



padtec



padtec.com



Padtec goes where no one else goes_

by bringing high-capacity connections to life.
From Brazil to the Americas, from the smallest
to the largest business, we are where you are.

padtec.com





With a history that spans more than 20 years, _

we are honored to be a Brazilian multinational company that works alongside our customers to offer services that bring people together.

We live and breathe technology_

using our expertise to design new futures. We leverage connections and create new realities in a world that does not stop evolving.



Padtec by the numbers

R\$ 384.1 mi

Net revenue (LTM* 2Q23)

* LTM = last twelve months



PDTTC3
B3



720+

Employees
(july/2023)



Headquarters

Campinas, São Paulo (Brazil)

Rua Doutor Ricardo Benetton Martins, 1.000

Polo II de Alta Tecnologia

Tel.: +55 19 2104-9600



CEO

Carlos Raimar Schoeninger



National offices

São Paulo – Rio de Janeiro – Brasília – Fortaleza – Curitiba



International offices

Argentina – Chile – Colômbia – USA – Peru



EUA



Colômbia



Peru



Fortaleza



Brasília



Campinas



Rio de Janeiro



São Paulo



Curitiba



Chile



Argentina



Leaders The people that drive our connections



CEO AND INVESTOR
RELATIONS DIRECTOR

**Carlos Raimar
Schoeninger_**

With a Master in Business Administration from Fundação Getúlio Vargas (FGV), Raimar has over 20 years of experience in executive positions in the telecommunications, electromechanics, oil products and food sectors.

In the telecom sector, he held senior positions in large companies such as Telefônica Vivo and Globenet. Raimar, who has served on Padtec's Board of Directors as an independent member since 2016, took over the leadership of the company in 2021



VP OF EQUIPMENT
OPERATIONS

**Argemiro
Sousa_**

An Electronic Engineer who graduated from the University of São Paulo (USP) and has a Master's Degree in Electrical, Electronics and Communications Engineering from Unicamp, Argemiro took over Padtec's Business Leadership in 2008. The executive has more than 30 years of experience in the telecommunications, working in large companies in the segment, such as Alcatel-Lucent.



Leaders

The people that drive our connections



CEO OF PADTEC AMERICA AND
SVP OF INTERNATIONAL
OPERATIONS

**Manuel
Andrade_**

An Electronic Engineer with a Master's degree in Computer Science from IME (Instituto Militar de Engenharia), Manuel has more than 20 years of experience, working in countries in the Americas, Asia and Europe. Prior to his arrival at Padtec, Manuel held the position of vice president at large companies in the telecommunications sector – such as Xtera, ECI, Westell and Moddata. He has served as CEO of Padtec SA from 2015 to 2020.



VP OF PLATFORMS
AND SOLUTIONS

**Alexandre
Piovesan_**

A Systems Analyst graduated from the Pontifical Catholic University of Campinas (PUC), with an Executive MBA in Business Management from the Getúlio Vargas Foundation (FGV), the director has more than 30 years of experience in the areas of operations and services, working in large companies in the telecommunications sector – including Embratel.



Leaders

The people that drive our connections



CHIEF LEGAL COUNSEL
AND COMPLIANCE OFFICER

Patricia
Iqueda_

A lawyer who graduated from the University of São Paulo (USP), Iqueda has more than 15 years of experience in the legal field, working for large companies in the telecommunications sector, such as Vivo and Oi.



CFO

Ramon
Cabral_

Business Administrator with an MBA in Financial Management, Controllershship and Auditing from Fundação Getúlio Vargas (FGV), Ramon Cabral Pereira has more than 10 years of experience in the financial area, working in companies from different sectors of the economy.



Leaders

The people that drive our connections



CEO AND INVESTOR
RELATIONS DIRECTOR

Carlos Raimar
Schoeninger_

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VP OF EQUIPMENT
OPERATIONS

Argemiro
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CEO OF PADTEC
AMERICA AND SVP
OF INTERNATIONAL
OPERATIONS

Manuel
Andrade_



VP OF PLATFORMS
AND SOLUTIONS

Alexandre
Piovesan_



CHIEF LEGAL COUNSEL
AND COMPLIANCE
OFFICER

Patricia
Iqueda_



CFO

Ramon
Cabral_



Overview



Growth

That's what we are here for: to cross borders and be present in many different places. In Brazil, Latin America, North America and around the world. In each territory, establish partnerships and start a transformation. We are here to enhance connectivity, because_

connections

are fundamental in the contemporary world. They are at the basis of everything. They define experiences. They accelerate business and the economy, promote the development of science, improve the dynamics of governments and society and the relationships between people. Connections generate value and that is why we work towards_

to create

solutions using the most advanced technology and to deliver excellence in services and operations. The equipment we develop operates in fiber optic data transmission networks and significantly multiplies their capacity, performance and effectiveness. To explain our impact, we use an inspiring metaphor: we color networks. From that, we create_

new realities

Confident of what we do in the present (together with our employees, partners, customers, investors), we focus on tomorrow with a positive vision and we see growth, inclusion, preservation of resources and sustainability. It's like we see a new future.



Values



Exceed expectations

Our bar is set high. We always look ahead, investing in excellent, long lasting and exceptional solutions.

Working together to increase knowledge

In our universe, everything depends on teamwork. We value our collective intelligence, as diverse as the challenges we solve.

Respect people, respect the future

We exist to improve people's lives. Respect, accessibility, honesty, transparency and ethics in relations are our values; to make an increasingly positive impact on the sector is our goal.

Challenge the complexity

Whether it's a new technology or service, special requirements or network performance, or even the analysis of a large volume of information, our industry seems complex – and it is.

But for us, it is an opportunity to take on and overcome challenges.

Create value for everyone

Each part of our ecosystem should benefit from our actions, improve their outcomes, differentiate themselves and retain their customers.

The world connects and both society and the economy win.

In short: we connect Brazil and the world and our shareholders receive the return they deserve.



History



2001



Padtec starts_

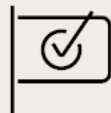
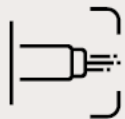
as a spin-off from CPQD's optical communication laboratories, manufacturing and supplying long distance DWDM systems.

Padtec acquires important clients_

and begins its expansion throughout Brazil.



2002 - 2006



2010 - 2013



It completes a decade of operations_

with more than 100,000 km of backbone networks installed throughout South America and attracts a new investor: BNDESPar, the BNDES' shareholding arm. It also opens its commercial office in the United States.

Padtec connects Brazil and the world_

in the greatest World Cup of all times, performs the Sea Trial of its submarine repeater in the Caribbean Sea and implements a system with sub-fluvial cable in the Rio Negro, in Manaus.Negro, en Manaus.



2014 - 2016



2017 - 2019



Delivers its first deployment of an underwater optical network to Google_

Padtec completes the sale of the subsea systems division and its OTN Switching business unit to important multinationals in the sector.

Padtec completes the merger of its shares into Padtec Holding_

to raise capital on the stock exchange and expand its investments in the development of cutting-edge technology and expansion into new markets.



