PART I

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

A. [Reserved.]

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

This section is intended to be a summary of more detailed discussions contained elsewhere in this annual report. You should carefully read and consider the following risks, along with the other information included in this annual report. The risks described below are not the only ones we face. Additional risks that we do not presently consider material, or of which we are not currently aware, may also affect us. Our business, results of operations or financial condition could be impacted if any of these risks materialize and, as a result, the market price of our common shares and our ADSs could be affected. The risks described below are organized by risk category and these categories are not presented in order of importance. However, within each category, the risk factors are presented in descending order of importance, as determined by us as of the date of this annual report. We may change our vision about their relative importance at any time, especially if new internal or external events arise.

Summary of Risk Factors

Summary of Risks Relating to Brazil

- The Brazilian government has exercised, and continues to exercise, significant influence over the Brazilian economy. This influence, as well as Brazilian political and economic conditions, could adversely affect us and the trading price of our common shares and ADSs.
- Political instability may materially adversely affect the Brazilian economy, our business, and the market price of our common shares and ADSs.
- Inflation and government efforts to curb inflation may contribute to economic uncertainty in Brazil, adversely affecting our business and results of operations.
- Fluctuations in exchange rates may adversely affect our ability to meet liabilities denominated or linked to foreign currencies or reduce our income in foreign currency, and may have a material adverse effect on the market value of our common shares and ADSs.
- Political, economic and social developments and the perception of risk in other developed and emerging countries may adversely affect the Brazilian economy, our business, and the market price of Brazilian securities, including our common shares and ADSs.

- Any further downgrading of Brazil’s credit rating could reduce the trading price of our common shares and ADSs.

Summary of Risks Relating to the Brazilian Telecommunications Industry and Us

- Information technology is key to our business and we could be subject to cybersecurity risks.
- We are dependent on key personnel and the ability to hire and retain additional personnel.
- We are subject to liabilities relating to third party contractors, which may have a material adverse effect on our business and results of operations.
- Consolidation in the telecommunications market may increase competition in the near future and may change Brazilian market dynamics.
- We face significant competition in the Brazilian market.
- Our business, operations and results have been, and may continue to be, adversely impacted by the effects of the COVID-19 pandemic.
- Extensive government regulation of the telecommunications industry and our concession agreements may limit, in some cases, our flexibility in responding to market conditions, competition and changes in our cost structure or impact our fees.
- Our concession may be revised by the Brazilian government under certain circumstances.
- A review of our concession agreements and/or the implementation of a new regulatory framework in Brazil could have a materially adverse effect on our operations.
- Our current radiofrequency licenses may not be renewed for additional periods.
- We are exposed to risks in relation to compliance with anti-corruption laws and regulations and economic sanctions programs.
- We depend on key suppliers to obtain the necessary equipment and services for our business.
- Certain key inputs are subject to risks related to importation, and we acquire other key inputs from a limited number of domestic suppliers, which may further limit our ability to acquire such inputs in a timely and cost-effective manner.
- We make investments based on demand forecasts that may become inaccurate due to economic volatility and may result in revenues that are lower than expected.
- The transactions contemplated by the Oi Agreement may not be consummated, and if they are consummated, we may be unable to successfully integrate the assets and operations contemplated thereunder or to realize expected benefits.
- We face risks associated with litigation.

Summary of Risks Relating to the Common Shares and the ADSs

- Holders of our ADSs may face difficulties in serving process on or enforcing judgments against us and other persons.
- Holders of our ADSs are not entitled to directly attend shareholders’ meetings and may only vote through the depositary.
- Holders of our ADSs or common shares might be unable to exercise preemptive rights with respect to the common shares unless there is a current registration statement in effect which covers those rights or unless an exemption from registration applies.
- An exchange of ADSs for common shares risks the loss of certain foreign currency remittance and Brazilian tax advantages.

- Holders of our common shares will be subject to, and holders of our ADSs could be subject to, Brazilian income tax on capital gains from sales of common shares or ADSs.

Certain Factors Relating to our Controlling Shareholder

- Our controlling shareholder has power over the direction of our business.

Risks Relating to Brazil

The Brazilian government has exercised, and continues to exercise, significant influence over the Brazilian economy. This influence, as well as Brazilian political and economic conditions, could adversely affect us and the trading price of our common shares and ADSs.

The Brazilian federal government frequently exercises significant influence over the Brazilian economy and occasionally makes significant changes in policy and regulations. The Brazilian government’s actions to control inflation and other policies and regulations have often involved, among other measures, changes in interest rates, changes in tax policies, wage and price controls, foreign exchange controls, currency devaluations, capital controls and limits on imports. Our financial condition, as well as our business and results of operations and the market price of our common shares and ADSs, may be adversely affected by changes in government policies, especially those related to our sector, such as changes in telephone fees and competitive conditions, as well as general economic factors, including:

- exchange rates and currency fluctuations;
- exchange controls and restrictions on remittances abroad, (including with regards to the payment of dividends) such as those imposed in 1989 and early 1990;
- growth or downturn of the Brazilian economy;
- inflation;
- energy policy;
- interest rates and monetary policies;
- liquidity of domestic capital and lending markets;
- fiscal policies and changes in tax laws;
- economic, political or social instability;
- the policies adopted or to be adopted by the new administration in Brazil following the 2022 presidential elections;
- labor and social security policies, laws and regulations; and
- other political, diplomatic, social and economic developments in or affecting Brazil.

Uncertainty over whether the Brazilian federal government will implement changes to the policies, regulations or standards affecting these or other factors in the future may affect economic performance, which may have an adverse effect on us and the trading price of our common shares and ADSs. Past economic and political instability has led to a negative perception of the Brazilian economy and higher volatility in the Brazilian securities markets, which has adversely affected us and the trading price of our common shares and ADSs.

These issues may be exacerbated by the results of the Brazilian presidential election held in October 2022, in which the former President Luiz Inácio Lula da Silva (from 2003 to 2010) was reelected. There is uncertainty as to which policies will be adopted by the new government. We cannot assure you that the new government will maintain policies designed to promote macroeconomic stability, fiscal discipline and domestic and foreign investments, and failure on the part of the new government to do so may adversely impact

Brazil’s economy, the prices of securities issued by Brazilian issuers such as us and ultimately our business, financial condition and results of operations.

Political instability may materially adversely affect the Brazilian economy, our business, and the market price of our common shares and ADSs.

Brazil’s political environment has historically influenced and continues to influence the performance of Brazil’s economy, as well as investor and general public confidence, resulting in economic slowdowns and an increase in the volatility of securities issued by Brazilian companies.

The President of Brazil has the power to determine policies and issue government measures relating to the Brazilian economy and, as a result, affect the operations and financial performance of companies, including us. We cannot predict what policies the President of Brazil will establish or whether such policies or changes in existing policies will have an adverse effect on the Brazilian economy or our business, results of operations, financial condition and the market price of our common shares and ADSs.

In addition, any difficulties the Brazilian government may face establishing a majority in Congress could result in a government impasse, political unrest and mass demonstrations and/or strikes that could materially adversely affect our operations. Uncertainties about the implementation of changes in monetary, tax and social security laws and policies, may contribute to economic instability. These uncertainties and any new measures may increase volatility in the Brazilian securities market.

Finally, Brazil has experienced significant political turmoil in recent years, including the impeachment of Dilma Rousseff, the former president (who was removed from office in August 2016), investigations of her successor, Michel Temer (who left office in January 2019), as part of the ongoing “Lava Jato” investigations, investigations of the current president, Jair Bolsonaro, by the STF for alleged unlawful conduct, several requests for impeachment filed against the former president in relation to his management of the response to the COVID-19 pandemic, and a highly polarized election in 2022.

Inflation and government efforts to curb inflation may contribute to economic uncertainty in Brazil, adversely affecting our business and results of operations.

In the past, Brazil has recorded high inflation rates, which, combined with other measures taken by the Brazilian government to fight inflation and speculation on what measures would be taken, has materially adversely affected the Brazilian economy. The measures taken by the Brazilian government to control inflation have included maintaining strict monetary policies and high interest rates, which restricted the availability of credit and reduced economic growth. The COPOM often adjusts interest rates in Brazil during periods of economic uncertainty in order to achieve the inflation targets established by the Brazilian government. Inflation, the Brazilian government’s efforts to curb inflation and speculation regarding any future measures, has had material adverse effects on the Brazilian economy and contributed to economic uncertainty in Brazil, which increases volatility in the Brazilian capital markets and may materially adversely affect our business and results of operations.

Periods of higher inflation coupled with higher interest rates and other measures to combat inflation may lead to reduced demand for our products. Inflation is also likely to increase some of our costs and expenses, which we may not be able to fully pass on to customers and could adversely affect our operating margins and operating income. In addition, inflation affects our financial liquidity and financial capital resources primarily by exposing us to variations in our floating-rate loans. Rising interest rates may also impact the costs of our fundraising and indebtedness, increasing our financial expenses. Such an increase could adversely affect our ability to pay our obligations to the extent it reduces cash on hand.

