Brazilian States Innovation Index 25

In partnership with:

ABDI Agência Brasileira de Desenvolvimento Industrial

SEBRAE

Finep Inovação e Pesquisa

Implementation:

Industry Observatory Ceará

FIEC Federation of Industries of the State of Ceara

CNI Brazilian National Confederation of Industry

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Implementation

INDUSTRY OBSERVATORY CEARÁ

FIEC Federation of Industries of the State of Ceara

CNI Brazilian Natio Confederation of Industry

Fortaleza, 2025

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Table of Contents

12 22 41

Introduction

Brazilian States Innovation Index 14

Overall Results 17

Brazilian States Innovation Index 19

Capabilities Index 20

Results Index 21

Capabilities Dimension

Human Capital – Undergraduate 23

Human Capital – Graduate 26

Insertion of Masters and PhDs 29

Public Investment and Funding in Science and Technology (S&T) 32

Infrastructure 35

Institutions 38

Results Dimension

Global Competitiveness 42

Entrepreneurship 45

Scientific Production 48

Creative and Technological Intensity 51

Intellectual Property 54

Environmental Sustainability 57

60

88

Performance by State

Acre	61	Paraíba	75
Alagoas	62	Paraná	76
Amapá	63	Pernambuco	77
Amazonas	64	Piauí	78
Bahia	65	Rio de Janeiro	79
Ceará	66	Rio Grande do Norte	80
Distrito Federal	67	Rio Grande do Sul	81
Espírito Santo	68	Rondônia	82
Goiás	69	Roraima	83
Maranhão	70	Santa Catarina	84
Mato Grosso	71	São Paulo	85
Mato Grosso do Sul	72	Sergipe	86
Minas Gerais	73	Tocantins	87
Pará	74		

Performance by Region

Southeast	89
South	90
Northeast	91
Central-West	92
North	93

94

References

1. Introduction

Innovation can be understood as the implementation of new elements in products and processes aimed at improving productive performance and meeting social and consumer needs. It plays a fundamental economic role, especially in contexts of rapid and profound changes, as it allows gains in productivity and the overcoming of barriers to growth and development.

Nowadays, innovative solutions are increasingly necessary in the face of the global challenges that are intensifying in areas such as climate change, technological development, and demographic transitions – issues that profoundly affect the prospects for social well-being and inclusive economic development. At the same time, it is important to recognize that innovation success is inherently uncertain due to the particularities of the social and economic contexts in which the innovative solutions are conceived and implemented.

Considering these factors, several initiatives assess the innovation of economies, most notably the Global Innovation Index (GII), developed by the World Intellectual Property Organization (WIPO). The GII evaluates national economies based on their innovation capacities and performance across seven dimensions: institutions, human capital and research, infrastructure, market sophistication, business sophistication, knowledge and technology outputs, and creative outputs.

In its most recent edition, in 2024, the GII included 133 national economies. Brazil was in the 50th position in the overall ranking and took the first place among countries in Latin America and the Caribbean. The 2024 ranking reflects the continuation of Brazil's development trend, supported by GDP growth, which has been higher than expected in the recent years. In 2020, the country ranked 62nd.

In the specific ranking of innovation performance, Brazil ranked 49th in 2024, while regarding capabilities, the country ranked 58th – suggesting a performance above what its innovation ecosystem could theoretically support. Among the seven dimensions mentioned, Brazil's highest position was business sophistication (39th). The country also registered positions above its overall ranking in creative outputs (42nd) and market sophistication (47th). On the other hand, Brazil's poorest performance was in the institutions indicator (103rd). In the areas of human capital and research (57th) and infrastructure (55th), Brazil also ranked below its overall position.

From a more granular perspective, Brazil stood out for the size of its domestic market (8th) and ranked among the top 20 in indicators such as trademark registrations (9th), citizen digital participation in public policies (11th), digital public services (14th), and education investments (19th). In contrast, among the main areas for improvement it is worth mentioning policy stability for business practices (115th), gross capital formation (108th), government effectiveness (103rd), and the percentage of undergraduates in science and engineering (97th).

The elements of the GII are essential for the identification of strengths and areas of improvement in Brazil's innovation performance. Its principles are, therefore, also applicable to the assessment of the country's federal units and regions. With this objective in mind, as well as to guide public policy and contribute to academic research on innovation in Brazil, the Ceará Industry Observatory is releasing, in 2025, the 7th edition of the Brazilian States Innovation Index.

2. Brazilian States Innovation Index

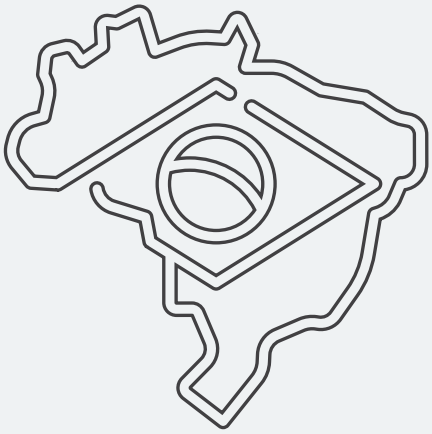
The Brazilian States Innovation Index has the aim to map, through quantitative measures, the main aspects related to innovation in the 27 federal units (FUs) and in the five regions of Brazil – Central-West, Northeast, North, Southeast and South. Based on the understanding of the innovative process as a network formed by the interaction of several different actors, the assessment of innovation in the states and regions through objective and quantitative measures works as a support to the decision-making process of public policy about the development of the innovative ecosystem in Brazil, with the participation of the public government, industry, academia and third sector.

The measures considered in the index aim not only to evaluate the innovative performance of the Brazilian states, but also to allow the understanding of structures, contexts and organizational and institutional environments that are part of the innovation ecosystem in the country. To help achieve this goal, the Brazilian States Innovation Index is structured in two dimensions: Capabilities and Results. The first one measures the factors that allow innovation to occur, such as the availability of resources and the creation of product solutions and innovative processes. The Results dimension is focused on innovation itself, that is, the consequences of the

innovative ecosystem.

Each of the dimensions contains six indicators that measure relevant aspects about the innovative process and, consequently, the economic development, especially because the factors relate to productivity and competitiveness. In total, the 12 indicators are formed by 28 sub indicators. An important particularity of the Brazilian States Innovation Index is the presence of indicators about themes of increasing relevance in the contemporary debates about innovation and economic development, such as environmental sustainability and creative and digital economy.

The 7th edition of Brazilian States Innovation Index presents the historical series of the past 5 years (2021-2025), which allows the analysis of the innovation evolution in the states and regions for a long period of time. The next sessions present the complete index, the overall results in Capabilities and Results, as well as the performance of the states and regions in each of the indicators.



Brazilian States Innovation Index

Capabilities Index

- Human Capital – Undergraduate
- Human Capital – Graduate
- Insertion of Masters and PhDs
- Public Investment and Funding in Science and Technology (S&T)
- Infrastructure
- Institutions

Results Index

- Global Competitiveness
- Entrepreneurship
- Scientific Production
- Creative and Technological Intensity
- Intellectual Property
- Environmental Sustainability

3. Overall Results

In 2025, São Paulo ranked 1st in the Brazilian States Innovation Index. Rio de Janeiro (2nd),

Rio Grande do Sul (3rd), Santa Catarina (4th) and Paraná (5th) complete the top five of the ranking. This sequence was the same as the past two editions, which shows stability in the top of the Index in the last three years. On the other hand, the least innovative states are Maranhão (27th), Roraima (26th), Amapá (25th), Acre (24th) and Tocantins (23rd). These Results reflect the historical economic inequalities of the Brazilian regions, as all the first six states are from the Southeast and South and the six last ranked are from the Northeast and North regions.

Between 2021 and 2025, the states that advanced the most in the ranking were Mato Grosso do Sul (11th), which climbed five positions, Ceará (7th), Alagoas (22nd) and Acre (24th), each of which rose three positions. Conversely, the state with the largest drop was Maranhão (27th) which fell five positions. Bahia (13th), Rio Grande do Norte (14th), Paraíba (16th), Mato Grosso (20th) and Amapá (25th) also had significant declines of two positions.

Compared to the previous year (2024) , Sergipe (17th) and Acre (24th) recorded the largest positive variations, each moving up two positions, while Maranhão (27th), which fell four positions, had the largest negative variation. From a regional perspective, the overall ranking of the Brazilian States Innovation Index showed only one change: the Northeast rose to third place while Central-West dropped to fourth. The Southeast (1st), the South (2nd) and the North (5th) maintained their positions. Over the past five years, the 2025 ranking - with the Southeast in 1st, the South in 2nd, the Northeast in 3rd, the Central-West in 4th and the North in 5th - remained stable compared to 2021.

Regarding the Capabilities dimension, the top positions in 2025 are São Paulo (1st), Rio de Janeiro (2nd), Rio Grande do Sul (3rd), Paraná (4th) and Santa Catarina (5th). The lowest positions were held by Roraima (27th), Maranhão (26th), Amapá (25th), Mato Grosso (24th) and Acre (23rd). At the regional level, the Southeast ranked first, followed by the South (2nd), the Central-West (3rd), the Northeast (4th) and the North (5th).

[1] Every year, the weights are calibrated based on the correlation matrix of the indexes from the past 5 years. Therefore, the weights change yearly. To ensure technical accurate comparability, previous years are recalculated with the new weights as to allow a consistent comparison of the past five years under the same methodology.

Compared to 2021, the states with largest positive variation are Piauí (17th) and Alagoas (19th), which advanced five positions in the capabilities ranking. The largest declines are Amapá (25th) and Maranhão (26th), which dropped six places. Compared to the previous year, the greatest advances are recorded by Piauí (17th) and Rondônia (20th), which rose, respectively, five and three positions. In contrast, Maranhão had the largest decline, dropping six places. From a regional perspective, the ranking remained unchanged in both 2025-2021 and 2025-2024 comparisons. During both periods analyzed, the Southeast maintained first place, followed by the South (2nd), the Central-West (3rd), the Northeast (4th) and the North (5th).