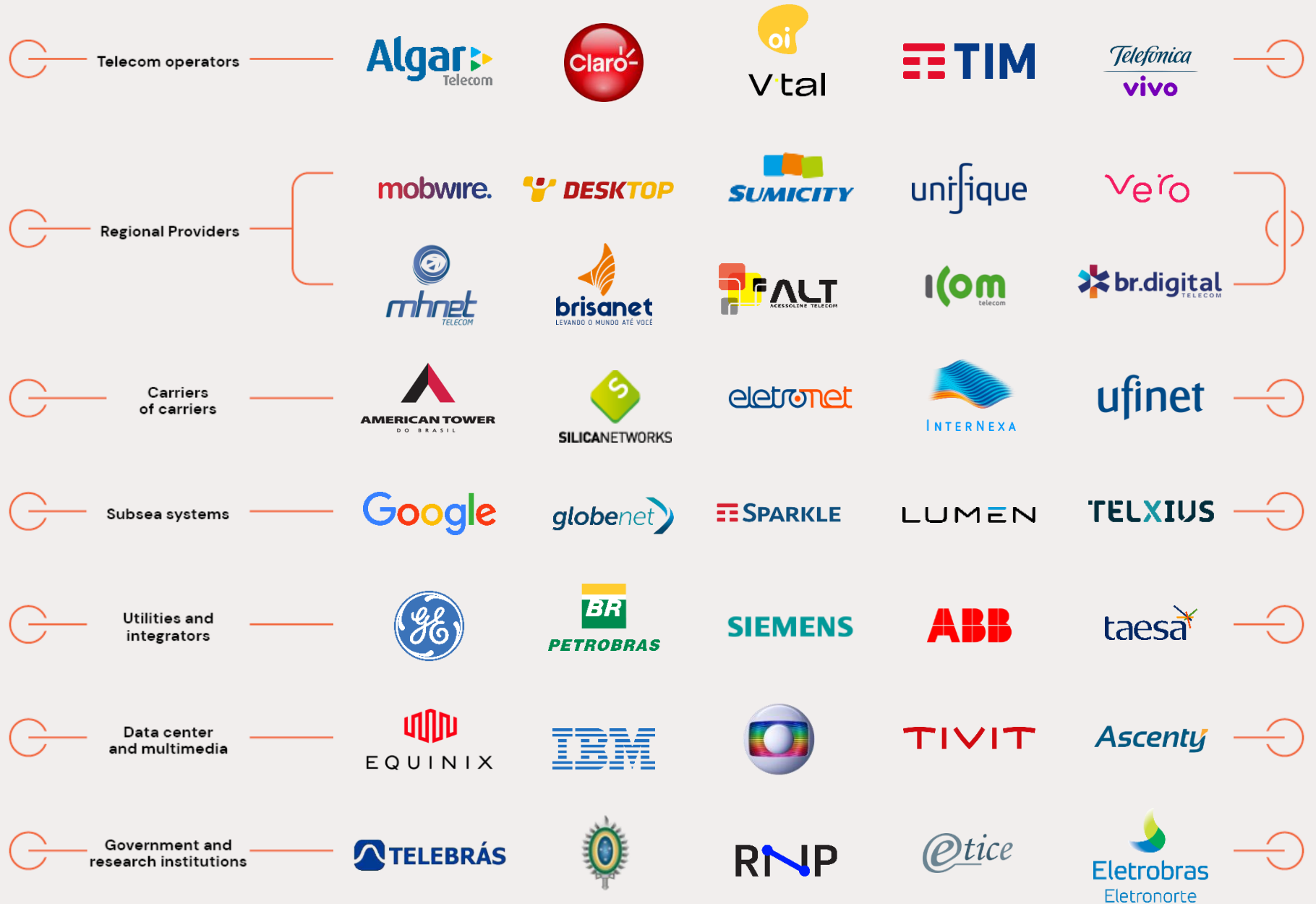
2020 - 2022





Customer portfolio

We've said it before and we'll say it again: from Brazil to the Americas, from the smallest to the biggest business, we're where you are.



Made by people, for people



720⁺



employees and interns

510⁺



employees at the company's headquarters in Campinas

210⁺



employees in São Paulo, Rio de Janeiro, Fortaleza, Brasília, Argentina, Colombia and USA and in Maintenance Centers throughout Brazil

82%

is the engagement rate of the company's employees*

60%

of employees with college

3%

with completed doctorate and master's degrees

25%

of the company's employees are engineers

21%

of employees are women

24%

of women in leadership positions

Generations**

1.5%

Baby boomers
(born between 1940 and 1959)

26.7%

Generation X
(born between 1960 and 1979)

64.1%

Generation Y
(born between 1980 and 1999)

7.7%

Generation Z
(born between 2000 and 2010)

* Source: Padtec Climate Survey
Data from July/2023

** Definition by Sidnei Oliveira

A man and a woman in a server room looking at a laptop. The man is on the left, wearing a light blue shirt, and the woman is on the right, wearing a dark blue blazer and glasses. They are both smiling and looking at a laptop held by the woman. The background is a server room with many racks of servers and blue lighting. The image is framed by a large, dark, circular shape.

Business

Understand how we create
new realities.