According to the IPCA index, Brazilian inflation rates were 10.1%, 4.5%, 4.3% and 3.7% in 2021, 2020, 2019, and 2018, respectively. In 2022, the inflation rate, as measured by the IPCA, decreased to 5.8%, reflecting tax cuts on fuel, electric energy, and telecom prices, some dissipation of global supply chain pressures and monetary policy tightening.

As a result of still inflationary pressures and macroeconomic instability, the Brazilian government has historically adopted monetary policies that resulted in high interest rates in Brazil. The Central Bank determines the basic interest rates generally available to the Brazilian banking system, based on the expansion or contraction of the Brazilian economy, inflation rates and other economic indicators. Throughout 2022, the COPOM increased the Selic rate from 9.25% to 13.75%, indicating that the basic interest rate will be maintained at this level for a sufficiently long period to ensure the inflation convergence to the targets. Brazil may continue to experience high levels of inflation in the future and inflationary pressures may lead to the Brazilian government’s intervening in the economy and introducing policies that could harm our business and the price of our common shares and ADSs.

Currently, fixed broadband and mobile service providers, including us, use the IGP-DI to adjust their prices and television and cable service providers use the IGP-M. The IGP-DI and IGP-M are inflation indexes developed by the FGV, a private organization. Since 2006, telephone fees for fixed-line services have been indexed to the IST, as adjusted by a productivity factor, or X Factor, which is defined by ANATEL Resolution No. 507/2008.

The IST is an index composed of other domestic price indexes (including the IPCA, IGP-DI and IGP-M, among others) that is intended to reflect the telecommunications industry’s operating costs. As a result, this index serves to reduce potential discrepancies between our industry’s revenue and costs, and thus reduce the apparent adverse effects of inflation on our operations. The productivity factor, pursuant to which ANATEL is authorized to adjust fee rates, is calculated based on a compensation index established by ANATEL to incentivize operational efficiency and to share related gains in earnings from fixed-line services with customers through fee rate adjustments. The IST is calculated based on a 12-month period average. This may cause increases in our revenues above or below our costs (including salaries), with potentially adverse impacts on our profitability.

Inflation and government measures to combat inflation, along with speculation about governmental measures, have had significant negative effects on the Brazilian economy in the recent past, including heightened volatility in the Brazilian securities market. These policies may be incapable of preventing increases in the inflation rate. In the event of an increase in inflation, we may not be able to adjust the prices we charge our customers to offset the effects of inflation on our cost structure, which may adversely affect us.

Fluctuations in exchange rates may adversely affect our ability to meet liabilities denominated or linked to foreign currencies or reduce our income in foreign currency, and may have a material adverse effect on the market value of our common shares and ADSs.

The Brazilian currency has been historically volatile and has been devalued frequently over the past three decades. Throughout this period, the Brazilian government has implemented various economic plans and used various exchange rate policies, including sudden devaluations, periodic mini-devaluations (during which the frequency of adjustments has ranged from daily to monthly), exchange controls, dual exchange rate markets and a floating exchange rate system. Although long-term depreciation of the real is generally linked to the rate of inflation in Brazil, depreciation of the real occurring over shorter periods has resulted in significant variations in the exchange rate between the *real*, the U.S. dollar and other currencies. The exchange rate between the U.S. dollar and the Brazilian *real* has experienced significant fluctuations in recent years. In 2017, the *real* depreciated 1.5% against the U.S. dollar, followed by another depreciation of 17.1% in 2018, 4.0% in 2019, 22.4% in 2020 and 7.4% in 2021. The *real*/U.S. dollar exchange rate reported by the Central Bank was R$5.286 per US$1.00 as of December 31, 2022, which reflected a 5.1% appreciation in the real against the U.S. dollar during 2022, reflecting the positive trade balance result and better-than-expected activity performance. As of January 09, 2023, the *real*/U.S. dollar exchange rate reported by the Central Bank was R$5.258 per US$1.00. There can be no assurance that the *real* will not again depreciate against the U.S. dollar or other currencies in the future.

As of December 31, 2022, 5.6% of our total indebtedness of R$19.3 billion was denominated in foreign currency. Approximately 9.5% of our operating costs and expenses are payable or linked to payment by us in U.S. dollars or Euros. By contrast, 99.9% of our revenue is generated in reais, except income derived from hedging transactions, international long-distance interconnection fees and services to customers outside of Brazil.

To the extent that the value of the *real* decreases relative to the U.S. dollar or the Euro, our commitments payable or linked to payment by us in foreign currencies become more expensive. Although our accounts receivable denominated in foreign currencies would also appreciate, the net effect could adversely affect our revenue and expenses. In addition, the IST inflation index does not adequately reflect the true effect of exchange rate fluctuations. Thus, our revenue, when translated to U.S. dollars, does not adequately reflect the true effect of exchange rate fluctuations, which may affect our results of operations.

We use derivative instruments to limit our exposure to exchange rate risk. Since September 1999, we have hedged all of our foreign currency-denominated bank debt using swaps and other derivative instruments. Since May 2010, the company began using net balance coverage, which is the hedging of net positions in foreign exchange exposures, or assets (issued invoices) minus liabilities (received invoices) for foreign exchange exposures, substantially reducing our risk to fluctuations in exchange rates. We could still continue to face exchange rate exposure with respect to our planned capital expenditures however, as a small part of our planned capital expenditures are denominated or indexed in foreign currencies (mostly U.S. dollars). We systematically monitor the amounts and time of exposure to exchange rate fluctuations and may hedge positions when deemed appropriate.

Political, economic and social developments and the perception of risk in other developed and emerging countries may adversely affect the Brazilian economy, our business, and the market price of Brazilian securities, including our common shares and ADSs.

The market for securities issued by Brazilian companies may be influenced, to varying degrees, by economic conditions in both developing and developed economies. The reaction of investors to developments in other countries may have an adverse impact on the market value of securities of Brazilian companies. The prices of shares traded on the B3, for example, have historically been sensitive to fluctuations in interest rates in the United States, as well as variations of the main U.S. stock exchanges. Additionally, crises in other emerging countries or the economic policies of other countries may reduce investor demand for securities of Brazilian companies, including our common shares and ADSs. Any of the foregoing developments may adversely affect the market value of our common shares and ADSs and hinder our ability to access the capital markets and finance our operations in the future on acceptable terms and costs, or at all.

To the extent that economic problems in emerging market countries or elsewhere adversely affect Brazil, our business and the market value of our common shares and ADSs could be adversely affected. Furthermore, we cannot assure you that, in the event of adverse developments in emerging market economies, the international capital markets will remain open to Brazilian companies or that the resulting interest rates in such markets will be advantageous to us. Decreased foreign investment in Brazil may negatively affect growth and liquidity in the Brazilian economy, which in turn may have a negative impact on our business. Disruption or volatility in the global financial markets could further increase negative effects on the financial and economic environment in Brazil, which could have a material adverse effect on us.

Any further downgrading of Brazil’s credit rating could reduce the trading price of our common shares and ADSs.

We may be harmed by investors’ perceptions of risks related to Brazil’s sovereign debt credit rating. Rating agencies regularly evaluate Brazil and its sovereign ratings, which are based on a number of factors including macroeconomic trends, fiscal and budgetary conditions, indebtedness metrics and the perspective of changes in any of these factors.

Brazil was downgraded to non-investment grade status by S&P in September 2015, by Fitch Ratings in December 2015, by Moody’s in February 2016 . Brazil was further downgraded by S&P in February 2016 and January 2018 and by Fitch in May 2016 and February 2018. Brazil’s sovereign rating is currently rated by the three major risk rating agencies as follows: BB- by S&P and Fitch Ratings and Ba2 by Moody’s.

Brazil’s sovereign credit rating is currently rated below investment grade by the three main credit rating agencies. Consequently, the prices of securities issued by Brazilian companies have been negatively affected. A reversal of the current recovery of the Brazilian economic activity, instability in the political environment, changes in fiscal austerity guidelines, among other factors, could lead to a revision of the agencies’ outlooks, which could be followed by further ratings downgrades. Any further downgrade of Brazil’s sovereign credit ratings could heighten investors’ perception of risk and, as a result, cause the market price of our common shares and ADSs to decline.

Risks Relating to the Brazilian Telecommunications Industry and Us

Information technology is key to our business and we could be subject to cybersecurity risks.

The risks derived from cybersecurity are among our most relevant risks. Despite advances in the modernization of the network and the replacement of legacy systems, we operate in an environment increasingly prone to cyber-threats. Therefore, it is necessary to continue to identify and remedy any technical vulnerabilities and weaknesses in our operating processes, as well as to strengthen our capabilities to detect and react to incidents. This includes the need to strengthen security controls in the supply chain (for example, by focusing on the security measures adopted by our partners and other third parties), as well as to ensure the security of the services in the cloud.

Telecommunications companies worldwide face continuously increasing cybersecurity threats as businesses have become increasingly more digital and dependent on telecommunications and computer networks and cloud computing technologies.