Finally, in the Results Index, the state of São Paulo ranked first. The second position was held by Santa Catarina (2nd), followed by Rio Grande do Sul (3rd), Rio de Janeiro (4th) and Minas Gerais (5th). The lowest positions in the Results ranking were occupied by Tocantins (27th), Acre (26th), Maranhão (25th), Amapá (24th), and Roraima (23rd). Regionally, the ranking was led by the Southeast (1st), followed by the South (2nd), the Northeast (3rd), the Central-West (4th) and the North (5th). A high degree of alignment can be observed between the Results and the Capabilities Index, except for the swap in positions between the Northeast and the Central-West. This means the Northeast performed better than expected based on its Capabilities, while the opposite is true for the Central-West.

Compared to 2025-2021, the most notable positive changes are Mato Grosso do Sul (14th), which advanced four positions, and Distrito Federal (9th) and Amapá (24th), which rose three places. In contrast, Tocantins (27th) and Mato Grosso (19th) had the largest declines, falling six and four positions respectively. Compared to 2024, the largest positive variation is Distrito Federal (9th), which climbed three positions. From a regional perspective, the positions in the 2025 ranking remained the same as 2021, while the 2025-2024 comparison showed one change: the Northeast rose to the third place and the Central-West dropped to the fourth.

Brazilian States Innovation Index

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**0.932**	**1st**	**1st**	**1st**	**1st**	**1st**	=
RIO DE JANEIRO	**0.621**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
RIO GRANDE DO SUL	**0.519**	**3rd**	**3rd**	**3rd**	**4th**	**3rd**	=
SANTA CATARINA	**0.484**	**4th**	**4th**	**4th**	**3rd**	**4th**	=
PARANÁ	**0.450**	**5th**	**5th**	**5th**	**5th**	**5th**	=
Minas Gerais	0.434	6th	6th	6th	6th	6th	=
Ceará	0.316	7th	8th	9th	8th	10th	▲
Distrito Federal	0.289	8th	9th	7th	7th	8th	=
Goiás	0.279	9th	7th	8th	10th	7th	▼
Espírito Santo	0.261	10th	10th	10th	9th	9th	▼
Mato Grosso do Sul	0.239	11th	12th	15th	17th	16th	▲
Pernambuco	0.235	12th	11th	12th	12th	13th	▲
Bahia	0.224	13th	13th	13th	11th	11th	▼
Rio Grande do Norte	0.211	14th	14th	11th	13th	12th	▼
Pará	0.193	15th	15th	14th	14th	15th	=
Paraíba	0.182	16th	17th	17th	15th	14th	▼
Sergipe	0.165	17th	19th	18th	19th	17th	=
Amazonas	0.162	18th	16th	16th	16th	19th	▲
Piauí	0.133	19th	20th	21st	21st	20th	▲
Mato Grosso	0.127	20th	18th	19th	18th	18th	▼
Rondônia	0.116	21st	22nd	20th	22nd	21st	=
Alagoas	0.110	22nd	21st	25th	24th	25th	▲
Tocantins	0.075	23rd	24th	23rd	25th	24th	▲
Acre	0.074	24th	26th	26th	26th	27th	▲
Amapá	0.060	25th	25th	24th	27th	23rd	▼
Roraima	0.051	26th	27th	27th	23rd	26th	=
Maranhão	0.049	27th	23rd	22nd	20th	22nd	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**0.968**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.614**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Northeast	**0.183**	**3rd**	**4th**	**4th**	**4th**	**3rd**	=
Central-West	**0.182**	**4th**	**3rd**	**3rd**	**3rd**	**4th**	=
North	**0.009**	**5th**	**5th**	**5th**	**5th**	**5th**	=

Capabilities Index

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**0.889**	**1st**	**1st**	**1st**	**1st**	**1st**	=
RIO DE JANEIRO	**0.787**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
RIO GRANDE DO SUL	**0.577**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
PARANÁ	**0.462**	**4th**	**4th**	**5th**	**5th**	**6th**	▲
SANTA CATARINA	**0.438**	**5th**	**5th**	**6th**	**4th**	**4th**	▼
Minas Gerais	0.421	6th	6th	4th	6th	5th	▼
Distrito Federal	0.280	7th	7th	7th	7th	7th	=
Mato Grosso do Sul	0.273	8th	9th	12th	14th	12th	▲
Goiás	0.272	9th	8th	8th	10th	9th	=
Pernambuco	0.257	10th	11th	10th	11th	10th	=
Ceará	0.244	11th	12th	9th	13th	15th	▲
Espírito Santo	0.218	12th	10th	11th	8th	8th	▼
Pará	0.218	13th	13th	13th	12th	13th	=
Bahia	0.188	14th	15th	14th	9th	11th	▼
Paraíba	0.167	15th	17th	16th	15th	16th	▲
Rio Grande do Norte	0.165	16th	14th	15th	16th	17th	▲
Piauí	0.164	17th	22nd	22nd	24th	22nd	▲
Sergipe	0.158	18th	18th	18th	17th	14th	▼
Alagoas	0.141	19th	19th	26th	27th	24th	▲
Rondônia	0.130	20th	23rd	24th	23rd	18th	▼
Amazonas	0.130	21st	16th	17th	19th	23rd	▲
Tocantins	0.128	22nd	24th	21st	22nd	25th	▲
Acre	0.118	23rd	25th	25th	25th	26th	▲
Mato Grosso	0.107	24th	21st	20th	20th	21st	▼
Amapá	0.071	25th	26th	23rd	26th	19th	▼
Maranhão	0.062	26th	20th	19th	18th	20th	▼
Roraima	0.027	27th	18th	27th	21st	27th	=

Region	Index 2025	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**0.972**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.642**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.148**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
Northeast	**0.138**	**4th**	**4th**	**4th**	**4th**	**4th**	=
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

Results Index

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**0.976**	**1st**	**1st**	**1st**	**1st**	**1st**	=
SANTA CATARINA	**0.530**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
RIO GRANDE DO SUL	**0.461**	**3rd**	**3rd**	**4th**	**3rd**	**4th**	▲
RIO DE JANEIRO	**0.454**	**4th**	**5th**	**6th**	**5th**	**5th**	▲
MINAS GERAIS	**0.446**	**5th**	**6th**	**5th**	**6th**	**6th**	▲
Paraná	0.438	6th	4th	3rd	4th	3rd	▼
Ceará	0.387	7th	7th	8th	7th	8th	▲
Espírito Santo	0.304	8th	9th	7th	9th	9th	▲
Distrito Federal	0.299	9th	12th	12th	12th	12th	▲
Goiás	0.286	10th	8th	9th	8th	7th	▼
Bahia	0.260	11th	10th	11th	10th	11th	=
Rio Grande do Norte	0.256	12th	11th	10th	11th	10th	▼
Pernambuco	0.213	13th	13th	13th	13th	13th	=
Mato Grosso do Sul	0.205	14th	14th	19th	18th	18th	▲
Paraíba	0.197	15th	17th	18th	17th	16th	▲
Amazonas	0.195	16th	15th	14th	14th	14th	▼
Sergipe	0.172	17th	19th	16th	19th	19th	▲
Pará	0.169	18th	18th	17th	16th	17th	▼
Mato Grosso	0.147	19th	16th	15th	15th	15th	▼
Piauí	0.103	20th	20th	21st	20th	20th	=
Rondônia	0.101	21st	22nd	20th	21st	23rd	▲
Alagoas	0.080	22nd	23rd	24th	22nd	22nd	=
Roraima	0.075	23rd	21st	22nd	23rd	25th	▲
Amapá	0.048	24th	25th	26th	26th	27th	▲
Maranhão	0.037	25th	24th	23rd	24th	24th	▼
Acre	0.029	26th	27th	27th	25th	26th	=
Tocantins	0.022	27th	26th	25th	27th	21st	▼

Region	Index 2025	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**0.964**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.587**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Northeast	**0.228**	**3rd**	**4th**	**4th**	**3rd**	**3rd**	=
Central-West	**0.215**	**4th**	**3rd**	**3rd**	**4th**	**4th**	=
North	**0.017**	**5th**	**5th**	**5th**	**5th**	**5th**	=

4. Capabilities Dimension

4.1 Human Capital Undergraduate

Human capital, that is, the qualification of the available workforce, is an essential factor for both the productive and innovative processes. The fulfilment of its potential is intrinsically linked to the quality of the educational system in a certain state or region. In this regard, universities play a crucial role, as it is through higher education that research and the development of scientific knowledge train the workforce and, consequently, ensure its application in productive processes, enabling local economic growth.

Therefore, the Human Capital – Undergraduate indicator aims to measure the supply of qualified professionals in technological fields, with emphasis on Science, Technology, Engineering and Math (STEM). The focus on these courses is justified by the fact that these are the areas with the greatest potential for contributing to the innovation process. To measure this effect, the indicator uses the following variables: i) Number of students who completed undergraduate programs in STEM; ii) The state's population; iii) Average score in the Undergraduate Mean Concept (CGM) from the Anísio Teixeira National Institute for Educational Studies and Research (INEP), which is part of the General Course Index (IGC) and evaluates the quality of undergraduate programs.

The indicator is divided into two parts. The first part consists of a sub-indicator measuring the proportion of students who completed undergraduate programs in STEM fields relative to the total local population (that is, the number of students who completed STEM programs per capita), weighted by the state's share of STEM undergraduates at the national level. The second part is a sub-indicator assessing the quality of the state's undergraduate programs, based on its average CGM, weighted by the share of STEM courses in the total number of programs offered by the state.