Business units

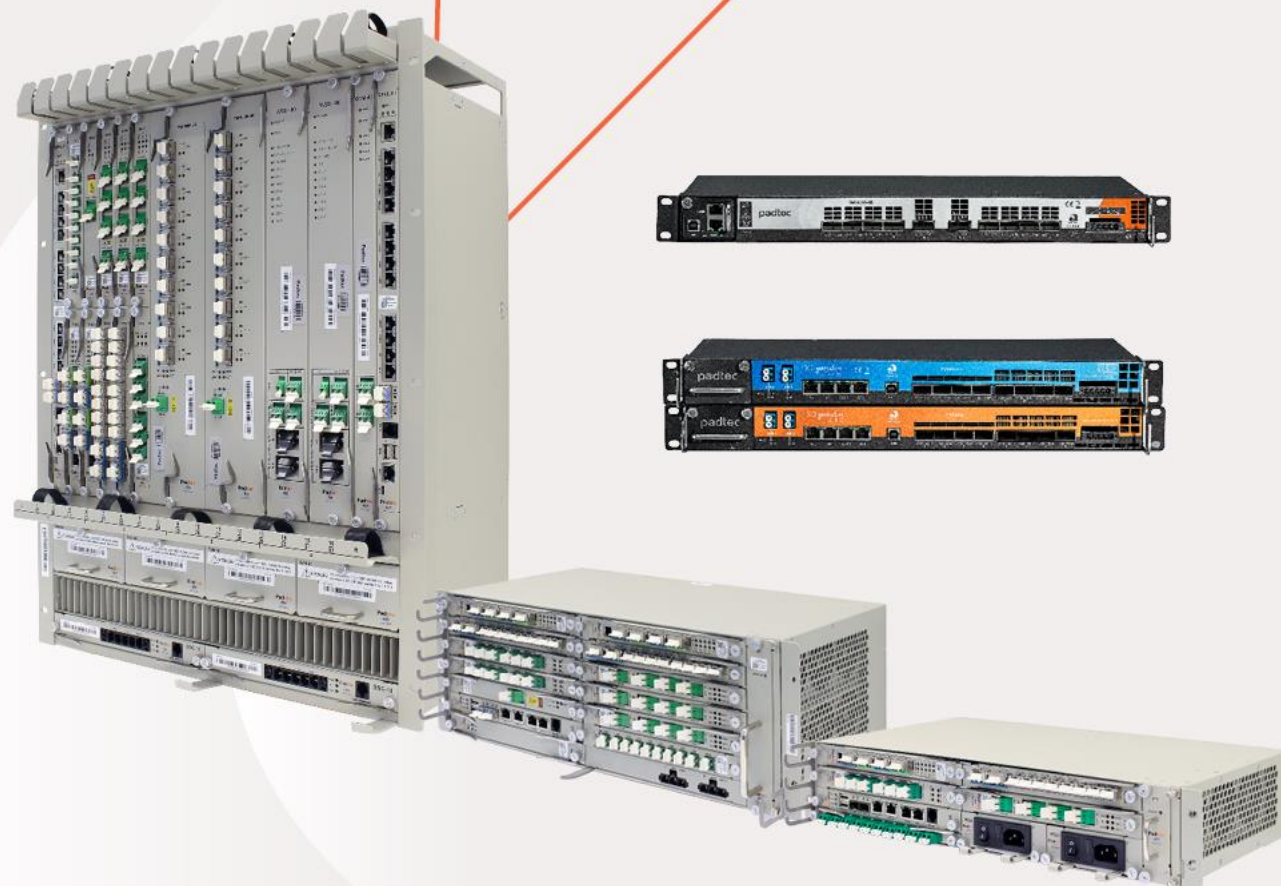


Optical Networks

- LightPad i6400G Platform
- DCI transponders (up to 600Gb/s per channel)
- ROADMs up to 9 degrees
- EDFA, Raman and hybrid amplifiers
- LightPad OTDR Platform
(*Optical Time-Domain Reflectometer*)

Platforms and solutions

- Smart Site
- Network Operation and Maintenance
- Network Management
- Description
- Spaas (Spare Part as a Service)
- Fiber Monitoring
- Training center
- Site Survey





Business units

Optical networks

LightPad i6400G Platform

**LightPad i6400G: a platform for
the most diverse solutions**

Our platform delivers a carrier-class solution for high-capacity multi-service transport across diverse network architectures.

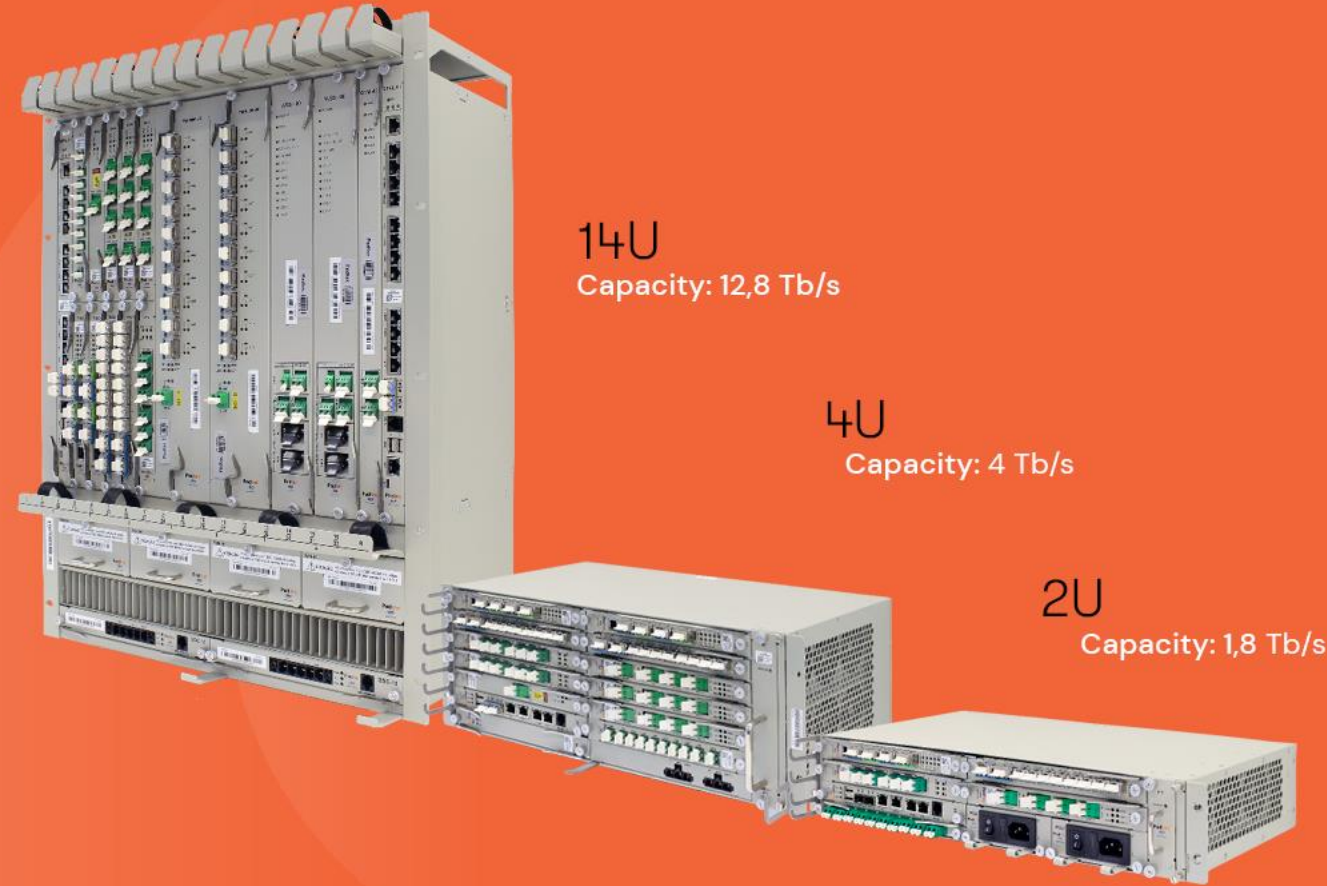


Applications

- Terrestrial and submarine backbones
- Metro and aggregation networks
- DCI and SAN extension scenarios

Technologies

- DWDM (*Dense Wavelength Division Multiplexing*)
- ROADM WSS (*Wavelength Selective Switch*)
- OTN (*Optical Transport Network*)
- ODU-XC (*ODU cross-connect*)





Business units

LightPad i6400G Platform

Product family



Muxponder Dual 400G TMD400G

- Network Interfaces
- 2x CFP2-DCO 400G
- Rate configurable from 100 Gb/s to 400 Gb/s
- Client Interfaces
- QSFP28 SR or LR
- Up to 8x 100G
- Port activation by license
- 4x100G dual muxponder application
- ALO protection features (Auto Laser Off), Loopback y OSNC



Combiner 200G TCX200G-9A

- Line interfaces
- CFP2-DCO, applications:
 - 1x CFP2 200G
 - 2x CFP2 100G
- QSFP+ client interfaces
- 2x QSFP+/QSFP28 up to 100G
- Protocols: 4x10G/40G/100G
- SFP+ client interfaces
- 12x SFP+ up to 16G
- Protocols: sub10G/10G/16G

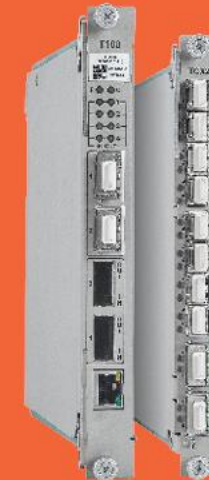


Optical networks

Linecards

100/200 Gb/s

- Muxponder 200G (2x100G)
- Regenerador 100/200G (2x100G)
- Dual 100G ((2x100G)



Linecards

10Gb/s

Applications

- Dual Terminal
- Protected ring (x-connect)

Operation mode

- 2x OTU2
- 3x OTU1

Functionalities

- OSNC protection (route)
- ALO for use with optical switch



Business units

Optical networks

Passive solutions

Mux/Demux

Low Loss

- Low loss Mux/Demux developed specifically for this application
- Network design and performance guaranteed by Padtec
- Possibility of using amplifiers for link extension



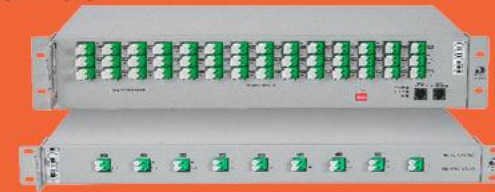
Mux/Demux

48 channels with and without VOA

Complete portfolio for Add/Drop channels.