Cybersecurity threats may include gaining unauthorized access to our systems or propagating computer viruses or malicious software to misappropriate sensitive information like customer data, corrupt our data or disrupt our operations. Unauthorized access may also be gained through traditional means such as the theft of laptop computers, data devices and mobile phones. Further, our employees or other persons may have unauthorized or authorized access to our systems and leak data and/or take actions that affect our networks or otherwise adversely affect us or our ability to adequately process internal information.

We manage these risks through a number of technical and organizational measures, which are part of our digital security strategy, including, access control measures, backup systems, log review of critical systems, vulnerabilities checks, network segregation measures and protective systems such as firewalls, intrusion prevention systems, virus scanners and other physical and logical security measures. However, the application of these measures cannot guarantee the mitigation of all risks.

For more information, see “Item 4. Information on the Company—B. Business Overview—Technology—Network Security.”

We are dependent on key personnel and the ability to hire and retain additional personnel.

We believe that our success will depend on the continued services of our senior management team and other key personnel. Our management team is comprised of highly qualified professionals, with extensive experience in the telecommunications industry. The loss of the services of any of our senior management team or other key employees could adversely affect our business, financial condition and results of operations. We also depend on the ability of our senior management and key personnel to work effectively as a team.

Our future success also depends on our ability to identify, attract, hire, train, retain and motivate highly skilled technical, managerial, sales and marketing personnel. Competition for such personnel is intense, and we cannot guarantee that we will successfully attract, assimilate or retain a sufficient number of qualified personnel. Failure to retain and attract the necessary technical, managerial, sales and marketing and administrative personnel could adversely affect our business, financial condition and results of operations.

We are subject to liabilities relating to third party contractors, which may have a material adverse effect on our business and results of operations.

We are exposed to contingent liabilities resulting from our contracting structure, which includes third-party service providers. Such potential liabilities may involve labor claims by third-party providers that are treated as direct employees as well as joint liability claims relating to wage or overtime pay complaints and workplace injury claims. If a significant portion of these contingent liabilities is decided against us and for which we have not made adequate provisions, our financial condition and results of operation may be adversely affected.

Furthermore, if the contracting of third party service are considered to involve the main activities of the company, it may be characterized as direct employment, which would significantly increase our costs and as a result, we may be subject to administrative proceedings by the relevant labor regulators and may be required to pay fines to the third-party service providers.

Consolidation in the telecommunications market may increase competition in the near future and may change Brazilian market dynamics.

Mergers and acquisitions may change market dynamics, create competitive pressures, force small competitors to find partners and impact our financial condition; and may require us to adjust our operations, marketing strategies (including promotions), and product portfolio.

The entry of a new market participant with significant financial resources or potential changes in strategy by existing telecommunications service providers can change the competitive environment in the Brazilian market. We may be unable to keep pace with these changes, which could affect our ability to compete effectively and have a material adverse effect on our business, financial condition and results of operations.

Additional joint ventures, mergers and acquisitions among telecommunications service providers are possible in the future. If such consolidation occurs, it may result in increased competition within our market. We may be unable to adequately respond to pricing pressures resulting from consolidation in our market, adversely affecting our business, financial condition and results of operations. We may also consider engaging in merger or acquisition activity in response to changes in the competitive environment, which could divert resources away from other aspects of our business.

We face significant competition in the Brazilian market.

The relative competitive stability in the Brazilian telecommunications sector observed in 2021 was maintained in 2022. Telecommunications operators continued to focus on improving their base of accesses by attracting customers to higher-value products. On the mobile side of the business, market participants mostly sought to sell hybrid plans (*planos controle*) and pure postpaid plans to consumers to increase overall ARPUs and profitability. On the fixed-line side of the business, we have seen competition both from large and small players to capture customers for fiber connectivity or upgrades for higher internet speeds, mostly driven by increased demand caused by the COVID-19 pandemic and the increased supply of high-quality broadband given the expansion in the rollout of fiber optic networks. In addition, customers are demanding higher quality services and greater mobile data availability, which require higher investments in the development, modernization, expansion and continuous improvement of the quality of our services and the experience of our customers.

As a result, we have continued faced significant competition, mainly driven by the following factors: (1) commercial and pricing pressures from new portfolios launched by competitors; (2) increased 4G, 4.5G and fiber optic network coverage and improved service quality by our competitors; and (3) low-cost alternative services, such as voice and text services provided over IPs, and IPTV/VoD services, which may affect our competitive position in the market. We continuously monitor market conditions to anticipate future competitive challenges and opportunities and analyze how to address them. Nevertheless, our operational results, market position, competitiveness in the market and margins may be adversely affected if we are unable to keep the same pace as our competitors.

Our business, operations and results have been, and may continue to be, adversely impacted by the effects of the COVID-19 pandemic.

Since December 2019, SARS-CoV-2, a novel strain of coronavirus referred to as COVID-19, has spread throughout the world. On January 31, 2020, the WHO announced that COVID-19 was a global health emergency and on March 3, 2020, the World Health Organization categorized COVID-19 as a pandemic. The COVID-19 pandemic has resulted in numerous deaths and the imposition of local, municipal and national governmental “shelter-in-place” and other public health measures, border closures and other travel restrictions, causing unprecedented economic disruption in much of the world. In Brazil, states and municipalities, including those in which we operate, adopted directives set by the Brazilian Ministry of Health (Ministério da Saúde), and implemented measures to control the propagation of the disease, such as travel restrictions and measures to encourage social distancing, which resulted in the shutdown of restaurants, hotels, shopping centers, places of public congregation, parks and other public spaces. Uncertainty about the effectiveness of vaccines and the emergence of new strains or mutations of the virus that render vaccination ineffective or inefficient can make it difficult or impossible for the government to contain the pandemic, which could contribute to the implementation of new restrictions, thereby negatively affecting our business and operations.

Since the beginning of the COVID-19 pandemic, the Brazilian government determined that the telecom sector is an essential service, which allowed us to continue our field maintenance activities without violating restrictions on movement that were generally imposed to address the pandemic. However, in accordance with recommendations from authorities, we transitioned a substantial majority of our employees to hybrid or work-from-home.

In Brazil generally and in particular regions where we have a significant employee presence, facilities or critical operations, the outbreak of COVID-19 impacted our ability to manage day-to-day operations and service our customers and resulted in, among other things, loss of revenue, although we have also experienced a decrease in our costs of operations due to lower variable costs such as sales commissioning, call centers, billing and advertising. Moreover, we implemented corporate and personal travel restrictions for employees and vendors, canceled events and enabled work-from-home for many employees by equipping them to safely support customers remotely. We also implemented additional safety measures for our retail stores and field operations teams. Additionally, at certain points of the pandemic, we were required to temporarily close or reduce operations at some of our retail locations, facilities and customer call centers, although these locations have been since reopened, oftentimes with reduced hours of operation or customer capacity limitations, as stay-at-home orders began to ease in São Paulo and other Brazilian cities. Although stay-at-home orders have eased in the primary markets in which we operate, we may be required to temporarily close or reduce operations at more of or all of our retail locations, facilities or call centers again if there is a resurgence of COVID-19 or its variants in the markets in which we operate. The foregoing effects, and other effects of COVID-19, may continue for an unknown period of time.

Our business has been, and may continue to be, negatively impacted by the effects of, or precautions taken to avoid exposure to, COVID-19, such as reduced travel or recommendations or mandates from governmental authorities to avoid large gatherings or to self-quarantine, and by the resulting disruptions to economic conditions and financial markets. Such impacts include, but are not limited to:

- Reduced sales of certain of our products and services, such as handset sales and upsells made through our retail stores and upsells through our call centers and other channels, as a result of public health measures;
- Reduced availability of certain equipment in the supply chain due to increased demand;
- Disruptions to our third-party providers, including those who provide many of our information technology, call center functions, certain accounting functions and other critical vendor services;
- Reduced workforces caused by, among other things, the temporary inability of the workforce to work due to illness, quarantine, or government mandates, or temporary unwillingness to work due to health concerns;
- Reduced customer demand or customer payment of accounts receivables as a result of adverse economic conditions resulting from the COVID-19 pandemic; and
- Increases in provisions for bad debt as a result of increased unemployment and the inability of certain customers to pay bills and late fees as a result of disruptions caused by the COVID-19 pandemic.

Potential future impacts include, but are not limited to:

- Service disruptions or reduced bandwidth for copper-based broadband customers due to significant short-term increases in bandwidth usage due to individuals working from home and/or significantly higher expenses attributable to infrastructure investments required to meet such higher network utilization trends;
- Imposition of governmental requirements preventing our termination services as a result of non-payment, thus encouraging customer defaults on invoices, resulting in a decline in our cash flows from operations and an increase in our expected losses on trade receivables;
- Increased supply chain risks such as increased scrutiny or embargoing of goods produced in infected areas;
- Increased health insurance and labor-related costs arising from illness, quarantine and the implementation of social distancing and work-from-home measures;
- Reduced employee productivity and a negative impact on the execution of our business plans and operations as employees must balance working remotely from home with personal responsibilities, such as child care and education;
- Increased risk of phishing and other cybersecurity attacks, and increased risk of unauthorized dissemination of sensitive personal information or proprietary or confidential information about us, our customers or other third parties as a result of employees or third-party vendors’ employees working remotely; and
- In the event of continued restrictions on certain activities, or a natural disaster, power outage, connectivity issue or other event that impacts our employees’ ability to work remotely, it may be difficult or, in certain cases, impossible, for us to continue to support our customers’ needs and respond to inquiries through call center operations or to perform necessary or routine repairs, maintenance and installation activities, which could adversely affect our operations and sales.