In 2025, São Paulo remained in first place in the Human Capital – Undergraduate index. The second and third positions were held by Minas Gerais and Santa Catarina, respectively. In contrast, Roraima (27th), Acre (26th) and Piauí (25th) occupied the three lowest positions of the ranking in 2025. Regionally, the positions did not change: Southeast remained in first place, followed by the South (2nd), the Northeast (3rd), the Central-West (4th) and the North (5th).

Considering the last five years (2021-2025), Rio Grande do Norte (9th) was the state that stood out the most, advancing five positions. Distrito Federal (16th) and Mato Grosso do Sul (14th) rose, respectively, four and three places. At the bottom of the ranking, Goiás (18th) registered the largest decline, dropping three places. Among the regions, the Southeast, the South and the Northeast remained in the same positions, respectively, first, second and third places. The Central-West (4th) advanced one position, while the North (5th) fell one place. Compared to 2024, Paraíba (11th), Distrito Federal (16th) and Amapá (21st) had the largest gains, each climbing three positions. In contrast, the largest decline was Amazonas (13th), which dropped four positions.

Sub-indicators:

Human Capital – Undergraduate Quantity Indicator: number of students, per capita, who completed higher education programs in technological fields (Science, Technology, Engineering and Math) in the state, weighted by the state's share of STEM graduates in the total number of STEM graduates nationwide.

Human Capital – Undergraduate Quality Indicator: the state's average in the Undergraduate Mean Concept (CGM, a component of the General Course Index – IGC), weighted by the share of technological courses in the total higher education programs offered by the state.

Sources:

INEP (MEC). Years: 2019, 2020, 2021, 2022 and 2023.
IBGE. Years: 2019, 2020, 2021 and 2022 (data replicated for 2023).

Human Capital - Undergraduate

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
MINAS GERAIS	**0.597**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
SANTA CATARINA	**0.566**	**3rd**	**3rd**	**3rd**	**4th**	**4th**	▲
RIO GRANDE DO SUL	**0.540**	**4th**	**4th**	**5th**	**5th**	**5th**	▲
ESPÍRITO SANTO	**0.520**	**5th**	**5th**	**4th**	**3rd**	**3rd**	▼
Rio de Janeiro	0.437	6th	7th	6th	6th	6th	=
Paraná	0.417	7th	6th	7th	7th	7th	=
Sergipe	0.403	8th	8th	8th	8th	8th	=
Rio Grande do Norte	0.362	9th	10th	14th	17th	14th	▲
Ceará	0.304	10th	11th	13th	10th	10th	=
Paraíba	0.299	11th	14th	12th	9th	9th	▼
Bahia	0.290	12th	12th	10th	11th	11th	▼
Amazonas	0.272	13th	9th	9th	12th	12th	▼
Mato Grosso do Sul	0.271	14th	13th	15th	15th	17th	▲
Pará	0.257	15th	15th	16th	14th	13th	▼
Distrito Federal	0.212	16th	19th	20th	20th	20th	▲
Rondônia	0.209	17th	16th	11th	13th	16th	▼
Goiás	0.192	18th	17th	17th	16th	15th	▼
Pernambuco	0.185	19th	20th	19th	19th	19th	=
Mato Grosso	0.172	20th	18th	18th	18th	18th	▼
Amapá	0.128	21st	24th	22nd	21st	22nd	▲
Alagoas	0.121	22nd	21st	21st	22nd	21st	▼
Tocantins	0.109	23rd	23rd	24th	23rd	23rd	=
Maranhão	0.083	24th	22nd	23rd	24th	24th	=
Piauí	0.039	25th	25th	26th	27th	27th	▲
Acre	0.006	26th	27th	25th	25th	25th	▼
Roraima	0.000	27th	26th	27th	26th	26th	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.541**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Northeast	**0.105**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
Central-West	**0.020**	**4th**	**4th**	**5th**	**5th**	**5th**	▲
North	**0.000**	**5th**	**5th**	**4th**	**4th**	**4th**	▼

4.2 Human Capital – Graduate

The increase in the level of education is a determining factor for improving the workforce and, consequently, the human capital available in a region. Thus, graduate programs represent an important step in workforce qualification, as they expand the stock of knowledge that can be incorporated into the productive system by increasing productivity and the potential for innovation.

The Human Capital – Graduate indicator aims to measure this dimension of the innovation ecosystem through the assessment of both quantity and quality of the graduate workforce training process. To this end, it emphasizes Science, Technology, Engineering and Math (STEM) programs and it is composed of the following variables: i) The number of graduate degrees awarded in STEM programs. ii) The state's population; iii) Average score obtained in the Quadrennial Evaluation Mean Concept of the Coordination for the Improvement of Higher Education Personnel (CAPES) for graduate programs.

In the 2025 ranking, São Paulo remained in the first position, followed by Rio de Janeiro (2nd) and Rio Grande do Sul (3rd). At the other end, the last three positions were occupied by Amapá (27th), Roraima (26th) and Rondônia (25th). Regionally, the Southeast ranked first, followed by the South (2nd), the Northeast (3rd), the Central-West (4th) and the North (5th). The regional ranking remained the same compared to both 2024 and 2021.

Compared to 2025-2021, Alagoas (19th) was the state that advanced the most, climbing five positions. Tocantins (22nd) rose three places. In the same period, the largest declines were Bahia (13th), Maranhão (23rd), Acre (24th) and Rondônia (25th), each dropping two positions in the ranking. In the 2025-2024 comparison, Distrito Federal (6th), Pará (11th) and Alagoas (19th) had the greatest advances, each moving up one position. At the other end, Santa Catarina (7th), Espírito Santo (12th) and Mato Grosso (20th) fell one position each.

Sub-indicators:

Human Capital – Graduate Quantity Indicator: number of graduates in higher education programs in technological fields (STEM) per capita in the state, weighted by the state's share of graduates in technological fields in the total number of graduates nationwide.

Human Capital – Graduate Quality Indicator: average score of all the graduate programs in the Quadrennial Evaluation of the state's programs.

Sources:

CAPES (MEC). Years: 2019, 2020, 2021, 2022 and 2023
IBGE. Years: 2019, 2020, 2021 and 2022 (data replicated for 2023).

Human Capital – Graduate

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
RIO DE JANEIRO	**0.916**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
RIO GRANDE DO SUL	**0.826**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
MINAS GERAIS	**0.651**	**4th**	**4th**	**5th**	**5th**	**4th**	=
PARANÁ	**0.577**	**5th**	**5th**	**4th**	**4th**	**5th**	=
Distrito Federal	0.535	6th	7th	7th	7th	7th	▲
Santa Catarina	0.498	7th	6th	6th	6th	6th	▼
Pernambuco	0.443	8th	8th	8th	8th	8th	=
Ceará	0.375	9th	9th	10th	9th	9th	=
Rio Grande do Norte	0.352	10th	10th	9th	10th	10th	=
Pará	0.324	11th	12th	12th	13th	12th	▲
Espírito Santo	0.322	12th	11th	11th	12th	13th	▲
Bahia	0.304	13th	13th	14th	11th	11th	▼
Paraíba	0.273	14th	14th	13th	14th	14th	=
Goiás	0.265	15th	15th	15th	16th	15th	=
Mato Grosso do Sul	0.251	16th	16th	16th	15th	16th	=
Sergipe	0.245	17th	17th	17th	17th	17th	=
Amazonas	0.195	18th	18th	18th	18th	18th	=
Alagoas	0.162	19th	20th	20th	24th	24th	▲
Mato Grosso	0.150	20th	19th	19th	19th	19th	▼
Piauí	0.150	21st	21st	21st	20th	20th	▼
Tocantins	0.147	22nd	22nd	22nd	25th	25th	▲
Maranhão	0.093	23rd	23rd	23rd	21st	21st	▼
Acre	0.053	24th	24th	24th	22nd	22nd	▼
Rondônia	0.041	25th	25th	25th	23rd	23rd	▼
Roraima	0.029	26th	26th	26th	26th	26th	=
Amapá	0.000	27th	27th	27th	27th	27th	=

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.730**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Northeast	**0.315**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
Central-West	**0.252**	**4th**	**4th**	**4th**	**4th**	**4th**	=
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

4.3 Insertion of Masters and PhDs

Masters and PhDs are a highly qualified workforce, as these academic degrees reflect the acquisition of a more advanced and robust volume of scientific knowledge. Thus, the transfer of this knowledge from universities to the productive system, through the hiring of professionals with master's and doctoral degrees, tends to contribute to a higher level of productivity and innovation growth in a region.

Given these factors, the Insertion of Masters and PhDs indicator measures the participation of professionals with these academic degrees in the industry and in other sectors with greater potential for technological innovation, such as Information and Communication Technology (ICT) and Research, Development and Innovation (R&D&I). Two variables form this indicator: i) The number of professionals with master's and doctoral degrees formally employed in the industry sector or ICT and R&D&I activities. ii) The total number of formal jobs in the industry sector or ICT and R&D&I activities.

The combination of these two variables allows the assessment of the proportion of Masters and PhDs formally employed in the sectors mentioned. This measure is adjusted by the state's participation in the total number of Masters and PhDs employed in those sectors nationwide.

In 2025, Rio de Janeiro was 1st in the ranking, followed by São Paulo (2nd) and Distrito Federal (3rd). In the last three positions were Rondônia (27th), Roraima (26th) and Tocantins (25th). Regionally, the Southeast was, once again, in first place, followed by the South (2nd). The Central-West remained in the 3rd position, as in 2024, and was followed by the Northeast (4th) and the North (5th), the same as the previous year.