Mux/Demux from 4 to 96 channels

- Standalone mechanics
- Options with VOA
- Colorless Options
- 2, 4 and 8 channel OADMS



Passive Box

- Entry solution for DWDM technology
- Colored SFP+ for use directly with switches and routers



OADM

Optical/Add-Drop/Multiplexer





Business units

Optical networks

Amplifiers



Amplifiers EDFA



Raman and ROPA

C Band EDFA

- Low noise amplifiers
- 18 dBm family

C+ Band

- EDFA 21 dBm
- Raman 29 dBm
- Hybrid EDFA + Raman

Special solutions

- Raman 33 dBm
- ROPA C+
- ROPA optimized for few channels

Optical switches

OPS-Hx (Optical Protection System)

Characteristics

- Switching time <15 ms
- Route monitoring
- Single and Multimode Models
- One or two switching units on the same module





Business units

Optical networks

ROADM



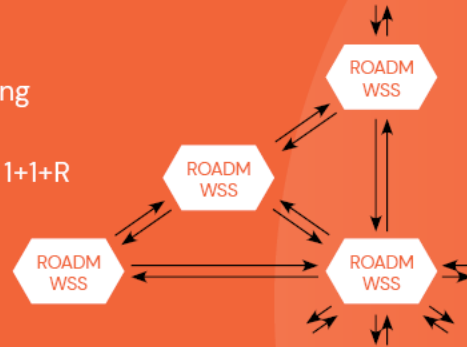
Wavelength Selective Switch
WSS9-9A and WSS4-9A

Functionalities

- End-to-end provisioning
- Automatic EQ
- Protection 1+1, 1+R and 1+1+R

Architecture:

- Directed
- Directionless
- Colorless
- ReaGrid



Wavelength Selective Switch
WSS2-HA

- 2 degrees
- Characteristics:**
- Ring topology
 - Low insertion loss
 - Embedded OCM
 - Protection and restoration ready



OCM-HR
High Resolution - Optical Channel Monitoring

- Power monitoring and OSNR of DWDM channels
- 8 independent monitoring ports
- Compatible with FlexGrid channels
- Applications for networks without WSS or at WSS nodes





Business units

Optical networks

Padtec Muxponders 1200G and 800G

**If you have Padtec technology,
capacity is included.**

The TM1200G and TM800G muxponders are ideal for very high capacity applications in short, medium and long distance DWDM networks.



TM1200G

- Transmission rates from 100 Gb/s to 600 Gb/s
- Configurable modulations: DP-QPSK to DP-64QAM
- Transmission capacity of 38.4Tbps in the C+ Band
- Support for Fine Tuning
- Compatible with MicroMux module
- 27% SD-FEC* for "Ultra High Gain"
- Maximum power consumption: 340W



TM800G

- Transmission rates from 100 Gb/s to 400 Gb/s
- Configurable modulations: DP-QPSK to DP-16QAM
- Transmission capacity of 25.6Tbps in the C+ Band
- Support for Fine Tuning
- Compatible with MicroMux module
- 27% SD-FEC* for "Ultra High Gain"
- Maximum power consumption: 340W





Business units

Optical networks

Dual 400G Transponder

Standalone transponder with up to 400 Gb/s (per optical channel)
ideal for point-to-point applications
or traditional DWDM solutions

TMD400G-SD

- Standalone mechanics with low rack space requirements (1RU height)
- Low cost coherent solution from 100G to 400G
- Used in single wavelength point-to-point systems
- Traditional DWDM application
- Network interface based on the new 400G ZR standard
- Entry level solution with built-in supervisor





LightPad OTDR

Optical Time-Domain Reflectometer

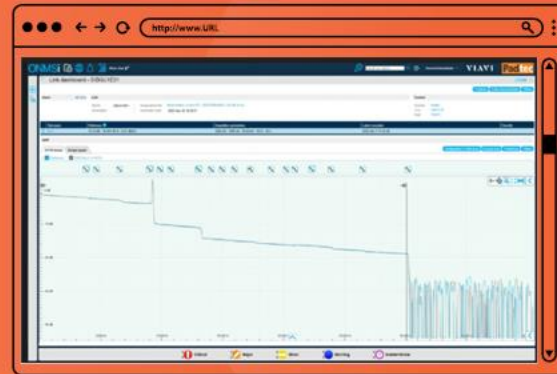
Monitoring, in real time, the status of your network.

The latest generation product, which is part of VIAVI's OTDR OTU-5000 series, remotely and automatically monitors the integrity of optical fibers.

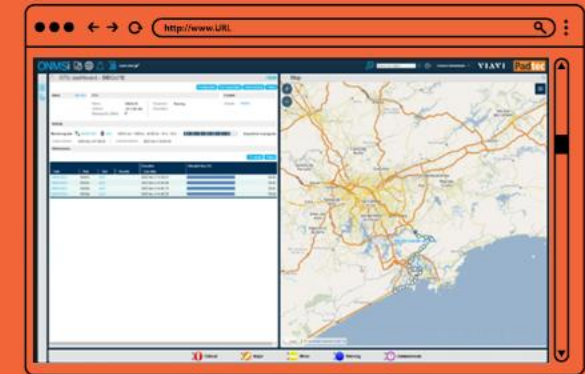
- Unit with 3 slots for OTDR or WDM filters
- Number of fibers monitored: 4, 8 or 16
- Low power consumption (10W)
- Range of ~120 km (Dynamic Range: 39 dB)
- Monitoring of active or dark fibers
- Network operating band 1260 nm to 1580
- Graphical interface with conventional OTDR traces