The foregoing impacts, and other impacts of COVID-19 discussed elsewhere in these risk factors, are broadly consistent with those generally affecting the economic, financial, regulatory and political conditions in Brazil and elsewhere in the world, and are generally applicable to the industries and markets in which the Company and its subsidiaries operate. These impacts could materially increase our costs, negatively impact our consumer and business sales and damage the Company’s financial condition, results of operations, cash flows and liquidity position, possibly to a significant degree.

Federal, state and municipal governments in Brazil may announce further restrictions on the general population and we cannot predict what effect this will have on our operations and sales in the long term. We cannot predict the duration of the pandemic, the effectiveness of governmental or other measures taken to attempt to curb the pandemic, or the duration of any such measures. In addition, following the pandemic and the termination of any such governmental restrictions, the needs and preferences of our customers may have been altered. The continuation or a future resurgence of the pandemic could precipitate or aggravate the other risk factors that we face, which in turn could further materially and adversely affect our business, financial condition, liquidity, results of operations and profitability, including in ways that are not currently known to us or that we do not currently consider to present significant risks. We will continue to actively monitor the situation and may take further actions that alter our business operations as may be required by federal, state or local authorities, or that we determine are in the best interests of our employees, clients, suppliers and shareholders.

For more information about specific measures that we have adopted and potential impacts on our business operations, see "Item 4. Information on the Company—A. History and Development of the Company—Recent Developments—COVID-19 Pandemic" and "Item 5. Operating and Financial Review and Prospects— A. Operating Results—Overview—Effects of the COVID-19 Pandemic."

Extensive government regulation of the telecommunications industry and our concession agreements may limit, in some cases, our flexibility in responding to market conditions, competition and changes in our cost structure or impact our fees.

Our business is subject to extensive regulation, including any regulatory changes that may occur during the terms of our concession agreements and our authorizations to provide telecommunication services in Brazil. ANATEL, the main telecommunications industry regulator in the country, regulates, among other things:

- industry policies and regulations;
- licensing (including licensing of spectrum and bidding processes);
- fees and tariffs;
- competition incentives and restrictions (including our ability to grow by acquiring other telecommunications businesses);
- service, technical and quality standards;
- consumer rights;
- penalties and other sanctions;
- interconnection and settlement arrangements; and
- universal service obligations.

The Brazilian telecommunications regulatory framework is continuously evolving. The interpretation and enforcement of regulations, the assessment of compliance with regulations and the flexibility of regulatory authorities are all marked by uncertainty. We operate under authorizations and a concession from the Brazilian government, and our ability to maintain these authorizations and concessions is a precondition to our success. However, because of the changing nature of our regulatory framework, we cannot provide assurances that ANATEL will not adversely modify the terms of our authorizations and/or licenses. According to our operating authorizations and licenses, we must meet specific requirements and maintain minimum quality, coverage and service standards. Our failure to comply with such requirements may result in the imposition of fines, penalties and/or other regulatory responses, including the termination of our operating authorizations and concession. Any partial or total termination of any of our operating authorizations and licenses or our concession would have a material adverse effect on our business, financial condition, revenues, results of operations and prospects.

In recent years, ANATEL has been reviewing and introducing regulatory changes, especially regarding asymmetric competition measures and interconnection fees charged among local providers of telecommunications services. Asymmetric competition measures can include regulations intended to rebalance markets in which a market participant has distinct market power over other competitors. The adoption of disproportionately asymmetric measures could have a material adverse effect on our business, financial condition, revenues, results of operations and prospects.

With respect to interconnection fees, these are an important part of our revenue and cost bases. Such fees are charged by telecommunications service providers to each other in order to allow interconnected use of each other's networks. To the extent that changes to the rules governing interconnection fees reduce the amount of fees we can receive, or our ability to collect such fees, our businesses, financial conditions, revenues, results of operations and prospects could be materially adversely affected.

Therefore, our business, results of operations, revenues and financial conditions could be negatively affected by the actions of the Brazilian authorities, including, in particular, the following:

- the introduction of new or stricter operational and/or service requirements;
- the granting of operating licenses in our areas;
- limitations on interconnection fees we may charge to other telecommunications service providers;
- imposition of significant fines or penalties regarding failures to comply with regulatory obligations;
- delays in the granting of, or the failure to grant, approvals for rate increases; and
- antitrust limitations imposed by ANATEL and CADE.

Our concession may be revised by the Brazilian government under certain circumstances.

We operate our fixed-line business in the state of São Paulo under a concession granted by the Brazilian government. According to the terms of this concession, we are obligated to meet certain universal service requirements and to maintain minimum quality and service standards. For example, ANATEL requires that we satisfy certain conditions with respect to, among other things, the expansion of our network to: (i) provide public pay-phone services under specific conditions, despite significant reductions in requirements by Decree No. 9,619/2018; (ii) provide private individual telephone service for locations with a population of over 300 persons, upon request by any consumer; and (iii) meet certain service quality targets (as reviewed by Resolution No. 717/2019, which remains under implementation). Our ability to satisfy these terms and conditions may be affected by factors beyond our control, and our failure to comply with the requirements of this concession may result in the imposition of fines of up to R$50 million per incident and/or other government sanctions, including the imposition of a preemptive ban on marketing our services or the termination of our concession. The partial or total termination of our concession or other authorizations would have a material adverse effect on our financial condition and results of operations.

Furthermore, our concession agreements provide that all assets owned by us, and which are indispensable to the provision of the services described in such agreements, are considered “reversible assets” (*bens reversíveis*) and are deemed to be part of the concession assets, subject to reimbursement or amortization as compensation for these assets. In 2021, with the publication of ANATEL Resolution No. 744, or the Public STFC Services Continuity Regulation (*Regulamento de Continuidade da Prestação do Serviço Telefônico Fixo Comutado Destinado ao Uso do Público em Geral* (*STFC*) em Regime Público), or the Continuity Regulation, ANATEL established that, upon the end of an STFC concession contract, reversible assets used for several services, including our public regime STFC services, would be subject to a right-of-use assignment, under fair and reasonable economic conditions, by us and the new service provider or the Brazilian government. In turn, the possession of reversible assets that are effectively and exclusively used to ensure the continuity of public regime STFC services would be reverted to the granting governmental authority if the service continues to be provided (either by the Brazilian government or by the new concessionaire service provider). In this way, the Concessionaire’s assets, at the end of the concession contract on December 31, 2025, will not be susceptible to the reversal of its ownership to the Union. The assignment of the use of shared assets and the possession of exclusive assets of the STFC is now defined by means of specific contracts already provided for in the operational manual of the RCON, approved by Decision No. 269/2021/COUN/SCO. Pursuant to the administrative proceeding TC nº. 003.342/2022-0, in progress at the Federal Court of Accounts, a technical report stated that the RCON should be reviewed and such understanding shall still be submitted to the court’s ruling. Moreover, according to ANATEL’s interpretations of current regulations, reversible assets will not be available to creditors in the event of insolvency, bankruptcy or similar events, although there are differing interpretations, even among government agencies, and ongoing discussions regarding the treatment of reversible assets as a result of the passage of Law No. 13,879/2019, or the New General Telecommunications Law, on October 4, 2019. See “—A review of our concession agreements and/or the new telecommunications regulatory framework in Brazil could have a materially adverse effect on our operations.”

A review of our concession agreements and/or the new telecommunications regulatory framework in Brazil could have a materially adverse effect on our operations.

The expiration date of our fixed-line concession agreements in São Paulo is December 31, 2025. These agreements contain a provision permitting ANATEL to review the concession agreements every five years and include revisions to terms and conditions that relate to network expansion, modernization and quality of service targets in response to changes in technology, competition in the marketplace and domestic and international economic conditions.

On June 24, 2014, ANATEL opened a public review and comment period for the revision of the terms of fixed-line concession agreements with respect to the 2016-2020 period. However, when the agency released the new version of the agreements in June 2017, operators disagreed with the inclusion by ANATEL of certain provisions and decided against executing new agreements with the agency. As a result, the agreements with respect to the 2011-2015 period remain in force. In January 2021, although new concession contracts had not yet been signed, the Brazilian government published Decree No. 10,610/2021, or PGMU V, which approves the revision of PGMU targets. PGMU V establishes that the remaining balance of the previous PGMUs must be used in the construction of backbone networks with optic fiber technology.These targets have been criticized by several of the local operators.

