest
population density in Brazil

100%
intercity bus lines use our system

+80
cities are Transdata clients





Natal

Renovate to generate better returns.



The capital of Rio Grande do Norte concentrates 25.4% of the state's population with over 800,000 people. Among Brazilian capitals, it's the sixth greatest in terms of population density. That means transporting 8.6 million passengers each month. Since 2012, Transdata's tools have been helping the city's operators improve their revenues and prevent frauds. With that many passengers using the system, any technological advancement will generate great results. Recently, new solutions and devices were deployed, modernizing on-board technologies and providing a cutting-edge antifraud control.

After the implementation of the V6 Validator, the RF5 Camera, Facial Biometrics, and our Fleet and Operation Management System, the benefits became clearly visible. With more flexibility in settings and higher efficiency in system management, the results in facial recognition, our main ally in fraud prevention, stand out and are responsible for an increase in revenue.

Evolving to achieve great results.





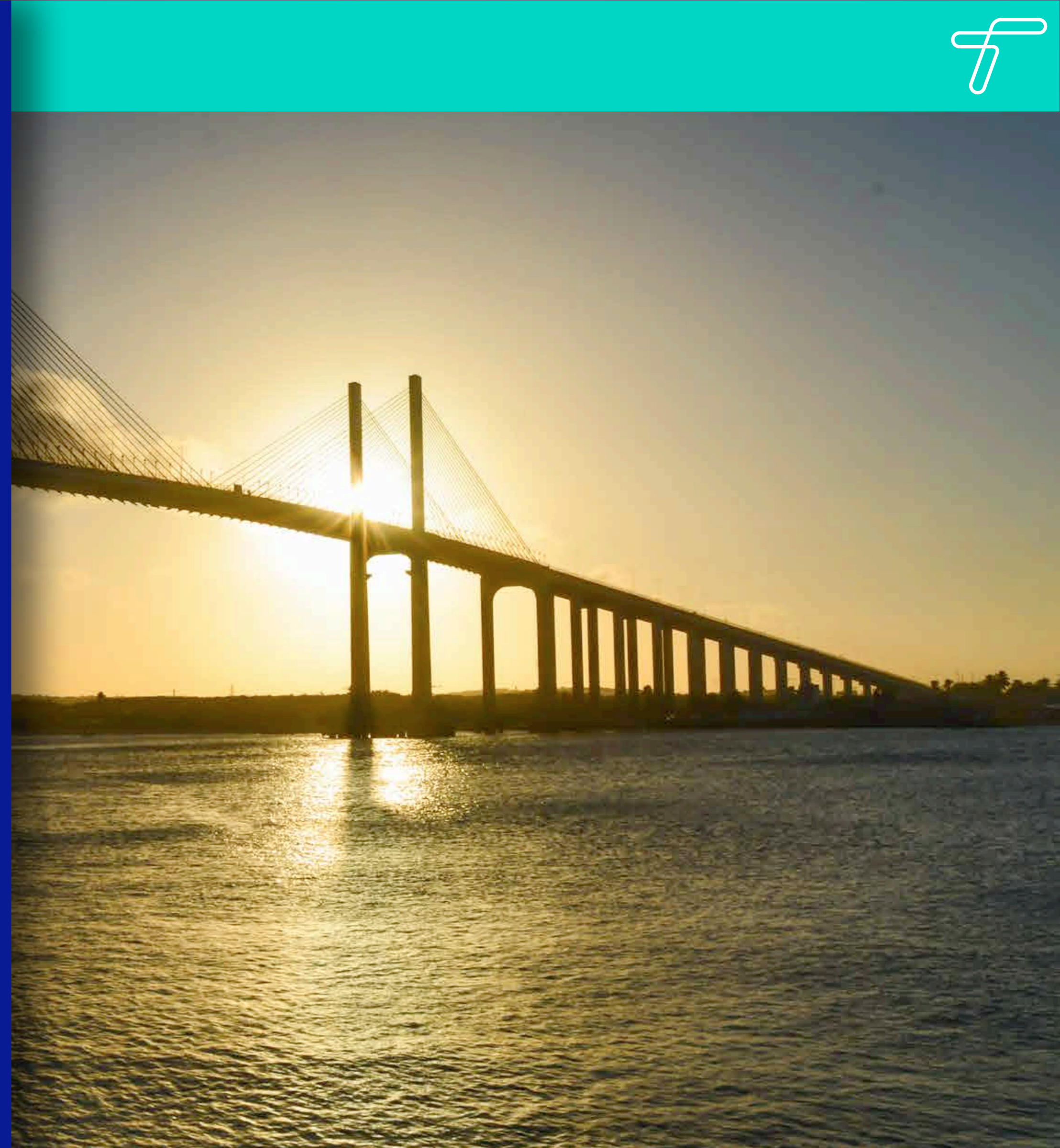
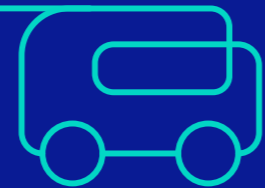
+10.2 million
passengers/month

+1,000
vehicles

138
urban lines

209
intercity lines

510,000
transfers/month (urban)



Campina Grande

The city of the future: countering frauds.



Campina Grande has many qualities. This important educational hub hosts many universities and colleges. It boasts the second largest GDP in the state of Paraíba at 15.63%, and to further prove the city's economic growth, "Você S/A" business magazine has stated that it is among the 100 best cities in Brazil to work at and grow career-wise. Campina Grande is considered the most dynamic city in the Northeast and the 6th most dynamic city in all of Brazil according to "A Gazeta Mercantil" newspaper. It's been named of the top 20 Brazilian cities of the future.

In this modern city, Transdata's technology powers their mass transportation operations. Their network employs integrated solutions to boost overall results, with special focus to our Facial Biometrics package that delivers consistent antifraud controls.

Modern technology to protect your revenues.

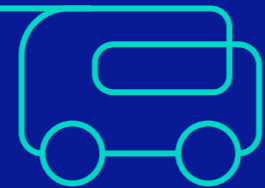




+2.6 million
passengers/month

223
vehicles

45
lines



+55 19 3515 1100

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 **TRANSDATA**
connecting paths