Monitoring Software



Monitoring chart example





Business units

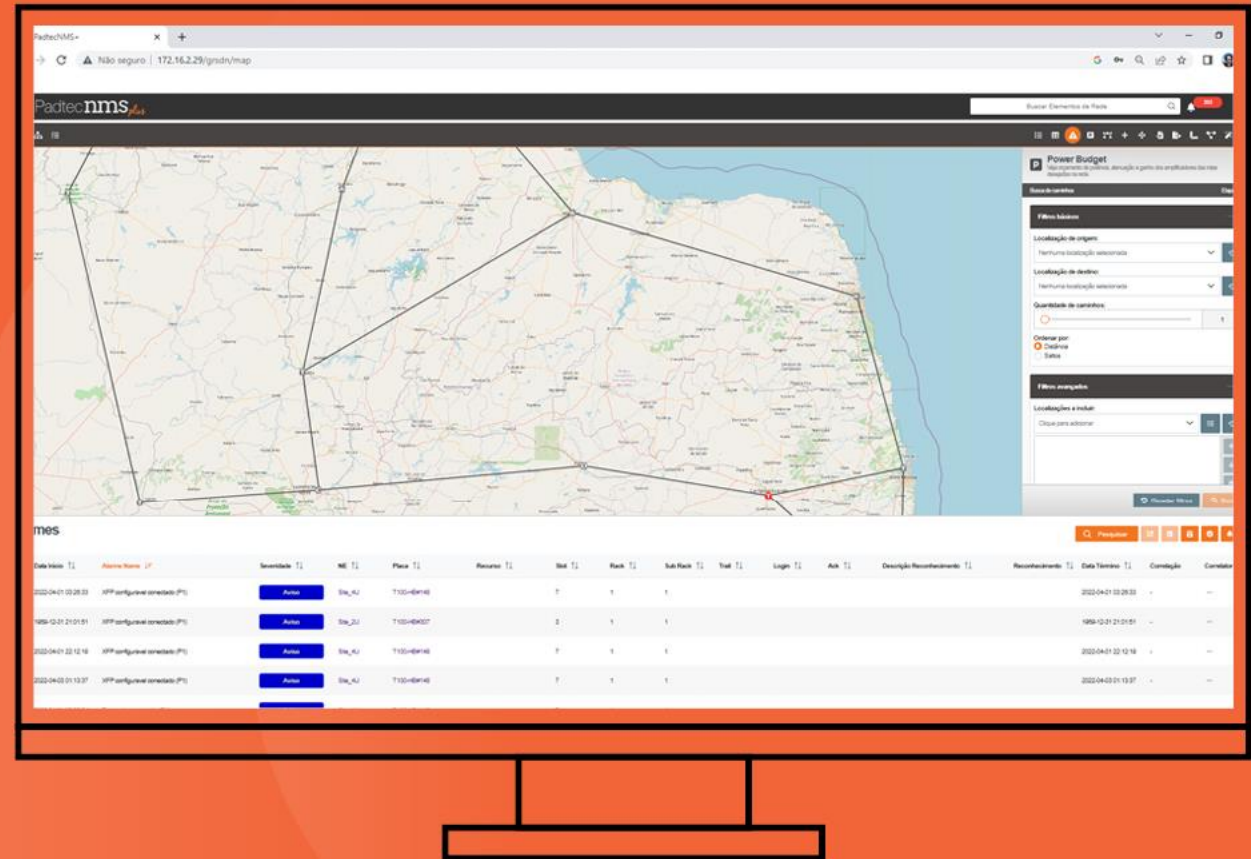
Optical networks

Padtec NMS+

It's never been easier to manage your network

Comprehensive web management platform for DWDM networks.

- Web interface for board management
- New platform administration tools
- Supports high availability platforms
- Graphical interface for managing geolocated networks
- Addition of new provisioning features and restoration services
- External authentication support
- Displays a list of correlated alarms





Business: New verticals



5G

- All-in-one solution for 5G networks, developed in partnership with Trópico and Airspan
- One of the differentials of the solution is the ease of installation
- The solution also allows interaction with network elements from different manufacturers, which opens up a universe of possibilities for 5G applications



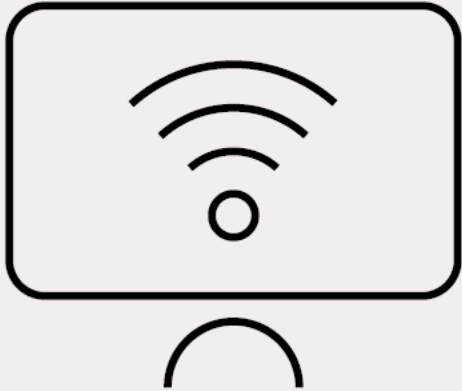
Strata

- Partnership with IP Infusion and UfiSpace to expand portfolio offering switch and router solutions
- Option that meets the time-to-market of the national and international markets



Business units

Platforms and solutions



Smart Site

Monitor your network sites wherever you are: with this service, operators and ISPs, can remotely monitor and control, in real time, the elements that make up the infrastructure of their network environments.



Network Operation and Maintenance

- More than 40 MCs (Maintenance Centers) throughout Brazil, Argentina and Colombia;
- Four-hour service agreements (SLA) for the start of service in any section of a monitored network.



Business units

Platforms and solutions

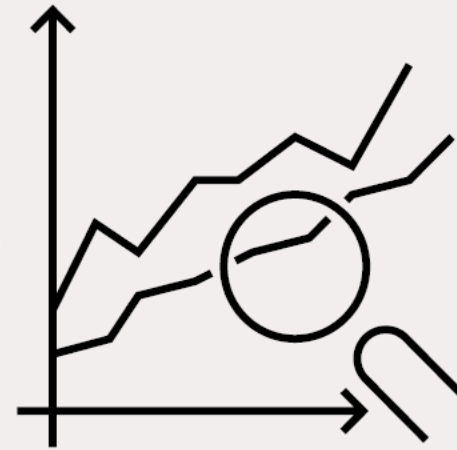


Network Management

Padtec is always with you.

To fully monitor and manage routes, built with different technologies, in real time, Padtec also offers network operation and maintenance services from its Network Operations Center (or NOC).

- 24x7 operation;
- Performance Reports;
- Real-time monitoring.



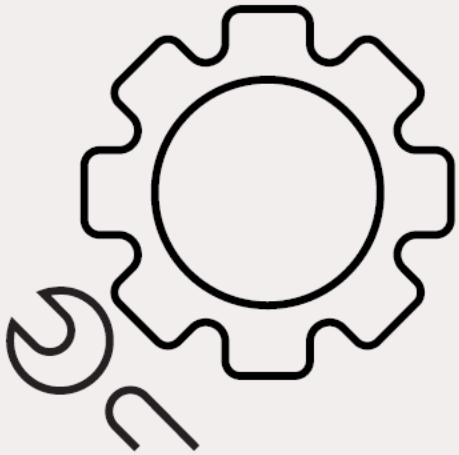
Characterization

For systems already in operation, the fiber characterization service helps plan expansions or even identify bottlenecks that are affecting the network's competitiveness.



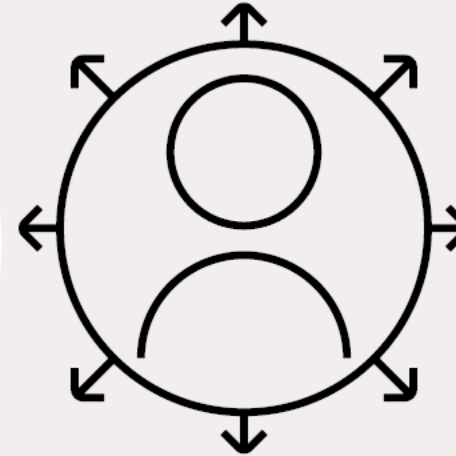
Business units

Platforms and solutions



Spaas - Spare Part as a Service

Service for contracting spare parts for immediate replacement in cases of original equipment failure.



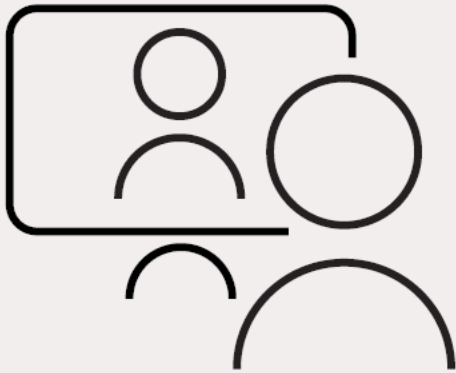
Fiber Supervision

Through its NOC, Padtec offers the supervision of both the monitoring systems and the fiber itself, providing information on degradation events, and precise geolocation of faults, in addition to attenuation history.