In addition, on October 4, 2019, the New General Telecommunications Law was enacted. This law revises the telecommunications regulatory framework by amending the General Telecommunication Law and significantly impacts this industry. The law permits fixed-line concession operators to migrate from a concession regime (in which the underlying assets must be reverted to the government at the end of the concession) to an authorization regime. ANATEL will be responsible for estimating the gains obtained by operators as a result of migrating from one regime to the other. According to the New General Telecommunications Law, on July 5, 2022, ANATEL presented a methodology with an estimate of the economic value associated with the adaptation of the concession instrument for authorization, to be validated by the Federal Court of Accounts, which after the vote of the rapporteur minister for the legality of the methodology presented by ANATEL, is under analysis by another minister, and should resume to the court's agenda in March. After the final decision by the Federal Court of Accounts about the methodology applied, ANATEL will indicate the final amount to the adaptation of the concession instrument for authorization. This final amount, after confirmation and acceptance by Telefónica, will be converted into investment projects not yet defined by ANATEL. For more information about the New General Telecommunications Law, see "Item 4. Information on the Company—B. Business Overview—Regulation of the Brazilian Telecommunications Industry—Other regulatory matters—Updated regulatory framework."

Any additional changes to laws, rules or regulations could have a material adverse effect on our operations and financial condition. Changes to our concession agreements or further changes to the current regulatory framework may entail the imposition of new requirements, including obligations to make specific investments and/or capital expenditures. ANATEL may also impose new service targets on us with values that we are not able to predict.

Our current radiofrequency licenses may not be renewed for additional periods.

Generally, current spectrum authorizations are valid for 15 years. Although the New General Telecommunications Law admits successive spectrum renewals, we cannot guarantee that our existing licenses will be renewed. According to the New General Telecommunications Law and Decree No. 10,402/2020, ANATEL may set specific conditions for such renewals, such as mandatory "refarming" processes in certain spectrum bands, or refuse renewal requests altogether. A refarming process can reduce the amount of spectrum available to each operator, depending on the configuration of the new blocks.

Our current 850 MHz authorizations will expire between 2023 and 2028. If legal and regulatory requirements are met, ANATEL has agreed to the current authorizations for the use of radio frequencies in bands A and B, on a primary basis, until November 29, 2028. However, the specific conditions for renewal, including those related to economic valuation criteria and related obligations, were challenged by the affected service providers, including us. After ANATEL rejected complaints presented by the providers, a final disposition of the matter is still pending and will require a decision by the Brazilian Federal Court of Accounts (*Tribunal de Contas da União*), or the TCU.

Furthermore, since our licenses for the 900 MHz and 1,800 MHz band will expire in 2023, their renewal has been requested and a final decision by ANATEL is still pending. For instance, in August 2022, ANATEL approved the renewal of 900 MHz and 1,800 MHz licenses held by TIM until 2032.

Nevertheless, if there is no such renewal for the licenses previously mentioned, we would have to compete for new licenses in a spectrum auction. In addition, the coverage of our mobile services would be significantly affected by a loss of or failure to renew spectrum licenses. Further, in certain regions, our services may become unavailable, particularly in the event of a failure to renew or obtain all licenses for such regions. In the event of any of the foregoing circumstances, our business, financial condition, revenues, results of operations and prospects could be materially adversely affected.

We are exposed to risks in relation to compliance with anti-corruption laws and regulations and economic sanctions programs.

We are required to comply with anti-corruption laws and regulations in Brazil and in jurisdictions where our securities are traded. In particular, we are subject, in Brazil, to Law No. 12,846/2013, and in the United States, to the U.S. Foreign Corrupt Practices Act of 1977. Additionally, our operations may be subject to, or otherwise affected by, economic sanctions programs and other forms of trade restrictions (hereinafter referred to as sanctions), including those administered by the United States, including the U.S. Treasury Department’s Office of Foreign Assets Control.

Although we have internal policies and procedures designed to ensure compliance with such anti-corruption laws and sanctions regulations (to the extent applicable), there can be no assurance that such policies and procedures will be sufficient or that our employees, directors, officers, partners, agents and service providers will not take individual actions in violation of our policies and procedures (or, otherwise in violation of the relevant anti-corruption and sanctions laws and regulations) for which we, our subsidiaries or such employees, directors, officers, partners, agents and service providers may be ultimately responsible. Violations of such laws and regulations could lead to sanctions, reputational harm, or other legal consequences that could have a material adverse effect on our business, results of operations and financial condition.

We depend on key suppliers to obtain the necessary equipment and services for our business.

We depend on certain key suppliers of equipment and services, especially telecommunications network equipment and handsets, for the execution and development of our business. These suppliers may delay delivery, alter prices and limit supply as a result of problems related to their own businesses, over which we have no control. If these suppliers are not able to deliver equipment and services regularly, we may face problems with the continuity of our business activities, which may have an adverse effect on our business and results of operations.

Certain key inputs are subject to risks related to importation, and we acquire other key inputs from a limited number of domestic suppliers, which may further limit our ability to acquire such inputs in a timely and cost-effective manner.

The high growth in data markets in general and broadband in particular may result in a limited supply of equipment essential for the provision of such services, such as data transmission equipment and modems. The restrictions on the number of manufacturers imposed by the Brazilian government for certain inputs, mainly data transmission equipment and modems, and the geographical locations of non-Brazilian manufacturers of these inputs, pose certain risks, including:

- vulnerability to currency fluctuations in cases where inputs are imported and paid for with U.S. dollars, Euros or other non-Brazilian currency;
- difficulties in managing inventory due to an inability to accurately forecast the domestic availability of certain inputs; and
- the imposition of customs or other duties on key inputs that are imported.

If any of these risks materialize, they may result in our inability to provide services to our customers in a timely manner or may affect the prices of our services, which may have an adverse effect on our business, financial condition and results of operations.

We make investments based on demand forecasts that may become inaccurate due to economic volatility and may result in revenues that are lower than expected.

We make certain investments, such as the procurement of materials and the development of physical sites, based on our forecasts of the amount of demand that customers will have for our services at a later date (generally several months later). However, any major changes in the Brazilian economic scenario may affect this demand and therefore our forecasts may turn out to be inaccurate. For example, economic crises may restrict credit to the population, and uncertainties relating to employment may result in a delay in the decision to acquire new products or services (such as broadband or Pay TV). As a result, it is possible that we may make larger investments based on demand forecasts that were necessary given actual demand at the relevant time, which may directly affect our cash flow.

Furthermore, improvements in economic conditions may have the opposite effect. For example, an increase in demand not accompanied by our investment in improved infrastructure may result in a possible loss of opportunity to increase our revenue or result in the degradation of the quality of our services.

The transactions contemplated by the Oi Agreement may not be consummated, and if they are consummated, we may be unable to successfully integrate the assets and operations contemplated thereunder or to realize expected benefits.

Our ability to consummate the transactions contemplated by the Oi Agreement is subject to certain factors outside our control, such as various closing conditions. These include customary closing conditions in addition to others that, despite being usually applicable to this type of transaction, are beyond our control, such as the requirement to obtain approvals from certain governmental regulatory authorities, including from CADE and ANATEL. Although we have obtained approval of the transactions from CADE and ANATEL as of the date of this annual report, our ability to consummate the transactions contemplated by the Oi Agreement is also subject to other factors that are beyond our control, such as the possibility of litigation that may arise relating to the regulatory approvals process or the Oi Agreement transactions generally. See “Item 4.Information on the Company—A. History and Development of the Company—Historical Background—Acquisition of UPI Mobile Assets of the Oi Group.”

In addition, achieving the targeted synergies of the Oi Agreement, such as operating and long-term strategic cost-savings, will depend in part upon whether we can integrate the assets and operations contemplated thereunder in an efficient and effective manner. We may not be able to accomplish this integration process smoothly or successfully. We and the Oi Group operate numerous systems, including those involving clients, spectrum, infrastructure, management information, accounting and finance, sales, billing, and regulatory compliance. Moreover, the integration of the assets and operations will require significant managerial resources, which may distract management’s attention from day-to-day operations. Potential employee uncertainty and lack of focus during the integration process may also disrupt our business and result in undesired employee attrition. Our management’s failure to successfully integrate the assets and operations contemplated by the Oi Agreement with our business could have a material adverse effect on our business, results of operations and financial condition. Our failure to realize the full extent, or any, of the anticipated benefits and synergies of the acquisition of assets and operations under the Oi Agreement, as well as any delays in the integration process, could have an adverse effect on our business, results of operations and financial condition.

We face risks associated with litigation.

We are party to a number of lawsuits and other proceedings. An adverse outcome in, or any settlement of, these or other lawsuits could result in significant costs to us. In addition, our senior management may be required to devote substantial time to these lawsuits, which they could otherwise devote to our business. See “Item 8. Financial Information—A. Consolidated Statements and Other Financial Information—Legal Proceedings.”

Our results of operations may be negatively affected by changes to STFC or SMP rules.