Compared to the past five years (2025-2021), considering the ranking placements, Goiás was the state with greatest advance, climbing eight positions and reaching 12th place. In contrast, Acre had the largest drop during this period, falling eight places and ending in 20th in the Insertion of Masters and PhDs indicator. Between 2025 and 2024, Rio Grande do Norte (17th), Mato Grosso (22nd) and Maranhão (24th) had the greatest improvement in the ranking, each advancing three positions. The worst decline was registered by Rondônia, which fell four positions and ranked 27th. There were no regional changes between 2025-2024.

Sub-indicator:

Insertion of Masters and PhDs Indicator: participation of Masters and PhDs employed in the industry sector and R&D&I activities in the state within the total number of employees in these same sectors in the state, weighted by the state's share in the total Masters and PhDs employed in the industry and in ICT and R&D&I activities nationwide

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Source:

RAIS (MTE). Years: 2019, 2020, 2021, 2022 and 2023

Insertion of Masters and PhDs

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
RIO DE JANEIRO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
SÃO PAULO	**0.696**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
DISTRITO FEDERAL	**0.194**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
PARANÁ	**0.103**	**4th**	**5th**	**4th**	**4th**	**4th**	=
RIO GRANDE DO SUL	**0.098**	**5th**	**4th**	**6th**	**5th**	**5th**	=
Minas Gerais	0.095	6th	6th	5th	6th	6th	=
Santa Catarina	0.052	7th	7th	8th	8th	7th	=
Pernambuco	0.042	8th	8th	7th	7th	8th	=
Amazonas	0.033	9th	9th	9th	10th	9th	=
Espírito Santo	0.021	10th	10th	11th	9th	10th	=
Ceará	0.018	11th	11th	10th	11th	11th	=
Goiás	0.012	12th	13th	14th	17th	20th	▲
Bahia	0.012	13th	12th	12th	12th	13th	=
Pará	0.010	14th	14th	16th	14th	18th	▲
Paraíba	0.006	15th	15th	15th	15th	15th	=
Mato Grosso do Sul	0.006	16th	16th	17th	18th	17th	▲
Rio Grande do Norte	0.005	17th	20th	23rd	19th	16th	▼
Alagoas	0.004	18th	19th	19th	20th	19th	▲
Sergipe	0.003	19th	18th	18th	16th	14th	▼
Acre	0.001	20th	17th	13th	13th	12th	▼
Piauí	0.001	21st	21st	21st	22nd	23rd	▲
Mato Grosso	0.001	22nd	25th	24th	24th	25th	▲
Amapá	0.000	23rd	22nd	22nd	21st	21st	▼
Maranhão	0.000	24th	27th	20th	26th	26th	▲
Tocantins	0.000	25th	26th	27th	25th	24th	▼
Roraima	0.000	26th	24th	25th	23rd	22nd	▼
Rondônia	0.000	27th	23rd	26th	27th	27th	=

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.152**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.041**	**3rd**	**3rd**	**3rd**	**4th**	**4th**	▲
Northeast	**0.036**	**4th**	**4th**	**4th**	**3rd**	**3rd**	▼
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

4.4 Public Investment and Funding in Science and Technology (S&T)

The innovation process requires research stages and typically involves high costs. Moreover, the introduction of new elements into the productive system is marked by inherent uncertainty around the innovation success and the profitability of the chosen business solutions. Given these factors, external support sources become relevant to offset the risks and costs associated with innovation.

In this context, the role of the State stands out, given the capacity of the public sector to mobilize resources. The state's role as an investor and financier of innovation, through targeted investments, contributes to reduce barriers to the innovative process, thus fostering a business environment that is more attractive to private investment in innovation. The Public Investment and Funding in Science and Technology (S&T) indicator aims to measure this factor and is composed of five variables: i) Public expenditures committed to S&T; ii) Total public expenditures; iii) Population; iv) Subsidies for startups (FINEP [2]); v) Innovation funding (BNDES [3]).

The indicator is composed of two sub-indicators: i) public investment in S&T; ii) public funding for innovation. The public funding indicator is obtained by considering the average between the per capita number of subsidies for startups in the state and the amount spent on innovation per capita in the federal unit. The public investment in S&T consists of the share of expenditure committed to S&T over the state's total expenditures, weighted by the state's share in the national S&T expenditure. Based on this, the average of the two sub-indicators is calculated reSouthting in the final indicator.

The 2025 ranking was again led by São Paulo (1st). The second and third places were held, respectively, by Paraná and Santa Catarina. At the bottom of the Investments and Funding ranking, Roraima (27th), Acre (26th) and Maranhão (25th) occupied the three last positions. At the regional level, the positions remained the same compared to 2024: the Southeast ranked first, followed by the South, the Central-West, the Northeast and the North.

Considering the last five years (2021-2025), Mato Grosso do Sul (8th) had the greatest advance, climbing 11 positions. On the other hand, in the same period, Piauí (24th) had the largest decline, losing 10 places. Regionally, the ranking remained the same. In the 2025-2024 comparison, Rondônia (17th) registered the best advance, climbing ten positions. In the same period, Alagoas (23rd) had the largest drop, losing eight positions.

[2] Financier of Studies and Projects (FINEP), linked to the Ministry of Science, Technology and Innovation.
[3] National Bank for Economic and Social Development (BNDS).

Sub-indicators:

Innovation Funding Indicator: the average value between funding for startups and the amount spent on innovation per capita in the state.

Public Investment in S&T Indicator: the share of public spending committed to science and technology (S&T) in the total public expenditures of the state, weighted by the state's share of national S&T expenditures.

Sources:

FINBRA (National Treasure). Years: 2020, 2021, 2022, 2023 and 2024.
FINEP. Years 2020, 2021, 2022, 2023 and 2024.
BNDES. Years: 2020, 2021, 2022, 2023 and 2024.
IBGE. Years: 2020, 2021, 2022 (data replicated for 2023) and 2024

Public Investment and Funding in Science and Technology (S&T)

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
PARANÁ	**0.641**	**2nd**	**3rd**	**7th**	**7th**	**4th**	▲
SANTA CATARINA	**0.603**	**3rd**	**4th**	**4th**	**2nd**	**3rd**	=
RIO GRANDE DO SUL	**0.562**	**4th**	**2nd**	**2nd**	**6th**	**2nd**	▼
RIO DE JANEIRO	**0.361**	**5th**	**5th**	**5th**	**4th**	**6th**	▲
Ceará	0.266	6th	8th	8th	11th	9th	▲
Minas Gerais	0.263	7th	6th	6th	9th	7th	=
Mato Grosso do Sul	0.189	8th	17th	21st	23rd	19th	▲
Espírito Santo	0.152	9th	11th	12th	10th	12th	▲
Distrito Federal	0.146	10th	9th	3rd	3rd	8th	▼
Goiás	0.126	11th	10th	9th	18th	5th	▼
Mato Grosso	0.096	12th	7th	20th	19th	17th	▲
Paraíba	0.071	13th	13th	10th	22nd	20th	▲
Pará	0.068	14th	18th	13th	8th	13th	▼
Pernambuco	0.068	15th	16th	14th	13th	10th	▼
Amazonas	0.059	16th	12th	18th	14th	11th	▼
Rondônia	0.052	17th	27th	25th	26th	27th	▲
Bahia	0.041	18th	19th	16th	17th	18th	=
Sergipe	0.033	19th	21st	19th	21st	22nd	▲
Amapá	0.033	20th	25th	24th	24th	23rd	▲
Tocantins	0.027	21st	24th	26th	27th	25th	▲
Rio Grande do Norte	0.022	22nd	14th	17th	20th	16th	▼
Alagoas	0.021	23rd	15th	15th	16th	15th	▼
Piauí	0.020	24th	20th	11th	12th	14th	▼
Maranhão	0.017	25th	26th	22nd	25th	21st	▼
Acre	0.004	26th	22nd	23rd	15th	24th	▼
Roraima	0.000	27th	23rd	27th	5th	26th	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.789**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.126**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
Northeast	**0.062**	**4th**	**4th**	**4th**	**5th**	**4th**	=
North	**0.000**	**5th**	**5th**	**5th**	**4th**	**5th**	=

4.5 Infrastructure

Infrastructure is a key component of economic growth and development. It can be understood as one of the dimensions of an economy's capital, as the presence of adequate infrastructure, including high quality transportation and telecommunications networks, allows the incorporation of significant productivity gains into the productive system.

An advanced infrastructure system also contributes substantially to the innovation process by reducing costs, disseminating knowledge, fostering cooperation, and facilitating the diffusion of the Results of innovative processes. The impact of infrastructure on innovation is enabled by factors such as high internet connectivity, with good average speed and total broadband capacity; collaboration among actors, in the form of technology parks, incubators and accelerators; and the good condition of roads, railways, airports and ports. To illustrate, the Sustainable Development Goal (SDG) 9, entitled "Industry, Innovation and Infrastructure" emphasizes the need to "build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation".

The Infrastructure indicator aims to assess these aspects, considering 13 variables: i) Access to broadband internet; ii) Average broadband connection speed; iii) Coverage of municipalities with fiber-optic networks; iv) Number of technology parks; v) Number of incubators; vi) Number of accelerators; vii) Territorial area; viii) Population; ix) Share of highways classified as good or great in total highway kilometers; x) Volume of paid cargo transported by rail, by origin and destination; xi) Volume of paid cargo transported by airport, by origin and destination; xii) Number of available seats per airport, by origin and destination; xiii) Net weight of cargo handled by ports.

In the 2025 ranking, Rio de Janeiro took the first place, replacing São Paulo, which ranked second. Rio Grande do Sul remained in third. The last three places were occupied by Amazonas (27th), Roraima (26th) and Tocantins (25th). Regionally, the Southeast was the first in the ranking, followed by the South, the Central-West (3rd), the Northeast (4th), and the North (5th).