Business units

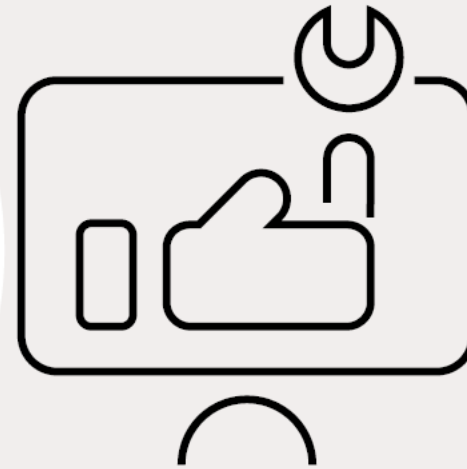
Platforms and solutions



Training center

Basic and advanced modules for entry level and ongoing training.

Padtec's varied training portfolio includes theoretical courses in the areas of network planning and engineering and practical courses in the areas of operation and maintenance of DWDM networks.



Site Survey

In order to carry out comprehensive and detailed mapping of a site's capacity and network equipment, Padtec offers technical inspection services.



Business units



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Platforms and solutions



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Latest results

LTM* 2Q23



Net
Revenue

R\$ 384.1 mi

+ 5.0% (LTM 2023 x 2022)



Revenues from the
international market

R\$ 84.5 mi

+ 9.4% (LTM 2023 x 2022)



Gross
Margin 1H23

36%



R&D x Net
revenue

R\$ 41.5 mi

(11% of net revenue)



Adjusted EBITDA

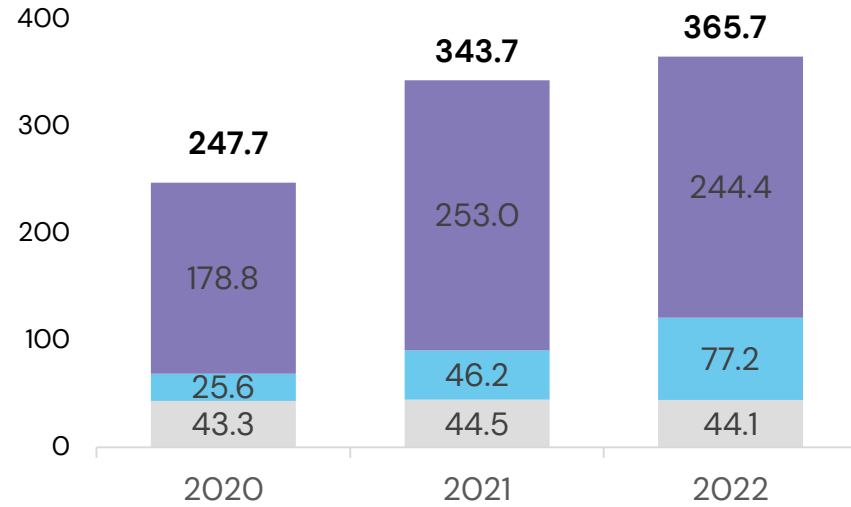
R\$ 57.4 mi

+23.2% (LTM 2023 x 2022)

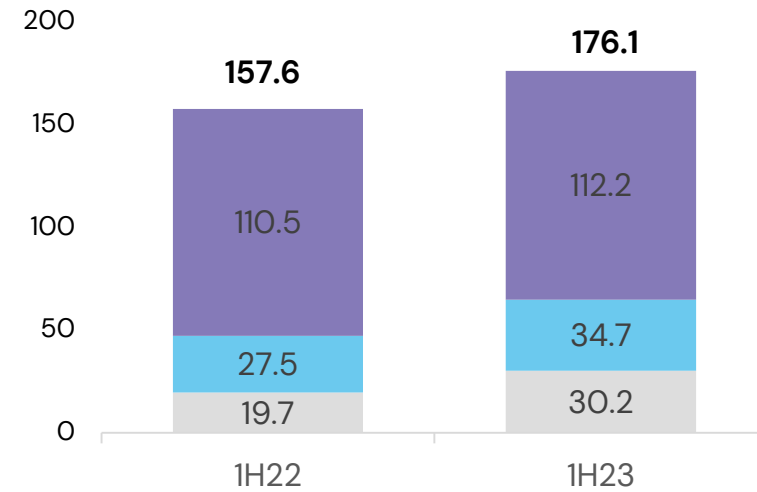


Results

Net Revenue - Annual (R\$MM)



Net Revenue - Semester (BRL MM)