We receive payments for the interconnection of calls in our fixed-line and mobile networks. Interconnection fees were set by ANATEL in December 2018 and February 2020 for STFC and SMP networks, respectively. See “Item 4. Information on the Company—B. Business Overview—Rates, Taxes and Billing—Interconnection fees.” However, we cannot assure you that new mobile service plans will not be suspended by ANATEL, that current fixed-line or mobile interconnection fees remain the same, or that future negotiations on fixed-line or mobile interconnection rates will result in favorable terms or rates. If current fixed-line or mobile interconnection fees are canceled, or if fixed-line or mobile interconnection fees in the future are less favorable to us, our business, financial condition, revenues, results of operations and prospects may be adversely affected.

ANATEL has the authority to issue new regulations affecting many of our areas of operations.

ANATEL has the authority to issue new regulations affecting many of our areas of operations. Such new regulations could have an adverse effect on our operating results because: (1) ANATEL could significantly reduce the interconnection fees we are able to charge, thereby reducing our revenues (see "—Our results of operations may be negatively affected by changes to STFC or SMP rules"); (2) ANATEL may allow more favorable conditions for economic groups without significant market power; (3) the granting of new licenses may increase competition in our area from other operators, which could adversely affect our prices and/or market share, thereby reducing our revenues; (4) ANATEL may require that revenue received for the usage of the SMP network must be included in the calculation of renewing licenses costs; and (5) ANATEL's general plan of updating the regulations targets several areas of vital importance for our business (including both our fixed-line telephone and mobile businesses), which may cause either an increase in operating costs, an increase in competitive pressure, or a decrease in our revenues, among other adverse effects.

For a detailed description of the regulations issued by ANATEL and their impact on our business, see "Item 4. Information on the Company—B. Business Overview—Regulation of the Brazilian Telecommunications Industry."

The industry in which we conduct our business is continually changing and evolving technologically, which demands adequate changes in the regulatory environment.

The telecommunications industry is subject to rapid and significant technological changes. Our future success depends on our ability to anticipate and adapt in a timely manner to technological changes. We expect that new products and technologies will emerge and that existing products and technologies will be further developed.

The advent of new products and technologies could have a variety of consequences. These new products and technologies may reduce the price of our services by providing lower-cost alternatives and the creation of new digital services, such as the example of OTT service providers that provide voice and messaging services over IP. Also, new products and technologies may become superior to, and render obsolete, the products and services we offer and the technologies we use, thus requiring our constant investment in new technology and innovation.

Such new technologies will demand changes in the regulatory environment, challenging both governmental agencies and telecommunication companies. Companies that provide OTT services, which have characteristics similar to telecommunications services, are currently not subject to the same rules as the telecommunications operators. This gap can bring additional challenges to the telecommunications industry, as current developments in the regulatory framework for OTTs are inconsistent and still unclear.

We are subject to certain risks related to conditions and obligations imposed by ANATEL for the use of the spectrum needed for the 4G and 5G services we offer.

In 2012, we acquired 40MHz on the 2.5GHz to 2.69GHz frequencies for the amount of R$1.05 billion. In order to meet the coverage requirements, we had the obligation of implementing 4G coverage in 1,094 cities by December 31, 2017. The remaining coverage commitments in cities with less than 30,000 inhabitants could be fulfilled with other frequency bands until December 31, 2019. Verification of compliance with these targets is controlled by ANATEL and, regarding the cities with less than 30,000 inhabitants, is in progress.

Regarding the 700MHz spectrum, ANATEL has allocated the band for the provision of fixed, mobile and broadband services. On September 30, 2014, we acquired 20 MHz (10+10 MHz) with nationwide coverage, for R$1.92 billion, at the minimum price, plus R$904 million for the band cleaning (migration of broadcasters that currently occupy the band) and interference management. According to the auction rules, the winning bidders were responsible for financing and managing the band cleaning process (Analog TV switch off) which was implemented through a legal entity specifically incorporated for this purpose, as set forth in the bidding process and applicable regulations (EAD). Since June 2019, all Brazilian municipalities are ready to activate LTE coverage in the 700 MHz band.

In November 2021, ANATEL held the largest spectrum auction in its history, which included 4G and, for the first time, 5G blocks, with 700 MHz, 2.3 GHz, 3.5 GHz and 26 GHz lots. On that occasion, we acquired 3.5 GHz and 26 GHz national licenses (100 MHz and 600 MHz bandwidths, respectively). We also won regional 2.3 GHz licenses, with 50 MHz bandwidth in the southeast region of Brazil (except São Paulo state and PGO Sector 3) and 40 MHz bandwidth in São Paulo state and in the north and mid-west regions of Brazil (except PGO Sectors 22 and 25). These acquired licenses, which we purchased for a total of R$4.45 billion, of which R$0.9 billion is related to licenses and the remaining amount related to the obligation described below. The licenses ensure we have the required spectrum to provide 5G services, and are valid for 20 years (renewable under the then-existing legal conditions at the expiration of this term).

ANATEL also set forth obligations to be fulfilled by the winners of the 5G spectrum auction. For the 2.3 GHz and 3.5 GHz spectrum bands, these obligations include coverage commitments, the deployment of fiber optic backbone networks in locations with little or no connectivity infrastructure, the implementation of the Integrated and Sustainable Amazon Program (*Plano Amazônia de Integração e Sustentabilidade*), and devising a project for a private communications network reserved for the Brazilian federal government, as well as the funding activities related to the migration of satellite TV services from the C-band to the Ku-band. Winners of the 26 GHz spectrum bands, in turn, will have to invest in connectivity projects aimed at selected public schools throughout Brazil.

The targets established by ANATEL for the fast-paced implementation of networks could be impacted by (1) our ability to obtain licenses for the construction of new sites at the speed necessary to achieve the coverage targets, (2) the capacity of our suppliers to deliver the equipment necessary for this expansion, which may increase the price of such equipment, and (3) lack of qualified resources to meet the expected implementation pace.

If we are not able to meet targets and obligations set forth in the bid documents, ANATEL may execute our bank guarantees, we may be subject to fines and/or have our licenses to operate these frequencies revoked, negatively affecting our business and results of operations. Additionally, the inefficient use of any frequency may lead to the loss of the usage license. Furthermore, ANATEL may also impose new targets, conditions and/or obligations on us that we are not able to predict (see "—A review of our concession agreements and/or the new telecommunications regulatory framework in Brazil could have a materially adverse effect on our operations"). Any of the above factors could have a material adverse effect on our operations and financial condition.

Our sales could be suspended as a result of issues with the quality of our services.

ANATEL and other judicial and administrative agencies have the authority to suspend our sales in an attempt to improve the overall quality of telecommunications services. Sales suspensions are generally applied to the services for which there have been complaints by consumers and the consumer protection agencies. When applied, the suspension is temporary and usually lifted once the company presents an action plan for improvement. In July 2012, ANATEL suspended mobile service sales by our competitors, Oi, Claro and TIM, as a result of a considerable increase in consumer complaints. The suspensions lasted about 20 days and ANATEL requested that all telecommunications companies, including us, present an action and investment plan to improve the mobile network. Although our action plan was approved by ANATEL in September 2012, if a similar increase in customer complaints occurs in the future we may face suspension of one or more of our services until a new plan can be presented to and approved by ANATEL, which may materially affect our business and results of operations.

We are subject to the risk of noncompliance with data privacy and protection laws, which may lead to sanctions, including financial penalties.

In 2018, the President of Brazil approved Brazilian Law No. 13,709/2018, named the General Personal Data Protection Law (*Lei Geral de Proteção de Dados*), or the LGPD, which came into force on September 18, 2020, a comprehensive data protection law establishing the general principles and obligations that apply across multiple economic sectors and contractual relationships. Certain aspects of the LGPD will be subject to further regulation by the National Data Protection Authority (*Autoridade Nacional de Proteção de Dados*, or the ANPD, in accordance with the ANPD's Ordinances No. 11/2021 and 35/2022.

The LGPD establishes detailed rules for the collection, use, processing and storage of personal data in all economic sectors, regardless of whether data is collected in a digital or physical environment. In general, our services and processes depend on personal data. The way in which we collect, store and manage this data must comply with the provisions of the LGPD. In addition, the administrative sanctions provided for in the LGPD (arts. 52, 53 and 54), came into force on August 1, 2021, pursuant to Law No. 14,010/2020. Sanctioning is expected to follow ANPD Regulation No. 1/2021, which was approved following public notice and comment by the ANPD's board of directors. In the event of a violation of the LGPD, we may be subject to (1) legal notices and the required adoption of corrective measures, (2) fines of up to 2% of our or our economic group's revenues up to a limit of R$50.0 million per infraction, (3) publication of the infraction following confirmation of its occurrence, (4) the blocking and erasing of personal data involved in the infraction, (5) partial or complete suspension of the infringing processing activities for up to one year and (6) partial or complete prohibition to engage in processing activities.