Considering the last five years (2021-2025), Alagoas (9th) had the largest improvement, climbing 11 positions. It is also worth noting the rise of Mato Grosso do Sul (11th) and Goiás (14th), which advanced eight positions each. Conversely, Roraima registered the largest decline, losing 21 positions and reaching 26th place in the current ranking. Among the regions, the Central-West climbed from fourth to third position, swapping places with the Northeast. The Southeast (1st), the South (2nd) and the North (5th) remained in the same positions. Compared to last year, Sergipe (18th) registered the greatest positive variation, rising nine positions, while Piauí (19th) and Mato Grosso (21st) had the largest decline, losing, respectively, five and four positions. Regionally, no changes occurred during this period.

Sub-indicator:

Connectivity Indicator: média entre o total de acessos de banda larga em termos *per capita* da Federative Unit, ponderada pela participação dos acessos da Federative Unit no país, considerando também a velocidade média de banda larga contratada e o percentual de municípios com disponibilidade de fibra ótica da Federative Unit.

Cooperation Indicator: the average amount of technology parks per capita in the state, adjusted by the state's share in the total national tech parks, and the number of incubators and accelerators per capita in the state, weighted by the state's share in the total of incubators and accelerators nationwide.

Logistics Indicator: a composite average composed of the airport sub-indicator (average of the state's paid cargo by origin and destination and seats by origin and destination, both adjusted by the local population), the highways sub-indicator (the proportion of highway kilometers in good or great condition in the state, weighted by the ratio of total highways and the state's territorial area), the railways sub-indicator (the average of the state's paid cargo by origin and destination relative to the state's territorial area), and by the ports sub-indicator (the state's share of total cargo handled by the ports in the country).

Sources:

ANAC. Years: 2020, 2021, 2022, 2023 and 2024.
ANATEL. Years: 2020, 2021, 2022, 2023 and 2024.
ANPROTEC. Years: 2020, 2021, 2022, 2023 and 2024.
ANTAQ. Years: 2020, 2021, 2022, 2023 and 2024.
ANTT. Years: 2020, 2021, 2022, 2023 and 2024.
CNT. Years: 2020, 2021, 2022, 2023 and 2024.
IBGE. Years: 2020, 2021, 2022 (data replicated for 2023) and 2024.
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Infrastructure

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
RIO DE JANEIRO	**1.000**	**1st**	**2nd**	**2nd**	**2nd**	**2nd**	▲
SÃO PAULO	**0.943**	**2nd**	**1st**	**1st**	**1st**	**1st**	▼
RIO GRANDE DO SUL	**0.703**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
PARANÁ	**0.641**	**4th**	**4th**	**4th**	**5th**	**6th**	▲
DISTRITO FEDERAL	**0.464**	**5th**	**5th**	**5th**	**4th**	**4th**	▼
Santa Catarina	0.436	6th	6th	6th	6th	7th	▲
Espírito Santo	0.427	7th	7th	7th	7th	9th	▲
Minas Gerais	0.341	8th	8th	8th	10th	10th	▲
Alagoas	0.283	9th	9th	19th	20th	20th	▲
Maranhão	0.212	10th	10th	9th	9th	8th	▼
Mato Grosso do Sul	0.193	11th	12th	12th	19th	19th	▲
Pernambuco	0.175	12th	15th	10th	12th	12th	=
Pará	0.163	13th	11th	20th	15th	16th	▲
Goiás	0.137	14th	13th	13th	21st	22nd	▲
Rio Grande do Norte	0.135	15th	19th	11th	13th	11th	▼
Rondônia	0.133	16th	16th	18th	22nd	15th	▼
Ceará	0.133	17th	18th	16th	16th	14th	▼
Sergipe	0.119	18th	27th	26th	27th	23rd	▲
Piauí	0.117	19th	14th	14th	14th	18th	▼
Paraíba	0.108	20th	21st	23rd	23rd	21st	▲
Mato Grosso	0.104	21st	17th	17th	18th	24th	▲
Bahia	0.080	22nd	25th	25th	11th	17th	▼
Acre	0.073	23rd	20th	15th	17th	25th	▲
Amapá	0.065	24th	22nd	27th	24th	13th	▼
Tocantins	0.060	25th	23rd	24th	26th	27th	▲
Roraima	0.057	26th	24th	21st	8th	5th	▼
Amazonas	0.000	27th	26th	22nd	25th	26th	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.690**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.219**	**3rd**	**3rd**	**3rd**	**3rd**	**4th**	▲
Northeast	**0.217**	**4th**	**4th**	**4th**	**4th**	**3rd**	▼
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

4.6 Institutions

Economic literature has attributed a key role to institutions in the process of growth and development. Institutions can be understood as the structure of incentives guiding the decisions of economic actors, influencing the allocation of resources and, consequently, the formation of physical and human capital, as well as the level of production's technology and organization. A well-functioning institutional framework also reduces uncertainty (Acemoglu; Johnson; Robinson, 2004) and, therefore, directly influences the innovation process (Arend; Cario; Enderle, 2012).

The Institutions indicator captures the institutional determinants that positively impact the innovation process in a region. It is composed by three variables: i) Efficiency of Labor Court; ii) Digitalization of Public Services; iii) Fiscal Health of the Public Sector, measured by the current savings of the state governments.

The Efficiency of Labor Court variable measures the productivity of the judicial system by assessing the speed of case resolution – a key factor to the stability and the smooth functioning of the judicial system. The variable Digitalization of Public Services measures the level of digital connectivity of public services, a factor that enhances transparency and efficiency in public administration. Finally, the Fiscal Health of the Public Sector variable, by measuring the state's capacity to afford its expenditures, allows for the assessment of its institutional stability and fiscal capacity to attract investments.

In 2025, Rio de Janeiro ranked 1st again and it was followed by Rio Grande do Sul (2nd) and São Paulo (3rd). At the bottom part of the ranking, the last three places were held by Espírito Santo (27th), Maranhão (26th) and Roraima (25th). At a regional level, in the 2025 Institutions index, the South had the first place, followed by the Southeast (2nd), the Central-West (3rd), the Northeast (4th) and the North (5th).

In the comparison between 2021 and 2025, Acre climbed 13 positions and had the highest increase, ranking 11th. It is also worth noting the significant advances of Piauí (8th) and Alagoas (17th), which rose nine and eight positions respectively. The largest declines were registered by Distrito Federal (19th), Sergipe (22nd) and Amapá (23rd), which dropped, respectively, six, seven and 11 positions. In the 2025-2024 comparison, Piauí (8th) advanced the most, climbing eight positions. The largest declines were registered by Distrito Federal (19th), Rio Grande do Norte (21st) and Maranhão (26th), which fell eight positions. At the regional level, the positions remained the same considering the 2025-2024 and the 2025-2021 comparison.

Sub-indicators:

Judiciary Productivity Indicator: Comparative Productivity Index (IPC-Jus) of the Labor Court in the state (Federative Unit), weighted by the size of the local court (1.00 for large, 0.75 for medium, and 0.50 for small).

Digitalization of Public Services Indicator: the degree of digitalization of the state's public services.

Fiscal Capacity Indicator Indicador de Capacidade Fiscal: score in the Current Savings Indicator of state governments.

Sources:

IPC-Jus (CNJ) . Years: 2020, 2021, 2022, 2023 (data replicated for 2024).
ABEP-TIC. Years: 2020, 2021, 2022, 2023 and 2024.
Indicator II (Current savings) from CAPAG (National Treasure) . Years: 2020, 2021, 2022, 2023 and 2024.

[4] For states with shared courts, the same data was used for both states.
[5] For states with missing information for a given variable, the average of the remaining sub-indicators was used.

Institutions

Federative Unit	2024 Index	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2020 Ranking	2024 - 2020 Comparison
RIO DE JANEIRO	**1.000**	**1st**	**1st**	**1st**	**4th**	**4th**	▲
RIO GRANDE DO SUL	**0.855**	**2nd**	**2nd**	**2nd**	**1st**	**1st**	▼
SÃO PAULO	**0.793**	**3rd**	**3rd**	**3rd**	**2nd**	**5th**	▲
GOIÁS	**0.791**	**4th**	**4th**	**4th**	**5th**	**6th**	▲
MATO GROSSO DO SUL	**0.658**	**5th**	**5th**	**8th**	**11th**	**7th**	▲
Minas Gerais	0.628	6th	12th	5th	3rd	2nd	▼
Pernambuco	0.621	7th	7th	9th	9th	10th	▲
Piauí	0.571	8th	16th	20th	20th	17th	▲
Santa Catarina	0.537	9th	6th	7th	7th	3rd	▼
Paraná	0.521	10th	8th	6th	6th	9th	▼
Acre	0.474	11th	17th	24th	19th	24th	▲
Pará	0.474	12th	9th	12th	10th	12th	=
Ceará	0.393	13th	10th	13th	14th	18th	▲
Bahia	0.389	14th	14th	10th	8th	8th	▼
Tocantins	0.378	15th	21st	16th	13th	15th	=
Rondônia	0.290	16th	23rd	25th	24th	19th	▲
Alagoas	0.270	17th	24th	27th	26th	25th	▲
Paraíba	0.263	18th	20th	17th	12th	14th	▼
Distrito Federal	0.262	19th	11th	11th	25th	13th	▼
Amazonas	0.204	20th	15th	18th	22nd	26th	▲
Rio Grande do Norte	0.176	21st	13th	15th	17th	22nd	▲
Sergipe	0.168	22nd	22nd	22nd	18th	11th	▼
Amapá	0.160	23rd	19th	14th	16th	16th	▼
Mato Grosso	0.138	24th	25th	21st	23rd	20th	▼
Roraima	0.074	25th	27th	26th	27th	27th	▲
Maranhão	0.020	26th	18th	19th	15th	21st	▼
Espírito Santo	0.000	27th	26th	23rd	21st	23rd	▼

Region	2024 Index	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2020 Ranking	2024 - 2020 Comparison
South	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
Southeast	**0.865**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.274**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
Northeast	**0.175**	**4th**	**4th**	**4th**	**4th**	**4th**	=
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

5. Results Dimension

5.1 Global Competitiveness

In a globalized economy, characterized by the intense market competition, innovation is a key element for a country's participation in the international economy. This is due to the fact that incorporating innovation in the productive system to a country's exports increases the attractiveness of its products and, consequently, their competitiveness at the global level.