- DWDM Brazil
- DWDM International Market
- Services, software and platforms

Total Net Revenue CAGR (20-22)
+21.5%

CAGR DWDM Brazil (20-22)
+16.9%

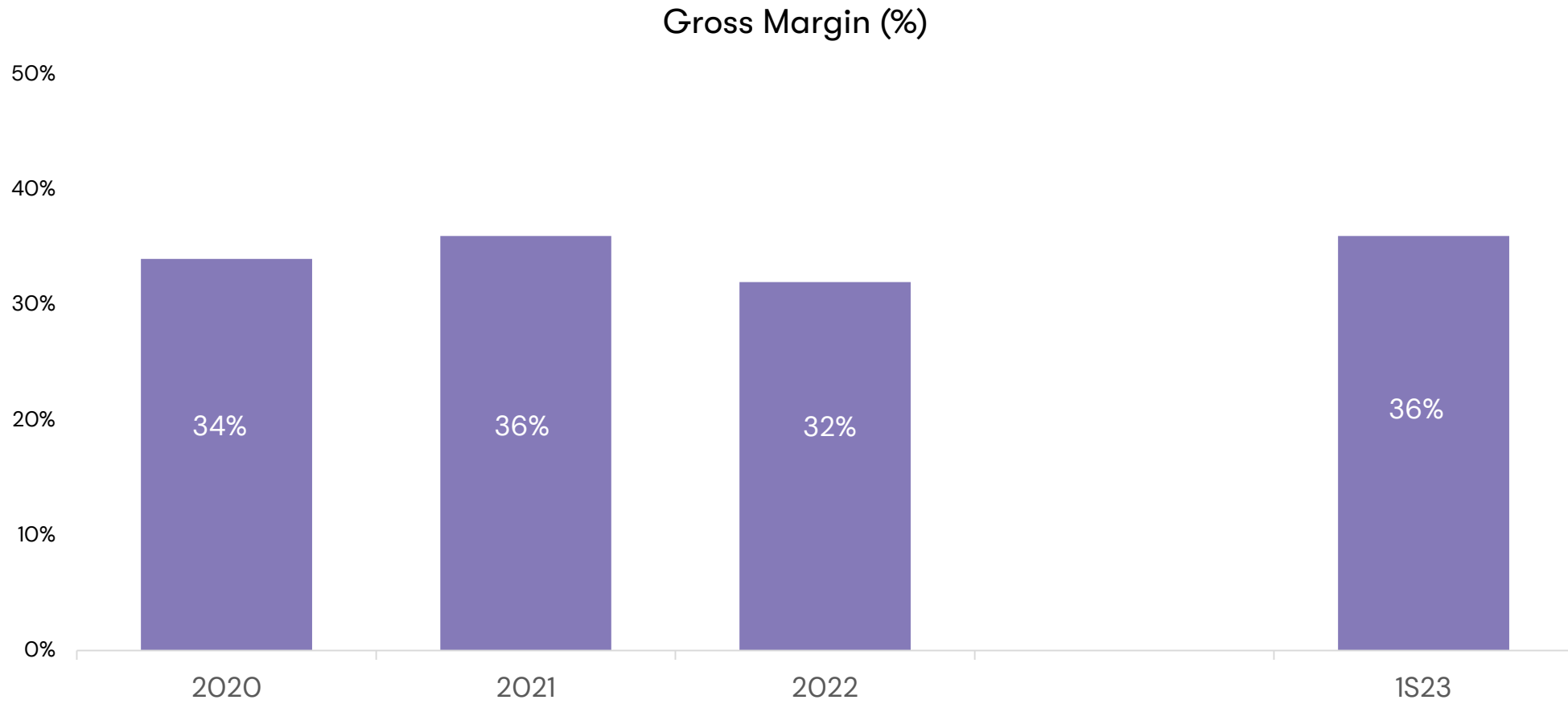
CAGR DWDM Foreign Market (20-22)
+73.7%

Net Revenue (1H23-1H22)
+11.7%

Net Revenue - DWDM Foreign Market (1H23-1H22)
+26.5%

Net Revenue - Services, software and platforms (1H23-1H22)
+55.5%

Results

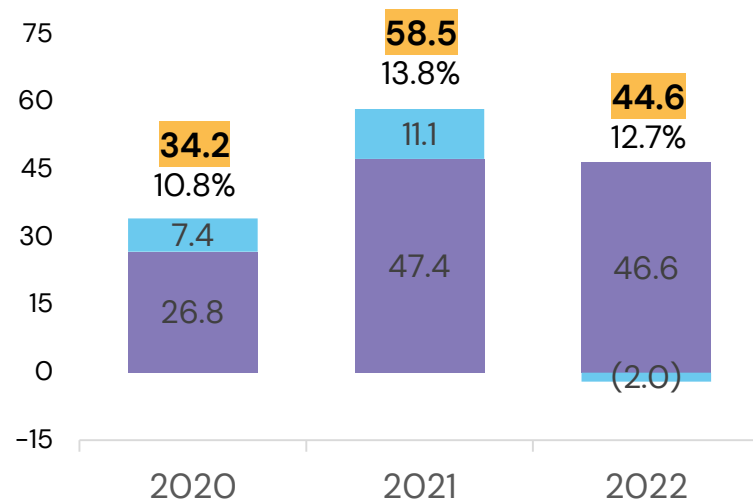


Consolidated data since January/2020.

Results

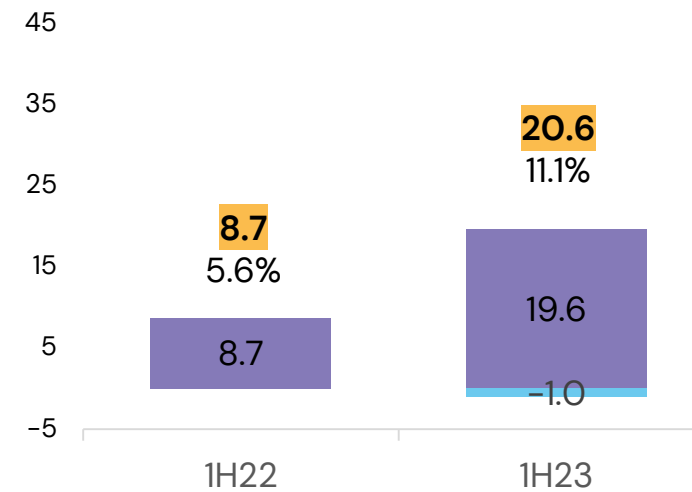
Annual – EBITDA

EBITDA (BRL MM); Adjusted EBITDA (R\$MM); Adjusted EBITDA Margin (%)



Semester – EBITDA

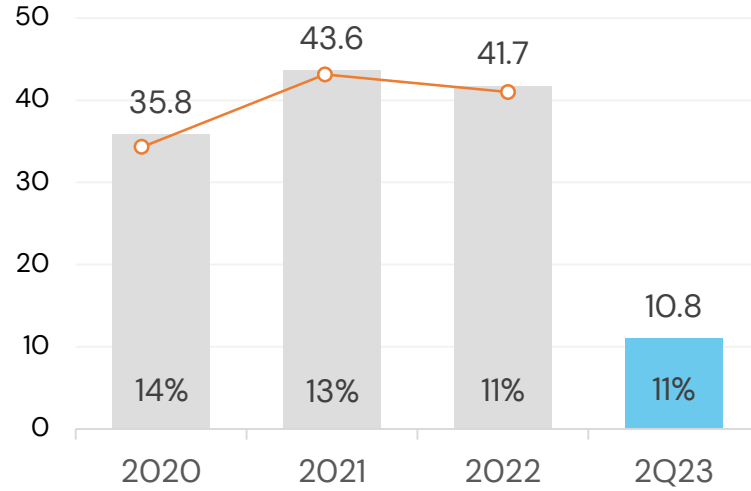
EBITDA (BRL MM); Adjusted EBITDA (R\$MM); Adjusted EBITDA Margin (%)



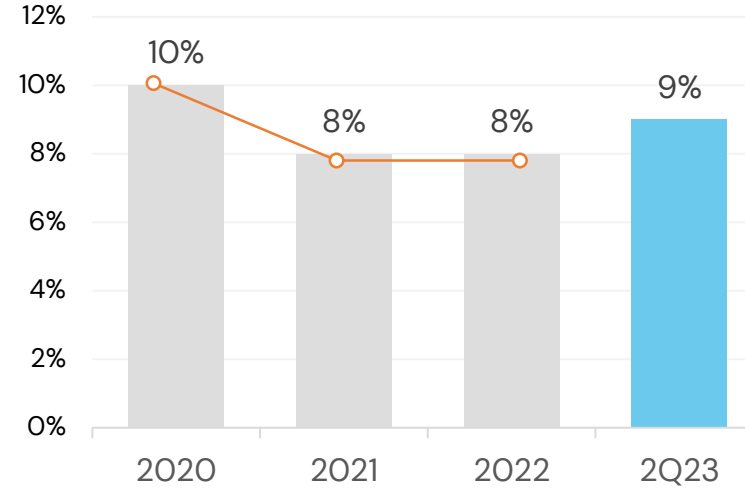
- EBITDA
- Adjusted EBITDA
- Non-operating effects

Results

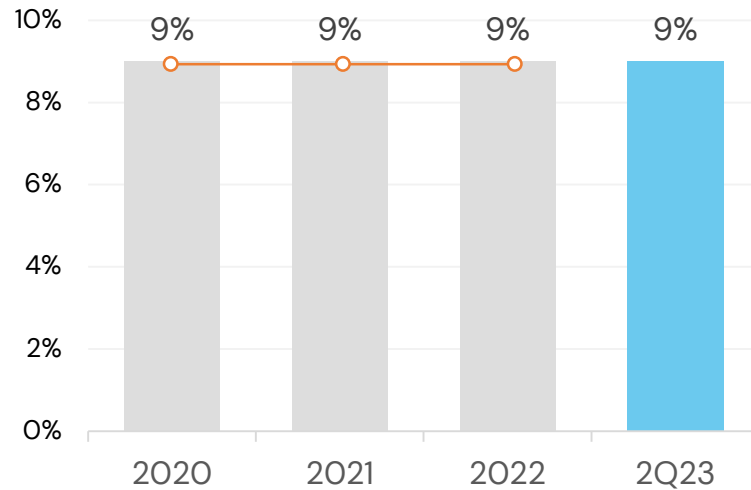
R&D x Net Revenue (R\$MM)