We may be held liable for material, punitive, individual or collective damages to the data subjects due to the processing of their personal data and could be held individually or jointly liable for material, punitive, individual or collective damages caused by us, our subsidiaries, service providers that may process personal data on our behalf or our affiliates due to non-compliance with the obligations set forth by the LGPD and other laws and regulations in force that address data protection, which may adversely affect our reputation and results and, consequently, the value of our shares.

Failure or insufficiency to adopt efficient measures to protect personal data or failure to maintain compliance with the LGPD may lead to the application of fines, obligation to disclose relevant incidents to the market, obligation to eliminate personal data from relevant databases and suspension of access to our databases and prohibition of our activities related to the processing of compromised data. We also may be subject to sanctions not related to the supervision of the ANPD, since consumer protection authorities and the Public Prosecutor's Office have already been active in pursuing data privacy violations even before the LGPD became effective. Accordingly, failure to protect personal data processed by us or any failure to implement adequate data protection measures in response to applicable legislation may subject us to additional costs such as the payment of fines and indemnities, implementation of adjustment measures, and loss of business, in addition of civil sanctions, which may adversely affect our reputation and results.

In addition, the application of administrative sanctions under other laws dealing with privacy and data protection issues might be possible, such as the Consumer Protection Code and the Brazilian Civil Rights Framework for the Internet. These administrative sanctions may be imposed by other public authorities, such as the Public Prosecutors' Offices, the National Consumer Secretariat and consumer protection agencies. We may also be subject to liability in the civil sphere for violation of these laws. Sanctions imposed against us by these authorities may also adversely affect our reputation and results and, consequently, the value of our ADSs and common shares.

Internet regulation in Brazil is still limited and several legal issues related to the Internet are uncertain.

In 2014, Brazil enacted a law, which we refer to as the Brazilian Civil Rights Framework for the Internet (*Marco Civil da Internet*), setting forth principles, guarantees, rights and duties for the use of the Internet in Brazil, including provisions about internet service provider liability, internet user privacy and internet neutrality. In May 2016, further regulations were passed in connection with the referred law. The administrative penalties imposed by the Brazilian Civil Rights Framework for the Internet include notification, fines (up to 10% of the revenues in Brazil of the relevant entity's economic group in the preceding fiscal year) and suspension or prohibition from engaging in data processing activities. The Brazilian Civil Rights Framework for the Internet also determines joint and several liability between foreign parent companies and local Brazilian subsidiaries for the payment of fines that may be imposed for breach of its provisions. Administrative penalties may be applied cumulatively. Daily fines may be imposed in judicial proceedings, as a way to compel compliance with a Brazilian court order. If for any reason a company fails to comply with the court order, the fine can reach significant amounts. We may be subject to liability under these laws and regulations should we fail to adequately comply with the Brazilian Civil Rights Framework.

However, unlike in the United States, little case law exists around the Brazilian Civil Rights Framework for the internet and existing jurisprudence has not been consistent. Legal uncertainty arising from the limited guidance provided by current laws in force allows for different judges or courts to decide very similar claims in different ways and establish contradictory jurisprudence. This legal uncertainty allows for rulings against us and could set adverse precedents, which individually or in the aggregate could seriously harm our business, results of operations and financial condition. In addition, legal uncertainty may harm our customers' perception and use of our service.

Some of our debt agreements contain covenants, key performance indicators, and targets; as such, any default or failure to reach such targets under such debt agreements may have a material adverse effect on our financial condition and cash flows.

Some of our existing debt agreements contain restrictions and covenants and require the maintenance or satisfaction of specified financial metrics and tests. Failure to comply with or fulfill any of these restrictions, covenants, financial metrics or financial tests could result in a default under these agreements, which would have a material adverse effect on our financial condition.

We are subject to environmental laws and regulations. Failure to comply with governmental laws and regulations could subject us to penalties that could have an adverse effect on our business and reputation.

Our operations and properties are subject to a variety of environmental laws and regulations governing, among other subjects, environmental licensing and registries, protection of flora and fauna, air emissions, waste management and remediation of contaminated areas. Our failure to comply with present and future requirements, or to identify and manage new or existing environmental liabilities, could cause us to incur substantial costs, including investigation and remediation costs, indemnification, compensation, conduct adjustments, fines, suspension of activities and other penalties, investments to upgrade our facilities or change our processes, as well as damages to the company´s reputation. The identification of presently unidentified environmental issues, change in evaluation criteria by regulatory agencies, enactment of more restrictive laws and regulations or other unanticipated events may arise in the future and result in material environmental liabilities and related costs. The occurrence of any of the foregoing could have a material adverse effect on our business, results of operations, assets and financial condition.

Man-made or natural disasters, including extreme weather conditions due to climate change (high temperatures, floods, thunderstorms) or other unexpected events could adversely affect networks, systems, infrastructure and service continuity.

Our operations may be suspended or interrupted for an indeterminate period in case of adverse events, such as a result of damages to our transmission bases, natural disasters, climate change or other environmental events or natural or man-made disasters, including fire, explosion, storms, geopolitical disruptions, civil unrest or health crises (such as the COVID-19 pandemic) or any other unexpected events.

Climate change poses a number of potential risks for telecommunications operators like us, from both a physical and regulatory perspective. Global climate change may exacerbate the severity and frequency of natural disasters. The rising intensity and frequency of occurrence of storms, heatwaves and wildfires could increase the damage to our infrastructure and failures of our wireline and wireless networks caused by such natural disasters. Should severe natural disasters occur in quick succession, we may not have sufficient resources to repair and restore our infrastructure in a timely and cost-effective manner. The increase in the likelihood of our infrastructure being damaged by natural disasters could have a material adverse impact on our operations.

Rising mean temperatures could increase our operating costs due mostly to the increase in refrigeration needs of network equipment. High temperatures also can affect the telecommunication equipment producing failures, write-offs and early retirement and therefore increase the risk of service disruption; therefore, cooling is essential.

An increase in energy costs is one of our main climate-related risks (transitional risk). The Telecom sector is not especially dependent on fossil fuels but is very dependent on electricity consumption for its networks, so an increase in electricity prices due to a shortage of natural resources could have a significant impact on our energy-related operating expenses.

If we are unable to mitigate or prevent any such damage in the event of a natural or man-made disaster and any other unexpected events, the suspension or interruption of our operations could have an adverse effect on the continuity of our operations, our financial results and compliance with applicable regulations. To manage these risks, we promote energy efficiency programs, renewable energy plans and distributed energy generation, in addition to having a dedicated business continuity department guided by the Global Business Continuity Regulation, which prescribes guidelines on the preventive management of risks, and which supports the resilience of our operations against potential interruptions.

Companies operating in the telecommunication industry, including us, may be harmed by restrictions regarding the deployment and maintenance of network infrastructure.

Currently, hundreds of municipal laws in Brazil limit the installation of new antennas for mobile service. This scenario has been a barrier to the expansion of mobile networks. Those laws are meant to regulate issues related to zoning and the alleged effects of the radiation and radio frequencies of the antennas. Despite the existence of a federal law enacted in 2015, that addresses this issue by establishing new guidelines to create a consolidated plan for the installation of antennas, as long as the municipal laws remain unchanged, the risk of non-compliance with regulations and of having services of limited quality in certain areas continues to exist.

Additional antenna installation is also limited because of concerns that radio frequency emissions from base stations may cause health problems and other environmental impacts. These concerns could have an adverse effect on the wireless communications industry and, possibly, expose wireless providers, including us, to litigation. Based on information from the WHO we are not aware of any evidence in the latest medical research that conclusively establishes any relationship between radio frequency emissions of base stations and health concerns. Perceived risks may, however, delay the expansion of our network if we experience problems in finding new sites, which in turn may delay expansion and affect the quality of our services. For instance, in May 2009, Law No. 11,934/2009 was enacted, which limits the exposure for fields with frequencies of up to 300 GHz. The new law uses the exposure limits determined by the International Commission on Non-Ionizing Radiation Protection and recommended by the WHO and restricts the installation of new antennas.

New laws and regulations may also create additional restrictions on our transmission infrastructure, which in turn, could have an adverse effect on our business. Health concerns regarding the effects of radio frequency emissions may also discourage the use of mobile telephones and may result in the adoption of new measures by governments or any other regulatory interventions, any of which could materially and adversely affect our business, results of operations and financial condition.

Changes in taxes and other assessments may adversely affect us and our shareholders.

The legislatures and tax authorities in the tax jurisdictions in which we operate regularly enact reforms to the tax and other assessment regimes to which we and our customers are subject. Such reforms include changes in tax rates and, occasionally, enactment of temporary taxes, the proceeds of which are earmarked for designated governmental purposes. In addition, the interpretation of tax laws by courts and taxation authorities is constantly evolving. In Brazil, the tax system is highly complex and the interpretation of the tax laws and regulations is commonly controversial. The effects of these changes and any other changes that result from the enactment of additional tax reforms or changes to the manner in which current tax laws are applied cannot be quantified and there can be no assurance that any such reforms or changes would not have an adverse effect upon our business.