In this regard, Chiarini and Gonçalves da Silva (2016) highlight that the presence of products with higher technological intensity in a country's export portfolio reflects its economic performance and, indirectly, its technological capacity. The import of goods with high technological content can have different implications. On one hand, it may represent a stimulus for the modernization of the importing country through the incorporation of inputs to enhance its productive system. On the other hand, the need to import such products may indicate local technological shortcomings, as domestic production would be unable to meet internal demand.

Given these factors, the Global Competitiveness indicator aims to measure high and medium-high technology intensity exportations and importations, as well as the diversification of exported goods and external consumer markets for Brazilian states. The indicator is composed of the following variables: i) Diversity of exported technological goods; ii) Share of exports with high and medium-high technology intensity exportations in total exports; iii) Share of imported capital goods with high and medium-high technological intensity in total imports; iv) Number of importing countries for the state and the country; v) Total export values for the state and the country;

In the 2025 ranking, São Paulo once again held the top position among Brazil's 27 federal units. The second and third place were, respectively, Espírito Santo and Minas Gerais. Tocantins (27th), Pará (26th) and Maranhão (25th) occupied the last three positions in the ranking. At a regional level, the Southeast ranked first, followed by the South, the Central-West, the Northeast and the North.

Compared to the last five years (2025-2021), Ceará (9th) and Rondônia (12th) were the states with the largest increase, each advancing 14 positions. Paraíba (17th) also stood out, with an increase of ten positions. Conversely, Bahia (23rd) had the largest decrease, dropping 14 places. In the regional ranking, the Southeast, the South and the Northeast remained, respectively, in the first, second and fifth positions. The Central-West moved up one position, taking the third place, while the North fell one, becoming the fourth in the ranking.

In the 2025-2024 comparison, Mato Grosso do Sul (10th) and Paraíba (17th) were the states which advanced the most, each gaining nine positions. Conversely, Distrito Federal had the largest decline and lost nine positions, ranking 24th in 2025. Considering the regions, the order of the rankings remained the same in the 2025 and 2024 comparison.

Sub-indicators:

Technological Exports Share Indicator: Share of high and medium-high technological intensity exports in the total exports of the state (Federative Unit), weighted by the state's share of high and medium-high technological intensity exports in the country's total high and medium-high technological intensity exports.

Technological Exports Diversification Indicator: Inverted Herfindahl-Hirschman Index (HHI) of the state's technological exports.

Technological Imports Share Indicator: Share of imported capital goods with high and medium-high technological intensity in the state's total imports, weighted by the state's share of imported capital goods with high and medium-high technological intensity in the country's total high and medium-high technological intensity imports.

Market Diversification Indicator: Share of the state's importing countries in the country's total importing countries, weighted by the state's share of total exports in the country's total exports.

Source:
ComexStat (MDIC). Years: 2020, 2021, 2022, 2023 e 2024.

Global Competitiveness

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
ESPÍRITO SANTO	**0.546**	**2nd**	**2nd**	**2nd**	**3rd**	**2nd**	=
MINAS GERAIS	**0.481**	**3rd**	**3rd**	**3rd**	**2nd**	**4th**	▲
RIO DE JANEIRO	**0.427**	**4th**	**5th**	**4th**	**5th**	**3rd**	▼
RIO GRANDE DO SUL	**0.412**	**5th**	**4th**	**5th**	**4th**	**5th**	=
Paraná	0.390	6th	6th	7th	6th	6th	=
Santa Catarina	0.384	7th	7th	6th	7th	7th	=
Goiás	0.274	8th	9th	8th	8th	8th	=
Ceará	0.271	9th	8th	11th	23rd	23rd	▲
Mato Grosso do Sul	0.259	10th	19th	21st	9th	13th	▲
Mato Grosso	0.227	11th	11th	13th	14th	11th	=
Rondônia	0.223	12th	13th	14th	12th	26th	▲
Roraima	0.220	13th	16th	19th	21st	18th	▲
Amazonas	0.220	14th	14th	15th	13th	10th	▼
Rio Grande do Norte	0.218	15th	12th	9th	10th	12th	▼
Alagoas	0.217	16th	10th	26th	25th	25th	▲
Paraíba	0.209	17th	26th	25th	27th	27th	▲
Piauí	0.156	18th	22nd	23rd	20th	20th	▲
Acre	0.154	19th	18th	17th	17th	16th	▼
Amapá	0.145	20th	23rd	22nd	26th	24th	▲
Sergipe	0.136	21st	17th	18th	15th	14th	▼
Pernambuco	0.133	22nd	21st	16th	16th	15th	▼
Bahia	0.132	23rd	24th	20th	19th	9th	▼
Distrito Federal	0.131	24th	15th	12th	11th	17th	▼
Maranhão	0.082	25th	20th	10th	18th	19th	▼
Pará	0.057	26th	25th	24th	22nd	21st	▼
Tocantins	0.000	27th	27th	27th	24th	22nd	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.476**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.139**	**3rd**	**3rd**	**3rd**	**4th**	**4th**	▲
North	**0.040**	**4th**	**4th**	**4th**	**3rd**	**3rd**	▼
Northeast	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

5.2 Entrepreneurship

Entrepreneurship plays a key role in promoting innovation, directly contributing to the creation of new businesses and the constant renewal of the economic environment. In this context, entrepreneurial initiatives, especially those focused on startup creation, gain relevance by adopting innovative technologies and by challenging established paradigms. The dynamics of business openings and closures also provide important indications of the strength of the entrepreneurial ecosystem. Based on this perspective, the Entrepreneurship indicator was structured using the following variables: i)Total amount of startups; ii) Population; iii) Net balance of business openings and closures.

The Entrepreneurship indicator é divided in two sub-indicators. The first reflects the per capita number of start-ups in the state, weighted by the state's share of the total number of start-ups nationwide. The second sub-indicator captures business turnover in the states, more specifically the net balance of business openings and closures, divided by the state's population. The overall Entrepreneurship indicator is calculated as the simple average of these two sub-indicators.

In 2025, the three states with the highest index of entrepreneurship were São Paulo (1st), Santa Catarina (2nd) and Mato Grosso (3rd), while the lowest ones were Maranhão (27th), Piauí (26th) and Sergipe (25th). At the regional level, the Southeast maintained the lead, followed by the South (2nd) and the Central-West (3rd).

Compared to the 2021 ranking, Pernambuco had an expressive growth, climbing ten positions and reaching the 17th position. Distrito Federal (4th) and Ceará (16th) also registered significative growth, each advancing nine positions. In contrast, Paraíba (23rd) and Piauí (26th) had the largest declines, both falling 11 positions. Tocantins (20th) lost nine places in the ranking.

In the 2025-2024 comparison, Distrito Federal (4th) registered the highest advance, climbing 12 positions. Ceará and Pernambuco also made progress and rose, respectively, 11 and eight positions and ranking 16th and 17th in 2025. In contrast, Tocantins (20th) fell seven positions, while Maranhão dropped six, ranking last (27th). Regionally, no changes were observed in either of the analysed periods, that is, between 2025 and 2024 and 2025 and 2021.

Sub-indicators:

Startups Indicator: total number of startups per capita in the state, weighted by the state's share of the total number of startups in the country.

Business Turnover Indicator: net balance of business openings and closures per capita in the state.

Sources:

ABStartups. Years: 2020, 2021, 2022, 2023 and 2024.
Federal Revenue Service of Brazil . Years: 2020, 2021, 2022, 2023 and 2024.
IBGE. Years: 2020, 2021, 2022 (data replicated for 2023) and 2024.

[6] Data extracted on May 14, 2025.

Entrepreneurship

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
SANTA CATARINA	**0.685**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
MATO GROSSO	**0.406**	**3rd**	**3rd**	**3rd**	**5th**	**6th**	▲
DISTRITO FEDERAL	**0.373**	**4th**	**16th**	**19th**	**4th**	**13th**	▲
PARANÁ	**0.362**	**5th**	**5th**	**4th**	**6th**	**4th**	▼
Goiás	0.328	6th	4th	6th	9th	7th	▲
Rio de Janeiro	0.298	7th	7th	10th	3rd	3rd	▼
Mato Grosso do Sul	0.255	8th	6th	5th	7th	5th	▼
Espírito Santo	0.254	9th	9th	8th	10th	8th	▼
Rio Grande do Sul	0.253	10th	10th	7th	8th	10th	=
Minas Gerais	0.176	11th	11th	9th	13th	9th	▼
Amazonas	0.154	12th	14th	13th	12th	14th	▲
Roraima	0.153	13th	8th	11th	15th	16th	▲
Amapá	0.123	14th	15th	22nd	22nd	22nd	▲
Rondônia	0.098	15th	12th	12th	23rd	20th	▲
Ceará	0.089	16th	27th	23rd	11th	25th	▲
Pernambuco	0.088	17th	25th	26th	19th	27th	▲
Rio Grande do Norte	0.085	18th	19th	16th	21st	19th	▲
Bahia	0.075	19th	20th	20th	18th	18th	▼
Tocantins	0.073	20th	13th	21st	27th	11th	▼
Pará	0.063	21st	17th	14th	16th	17th	▼
Alagoas	0.060	22nd	24th	25th	14th	21st	▼
Paraíba	0.051	23rd	23rd	17th	17th	12th	▼
Acre	0.043	24th	18th	24th	26th	26th	▲
Sergipe	0.040	25th	26th	27th	25th	24th	▼
Piauí	0.010	26th	22nd	15th	20th	15th	▼
Maranhão	0.000	27th	21st	18th	24th	23rd	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.685**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.506**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
North	**0.042**	**4th**	**4th**	**4th**	**5th**	**4th**	=
Northeast	**0.000**	**5th**	**5th**	**5th**	**4th**	**5th**	=

5.3 Scientific Production

Scientific production plays a strategic role in strengthening the innovative capacity of a country. For the knowledge produced in universities and research centers to translate into technological and economic solutions, the articulation between scientific, technological and productive systems is essential. Recent studies show that robust internal scientific capacities, aligned to collaborations with universities and research institutions, significantly enhance companies' innovative performance (Tang, 2025). In this scenario, the Scientific Production indicator measures both the quantity and the quality of the scientific publications, reflecting the maturity of the national innovation system. The variables considered are: i) Number of articles published in journals in technological fields; ii) Scientific impact of universities (share of publications from universities located in the state among the top 10% most cited in the same field of knowledge); iii) Population.