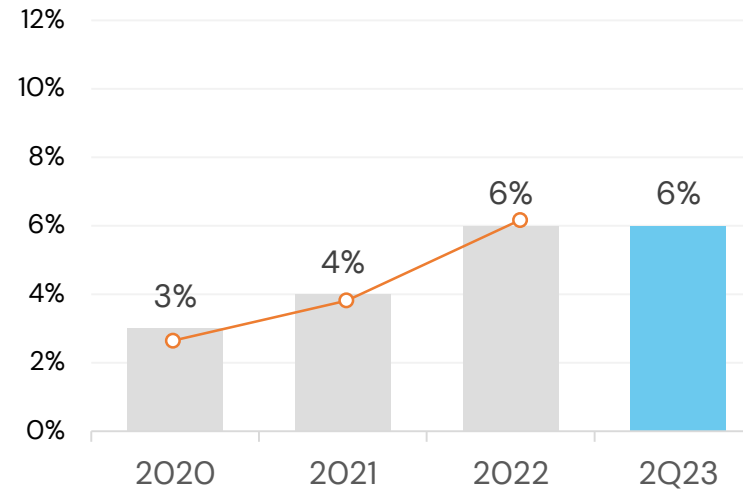
Administrative expenses x Net Revenue (R\$MM)



Commercial expenses x Net Revenue (R\$MM)



Financial expenses x Net Revenue* (R\$MM)

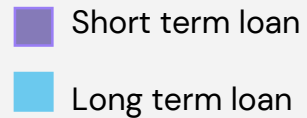
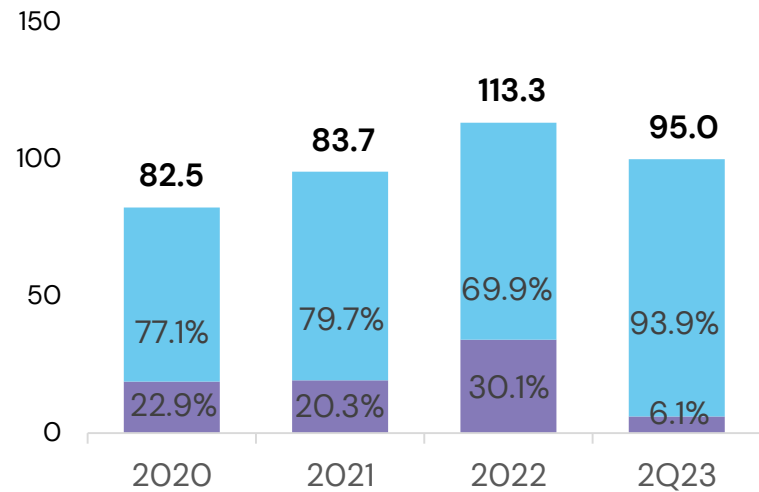


*Does not consider exchange variation.

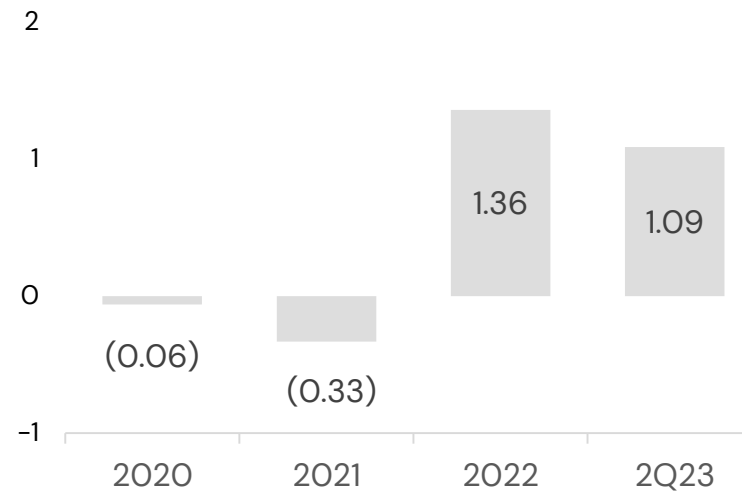
Results

Debt restructuring successfully completed in 2Q23

Loans: long vs. short term (BRL MM)



Net Debt / LTM EBITDA Adjusted¹ (BRL MM)

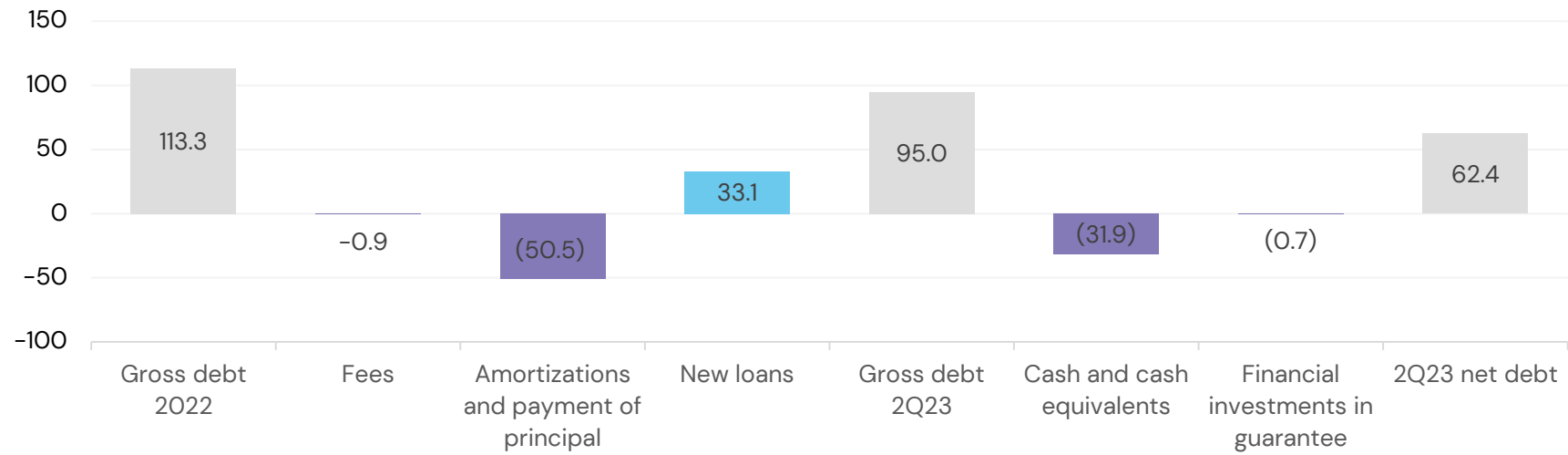


- Extension of maturities and improvements in short-term liquidity: 6% in June/23 x 30% in December/22
- Reduction in the average funding cost: 6.8% p.a. in June/23 x 8.6% p.a. in December/22

¹LTM Adjusted EBITDA corresponds to the sum of Adjusted EBITDA registered in the last 12 months.
Consolidated data since January/2020.

Results

Debt evolution (R\$MM)





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Impulsionando conexões para criar novas realidades

revolucionar