The Brazilian government regularly implements changes to tax regimes that may increase the tax burden on us, our subsidiaries and jointly-controlled entities and their respective customers. These changes include modifications in the rate of assessments and the enactment of new or temporary taxes, the proceeds of which are earmarked for designated governmental purposes.

In addition, the new administration proposed during the presidential campaign to revoke the income tax exemption over the distribution of dividends, which, if promulgated, would increase tax expenses associated with any dividends or distributions, which could impact our ability to pay dividends and receive future dividends from our subsidiaries. Any purported tax reform, if proposed and implemented, may also significantly impact our business. Any future changes in tax policy or laws may adversely affect our business, financial condition and results of operations.

The ongoing war between Russia and Ukraine may have a material adverse effect on the global and Brazilian economies as well as on us.

The ongoing war between Russia and Ukraine has provoked strong reactions from the United States, the UK, the EU and various other countries around the world, including from the members of NATO. Following Russia’s invasion of Ukraine beginning on February 24, 2022, the United States, the UK, the EU and other countries announced broad economic sanctions against Russia, including financial measures such as freezing Russia’s central bank assets and limiting its ability to access its U.S. dollar reserves. The United States, the EU and the UK have also banned people and businesses from dealings with the Russian central bank, its finance ministry and its wealth fund. Selected Russian banks have also been removed from the Swift messaging system, which enables the smooth transfer of money across borders. Other sanctions by the UK include major Russian banks being excluded from the UK financial system, stopping them from accessing sterling and clearing payments, major Russian companies and the state being stopped from raising finance or borrowing money on the UK markets, and the establishment of limits on deposits Russians can make at UK banks. The United States, the EU and the UK adopted personal measures, such as sanctions on individuals with close ties to Mr. Putin, and placed visa restrictions on several oligarchs, as well as their family members and close associates, and freezing of assets.

While the precise effect of the ongoing war and these sanctions on the Russian and global economies remains uncertain, they have already resulted in significant volatility in financial markets, depreciation of the Russian ruble and the Ukrainian hryvnia against the U.S. dollar and other major currencies, as well as an increase in energy and commodity prices globally. Should the conflict continue to increase, markets may face continued volatility as well as economic and security consequences including, but not limited to, supply shortages of different kinds, further increases in prices of commodities, including piped natural gas, oil and agricultural goods, among others.

There remains considerable uncertainty as to the outcome of the war and its impact on the global economy, financial markets and the prices and supply of commodities and other products and services globally. The potential consequences of the war for us include, without limitation:

- The U.S. dollar may appreciate sharply which could increase the price of goods and services on which we depend for which we are required to pay in U.S. dollars, as well as increase the pressure on our margins and prices generally.

- Given that Russia and Ukraine are among the largest grain exporters in the world, a continuation of the conflict could result in increased inflation in Brazil and in measures by the Brazilian government and the Brazilian Central Bank to contain inflation, such as raising the basic interest rate, which could materially impact the cost of debt and third-party capital for our financing and investing activities.

- Inflation resulting from the ongoing COVID-19 crisis has been compounded by the conflict between Russia and Ukraine. Inflation makes it more difficult for us to conduct our financial planning, and increases the capital needed to fund our activities and our credit risk exposure. Measures by the Brazilian government and the Brazilian Central Bank to contain inflation, such as raising the basic interest rate, could materially impact the cost of debt and third-party capital for our financing and investing activities.

- A recession of the Brazilian and/or global economies as a result of the aforementioned developments could also have a material adverse effect on our business.

In addition, this conflict can exacerbate supply chain disruption, which was borne out of the COVID-19 pandemic and contributed to inflationary pressures throughout the world, leading to higher interest rates and financing issues.

Other potential consequences include, but are not limited to, growth in the number of popular uprisings in the region, increased political discontent, especially in the regions most affected by the conflict or economic sanctions, increased cyberterrorism activities and attacks, an exodus from regions close to the areas of conflict and an increase in the number of refugees fleeing across Europe, among other unforeseen social and humanitarian effects.

The effects of the war between Russia and Ukraine are ongoing, and its continuation or escalation could precipitate or aggravate the other risk factors identified in this annual report on Form 20-F, which in turn could further materially and adversely affect our business, financial condition, liquidity, results of operations and profitability, including in ways not currently known or considered by us to present material risks.

While as of the date of this annual report there have not been any material impacts from the ongoing war between Russia and Ukraine on our business, we are continuously monitoring the developments to assess any potential future impacts that may arise as a result of the ongoing war. The adverse effects—global or localized—of the ongoing war between Russia and Ukraine, and/or economic sanctions and import and/or export controls to be imposed by the United States, the UK, the EU or others, and their adverse effects on the wider global economy and market conditions could have a material adverse effect on our business, financial condition and results of operations.

Risks Relating to the Common Shares and the ADSs

Holders of our ADSs may face difficulties in serving process on or enforcing judgments against us and other persons.

We are organized under the laws of Brazil, and all of our executive officers and our independent public accountants reside or are based in Brazil. Also, four of our 12 board members reside or are based in Brazil. Substantially all of our assets are located in Brazil. As a result, it may not be possible for holders of the ADSs to effect service of process upon us or these other persons within the United States or other jurisdictions outside Brazil or to enforce any judgments obtained in the United States or other jurisdictions outside Brazil against us or such other persons. Because judgments of U.S. courts for civil liabilities based upon the U.S. federal securities laws may only be enforced in Brazil if certain conditions are met, holders may face greater difficulties in protecting their interests due to actions by us, our board members or executive officers than would shareholders of a U.S. corporation.

Holders of our ADSs are not entitled to directly attend shareholders' meetings and may only vote through the depositary.

Under Brazilian law, only shareholders registered as such in our corporate books may attend shareholders' meetings. All common shares underlying our ADSs are registered in the name of the depositary. A holder of ADSs, accordingly, is not entitled to directly attend shareholders' meetings. Holders of our ADSs may exercise their limited voting rights with respect to our common shares represented by the ADSs indirectly, and only in accordance with the deposit agreement relating to the ADSs. There are practical limitations on the ability of ADS holders to exercise their voting rights due to the additional steps involved in communicating with ADS holders. For example, we are required to publish a notice of our shareholders' meetings in certain newspapers in Brazil. Holders of our shares can exercise their right to vote at a shareholders' meeting by attending the meeting in person or voting by proxy. By contrast, holders of our ADSs will receive notice of a shareholders' meeting by mail from the ADR depositary following our notice to the ADR depositary requesting the ADR depositary to do so. To exercise their voting rights, ADS holders must instruct the ADR depositary on a timely basis. This voting process will take longer for ADS holders than for direct holders of our shares.

We cannot assure you that holders will receive the voting materials in time to ensure that such holders can instruct the depositary to vote the shares underlying their respective ADSs. In addition, the depositary and its agents are not responsible for failing to carry out holder's voting instructions or for the manner of carrying out your voting instructions. This means that holders may not be able to exercise their right to vote and may have no recourse if our shares held by such holders are not voted as requested.

Holders of our ADSs or common shares might be unable to exercise preemptive rights with respect to the common shares unless there is a current registration statement in effect which covers those rights or unless an exemption from registration applies.

Under Brazilian law, if we issue new shares for cash as part of a capital increase, we generally must grant our shareholders the right to purchase a sufficient number of shares to maintain their existing ownership percentage. Rights to purchase shares in these circumstances are known as preemptive rights. Holders of our ADSs or common shares in the United States will not be able to exercise any preemptive rights unless a registration statement under the U.S. Securities Act of 1933, as amended, or the Securities Act, is effective with respect to that future issuance of shares, or an exemption from the registration requirements of the Securities Act is available. We are not obligated to file a registration statement. Unless we file a registration statement or an exemption from registration applies, holders of our ADSs may receive only the net proceeds from the sale of their preemptive rights by the depositary, or if the preemptive rights cannot be sold, they will lapse and they will not receive any value for them. For more information on the exercise of these rights, see "Item 10. Additional Information—B. Memorandum and Articles of Association—Description of our Bylaws—Preemptive Rights."

An exchange of ADSs for common shares risks the loss of certain foreign currency remittance and Brazilian tax advantages.

Beginning on March 30, 2015, the different forms of foreign portfolio investments in Brazil, including investments via depositary receipts, have been regulated by CMN Resolution No. 4,373/2014, or Resolution No. 4,373, which revoked the former rule that had been in effect for the preceding 15 years (CMN Resolution No. 2,689/2000), and by Law No. 4,131/1962. Law No. 4,131/1962 was recently significantly amended by Law No. 14,286/2021, which became effective on December 31, 2022. However, relevant aspects of Law No. 14,286/2021, such as those pertaining to foreign portfolio investments in Brazil, remain subject to regulation by the Brazilian Central Bank, such that, as of the date of this annual report, we are unable to foresee the effects it will have on the Company.

Resolution No. 4,373 regulates the issuance of depositary receipts in foreign markets in respect of shares of Brazilian issuers. Pursuant to this regulation, the ADSs benefit from a certificate of foreign capital registration, which permits Citibank N.A., as