In 2025, the strongest Results in this indicator were concentrated in the Southeast and the South regions: São Paulo in first place, followed by Rio de Janeiro (2nd) and Rio Grande do Sul (3rd). In the bottom of the ranking were Acre (27th), Roraima (26th) and Rondônia (25th).

Compared to 2021, Espírito Santo (8th) and Pará (9th) stood out, each climbing six positions. They were followed by Mato Grosso do Sul (12th) and Alagoas (18th), which advanced five places. In contrast, Pernambuco (16th) and Rio Grande do Norte (10th) registered the largest declines, both losing five positions. At the regional level, the ranking remained unchanged over the past five years, with the Southeast in the lead, followed by the South (2nd) and the Northeast (3rd).

In the 2025-2024 comparison, Ceará stood out, climbing five positions and ranking 11th. Pará also performed well, rising four places to reach the 9th place. Conversely, Bahia (14th) and Pernambuco (16th) registered the largest declines in the same period, falling five and four positions respectively. The regional ranking remained unchanged compared to the previous year.

Sub-indicators:

Scientific Publication Indicator: number of scientific articles in STEM fields published in journals per capita in the state, weighted by the state's share of total articles published in technological fields nationwide.

Scientific Impact Indicator: scientific impact of the publications among the top 10% most cited in the fields of Biomedical and Health Sciences, Life and Earth Sciences, Mathematics and Computer Science, Physical Sciences and Engineering (CWTS Leiden Ranking).

Sources:

CAPES (MEC). Years: 2019, 2020, 2021, 2022 and 2023.
IBGE. Years: 2019, 2020, 2021 and 2022 (data replicated for 2023).
Leiden Ranking. Years: 2020, 2021, 2022, 2023 and 2024.

Scientific Production

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
RIO DE JANEIRO	**0.868**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
RIO GRANDE DO SUL	**0.734**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
PARANÁ	**0.615**	**4th**	**4th**	**4th**	**4th**	**4th**	=
MINAS GERAIS	**0.605**	**5th**	**5th**	**5th**	**6th**	**6th**	▲
Santa Catarina	0.583	6th	6th	6th	5th	7th	▲
Distrito Federal	0.552	7th	8th	9th	11th	10th	▲
Espírito Santo	0.529	8th	7th	7th	14th	14th	▲
Pará	0.523	9th	13th	12th	15th	15th	▲
Rio Grande do Norte	0.506	10th	10th	8th	7th	5th	▼
Ceará	0.462	11th	16th	14th	10th	8th	▼
Mato Grosso do Sul	0.459	12th	14th	17th	17th	17th	▲
Paraíba	0.449	13th	11th	10th	8th	9th	▼
Bahia	0.449	14th	9th	11th	9th	13th	▼
Goiás	0.417	15th	15th	16th	13th	12th	▼
Pernambuco	0.408	16th	12th	13th	12th	11th	▼
Sergipe	0.367	17th	17th	15th	20th	19th	▲
Alagoas	0.031	18th	19th	18th	18th	23rd	▲
Amazonas	0.031	19th	18th	19th	19th	18th	▼
Mato Grosso	0.012	20th	20th	20th	16th	16th	▼
Maranhão	0.007	21st	21st	22nd	23rd	20th	▼
Tocantins	0.006	22nd	22nd	21st	22nd	21st	▼
Piauí	0.005	23rd	23rd	23rd	21st	22nd	▼
Amapá	0.002	24th	24th	25th	24th	24th	=
Rondônia	0.001	25th	25th	26th	26th	25th	=
Roraima	0.001	26th	26th	24th	25th	26th	=
Acre	0.000	27th	27th	27th	27th	27th	=

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.695**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Northeast	**0.333**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
Central-West	**0.321**	**4th**	**4th**	**4th**	**4th**	**4th**	=
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

5.4 Creative and Technological Intensity

Industrial sectors of high technological intensity play a crucial role in fostering innovation, demanding investments in Research, Development and Innovation (R&D&I) to deal with the complexity of their productions. Simultaneously, the creative sectors, grounded in originality and knowledge, significantly contribute to the socioeconomic development, integrating cultural aspects into the productive activities. Both sectors, although distinct, are complementary in building an innovation-driven economy (Alves; Souza, 2012). The Creative and Technological Intensity indicator considers three variables in the analysis: i)Number of formal employment ties in high and medium-high technological intensity; ii) Number of formal employment ties in creative sectors; iii)Total number of formal employment ties.

In 2025, Santa Catarina (1st), Rio Grande do Sul (2nd) and São Paulo (3rd) held the top positions in the ranking. In contrast, Acre (27th), Tocantins (26th) and Amapá (25th) occupied the bottom places. At a regional level, the South leads the ranking, followed by the Southeast (2nd) and the Northeast (3rd); the Central-West and the North ranked, respectively, in fourth and fifth.

Comparing the past five years (2025-2021), Rondônia (17th) stood out, advancing four places in the ranking, followed by Distrito Federal (9th), which rose three positions, and Amapá (25th), which climbed two. Conversely, Pernambuco (11th), Sergipe (13th) and Mato Grosso do Sul (20th) fell two positions each.

In the 2025-2024 comparison, Rondônia (17th) was the state with the highest advance, climbing five positions, while Maranhão (22nd) also grew, rising two positions. In contrast, Roraima (24th), registered the largest decline, dropping six positions. Pernambuco (11th), Bahia (15th), Piauí (18th), Mato Grosso do Sul (20th) and Tocantins (26th) each fell by one position.

[7] High- and medium-high-technology intensity sectors were defined according to the taxonomy of the Organisation for Economic Co-operation and Development – OECD (2016). Available at: https://www.oecd-ilibrary.org/science-and-technology/oecd-taxonomy-of-economic-activities-based-on-r-d-intensity_5jlv73sqqp8r-en. Accessed on: July 2, 2025

[8] Creative sectors were defined according to the taxonomy of Fundação João Pinheiro and Observatório P7 Criativo in the Radar da Economia Criativa (2018). Available at: https://fjp.mg.gov.br/wp-content/uploads/2020/07/24.8_Radar_arquivo_final.pdf. Accessed on: July 2, 2025.

Sub-indicators:

Technological Intensity Indicator: share of formal employment in high and medium-high technological intensity in the state's total formal employment, weighted by the state's share of the total formal employment in high and medium-high technological intensity nationwide.

Creative Intensity Indicator: share of formal employment in creative sectors relative to total formal employment in the state, weighted by the state's share of total formal employment in creative sectors nationwide.

Source:

RAIS (MTE). Years: 2019, 2020, 2021, 2022 e 2023.

Creative and Technological Intensity

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SANTA CATARINA	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
RIO GRANDE DO SUL	**0.898**	**2nd**	**2nd**	**2nd**	**2nd**	**3rd**	▲
SÃO PAULO	**0.879**	**3rd**	**3rd**	**3rd**	**3rd**	**2nd**	▼
CEARÁ	**0.811**	**4th**	**4th**	**4th**	**4th**	**5th**	▲
PARANÁ	**0.741**	**5th**	**5th**	**5th**	**5th**	**4th**	▼
Amazonas	0.626	6th	6th	6th	6th	6th	=
Minas Gerais	0.602	7th	7th	7th	7th	7th	=
Rio de Janeiro	0.563	8th	8th	8th	8th	8th	=
Distrito Federal	0.509	9th	9th	11th	15th	12th	▲
Goiás	0.452	10th	11th	9th	10th	10th	=
Pernambuco	0.449	11th	10th	10th	9th	9th	▼
Espírito Santo	0.392	12th	12th	12th	12th	13th	▲
Sergipe	0.374	13th	13th	13th	11th	11th	▼
Rio Grande do Norte	0.366	14th	15th	15th	14th	15th	▲
Bahia	0.353	15th	14th	14th	13th	14th	▼
Paraíba	0.242	16th	16th	16th	16th	16th	=
Rondônia	0.211	17th	22nd	19th	21st	21st	▲
Piauí	0.191	18th	17th	17th	17th	17th	▼
Alagoas	0.162	19th	20th	20th	19th	19th	=
Mato Grosso do Sul	0.154	20th	19th	18th	18th	18th	▼
Mato Grosso	0.120	21st	21st	21st	20th	20th	▼
Maranhão	0.113	22nd	24th	23rd	23rd	22nd	=
Pará	0.105	23rd	23rd	22nd	22nd	23rd	=
Roraima	0.092	24th	18th	24th	24th	24th	=
Amapá	0.026	25th	26th	26th	27th	27th	▲
Tocantins	0.007	26th	25th	25th	25th	25th	▼
Acre	0.000	27th	27th	27th	26th	26th	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
South	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
Southeast	**0.820**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Northeast	**0.255**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
Central-West	**0.182**	**4th**	**4th**	**4th**	**4th**	**4th**	=
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

5.5 Intellectual Property

Intellectual property represents a strategic pillar in fostering innovation, especially in contexts of economic and technological uncertainty. By securing exclusive rights over inventions, trademarks, industrial designs and other intangible assets, it creates a trustworthy environment that encourages investments in new ideas. This type of protection allows companies and inventors to obtain returns proportional to the risks taken during the creative process. Thus, the Intellectual Property indicator aims to measure the progress of these protection registrations, capturing the outputs of innovation, as well as the degree of formalization of these creations. It is composed of the following variables: i) Patent applications; ii) Research contract registrations; iii) Industrial designs applications; iv) Trademak registrations; v) Population.

Given the importance of patenting in the innovation process and knowledge appropriation, a per capita patent sub-indicator, weighted by the state's share of total patents in the country, is considered, along with another sub-indicator that combines per capita registrations of research contracts, industrial designs, and trademarks, weighted by the state's share of total contracts, designs, and trademarks nationwide. Based on these two sub-indicators, a simple average is calculated to produce the Intellectual Property indicator.

In 2025, São Paulo ranked first, followed by Santa Catarina (2nd) and Minas Gerais (3rd). At the bottom of the ranking were Acre (27th), Roraima (26th) and Amapá (25th). Regionally, the Southeast remained in the lead, followed by the South (2nd) and the Central-West (3rd).

Compared to the past five years (2021-2025), Piauí was the state with the highest advance, climbing three positions in 2025 and reaching 21st in the ranking. Conversely, Alagoas had the largest decline, also three positions, and dropping to 19th place.

Compared to 2024, Distrito Federal (7th), Paraíba (9th), Piauí (21st) and Amapá (25th) advanced two positions. In contrast, Tocantins (22nd) fell three places, followed by Rio Grande do Sul (5th) and Espírito Santo (10th), which lost two positions each. Regionally, the positions remained unchanged in the yearly comparison (2025-2024); but compared to 2021, the Central-West climbed one position, while the Northeast fell one.

Sub-indicators:

Patents Indicator: number of patents per capita in the state, weighted by the state's share of the total number of patents nationwide.

Contracts, Industrial Designs and Trademarks Indicator: sum of contracts, industrial designs and trademarks per capita in the state, weighted by the state's share of the nationwide total.

Sources:

INPI. Years: 2020, 2021, 2022, 2023 and 2024.
IBGE. Years: 2020, 2021, 2022 (data replicated for 2023) and 2024.

Intellectual Property

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
SANTA CATARINA	**0.303**	**2nd**	**2nd**	**2nd**	**2nd**	**3rd**	▲
MINAS GERAIS	**0.286**	**3rd**	**4th**	**5th**	**5th**	**5th**	▲
PARANÁ	**0.276**	**4th**	**5th**	**4th**	**3rd**	**2nd**	▼
RIO GRANDE DO SUL	**0.268**	**5th**	**3rd**	**3rd**	**4th**	**4th**	▼
Rio de Janeiro	0.187	6th	6th	6th	6th	6th	=
Distrito Federal	0.051	7th	9th	7th	7th	8th	▲
Goiás	0.046	8th	7th	8th	8th	9th	▲
Paraíba	0.040	9th	11th	11th	12th	7th	▼
Espírito Santo	0.037	10th	8th	9th	9th	10th	=
Pernambuco	0.029	11th	10th	10th	10th	11th	=
Bahia	0.023	12th	12th	13th	11th	13th	▲
Ceará	0.020	13th	13th	14th	14th	12th	▼
Mato Grosso	0.018	14th	14th	12th	13th	15th	▲
Mato Grosso do Sul	0.011	15th	15th	15th	15th	14th	▼
Sergipe	0.009	16th	17th	17th	17th	18th	▲
Rio Grande do Norte	0.008	17th	16th	16th	16th	17th	=
Pará	0.005	18th	18th	18th	19th	19th	▲
Alagoas	0.005	19th	20th	19th	18th	16th	▼
Amazonas	0.004	20th	21st	20th	20th	20th	=
Piauí	0.003	21st	23rd	24th	24th	24th	▲
Tocantins	0.003	22nd	19th	23rd	22nd	22nd	=
Maranhão	0.003	23rd	22nd	21st	21st	21st	▼
Rondônia	0.001	24th	24th	22nd	23rd	23rd	▼
Amapá	0.001	25th	27th	27th	26th	27th	▲
Roraima	0.000	26th	25th	25th	27th	26th	=
Acre	0.000	27th	26th	26th	25th	25th	▼

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
South	**0.539**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
Central-West	**0.075**	**3rd**	**3rd**	**3rd**	**3rd**	**4th**	▲
Northeast	**0.072**	**4th**	**4th**	**4th**	**4th**	**3rd**	▼
North	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

5.6 Environmental Sustainability

The integration between innovation and environmental sustainability has proven essential for current and future socioeconomic development. Innovation linked to environmental preservation significantly contribute to reducing of carbon emissions, fostering more balanced and sustainable growth. Moreover, renewable energy Generation is central to a more modern and competitive productive infrastructure internationally. In this scenario, the Environmental Sustainability indicator considers variables that reflect the commitment to green innovation and environmental governance: i) Number of companies with environmental certification (ISO 14001) relative to the total number of companies; ii) Capacity for green renewable energy generation (biomass, wind, hydro and solar) relative to the total capacity of energy generation; iii) Public expenditure committed on environmental management relative to total public expenditure. It is divided into three sub-indicators. The first reflects the responsibility of companies to produce goods and services in accordance with guidelines aimed at reducing environmental impacts (ISO 14001 certification). The second captures the state's engagement in renewable energy generation relative to other energy sources. Finally, the third estimates the sector's commitment to environmental management through its public expenditures. The overall Environmental Sustainability indicator is calculated as the simple average of the three sub-indicators.

In 2025, São Paulo (1st), Ceará (2nd) and Minas Gerais (3rd) led the ranking. At the bottom positions were Roraima (27th), Amapá (26th) and Acre (25th). Regionally, the Southeast remained in the lead, followed by the Northeast, in second, and the South, in third.

Compared to the past five years (2025-2021), Piauí registered the highest advance, climbing eight positions and reaching the 7th place. Next, Ceará (2nd) and Rio de Janeiro (5th) stood out, both rising five positions. In contrast, Alagoas (23rd) had the largest decline in the period, dropping ten places, followed by Rondônia (16th), which lost eight positions, and Paraná (8th), down six places.

In the recent comparison (2025-2024), Ceará (2nd) and Santa Catarina (14th) stood out, both climbing three positions. Espírito Santo (19th) and Goiás (11th) also advanced two positions each. Conversely, Amazonas (18th) and Rondônia (16th) dropped two places, while Minas Gerais (3rd), Bahia (4th), Rio de Janeiro (5th), Rio Grande do Sul (12th), Mato Grosso (13th), Distrito Federal (20th) and Tocantins (21st) lost one position each. Regionally, the positions remained unchanged during this period.

Sub-indicators:

Environmental Certification Indicator: share of companies with ISO 14001 certification in the state's total number of companies, weighted by the state's share of all ISO 14001-certified companies nationwide.

Renewable Energy Generation Capacity Indicator: share of the state's renewable energy generation capacity (biomass, wind, hydro, solar) relative to its total energy generation capacity, weighted by the state's share of total renewable energy generation capacity nationwide.

Public Expenditure on Environmental Management Indicator: share of public expenditure dedicated to environmental management in the state's total public spending, weighted by the state's share of total public expenditure on environmental management nationwide.

Sources:

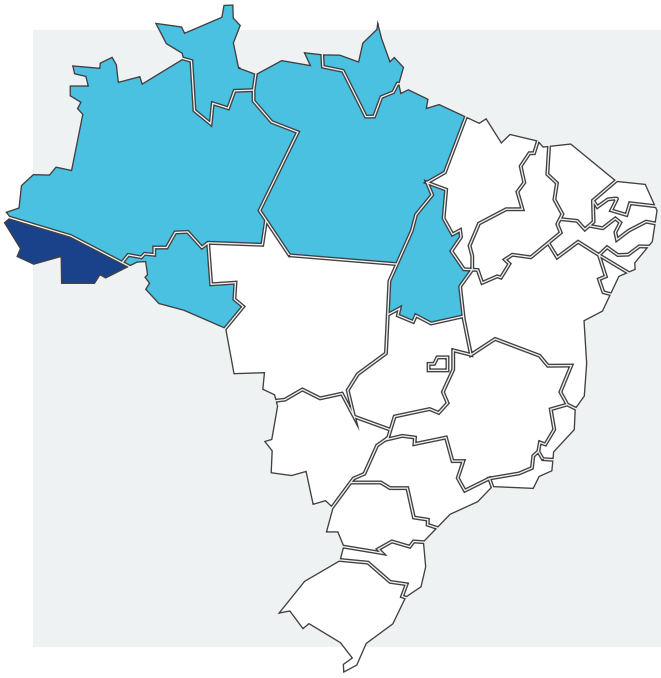
RAIS (MTE). Years: 2019, 2020, 2021, 2022 and 2023.
INMETRO. Years: 2020, 2021, 2022, 2023 and 2024.
FINBRA (National Treasury). Years: 2020, 2021, 2022, 2023 and 2024.
EPE (MME). Years: 2020, 2021, 2022, 2023 and 2024

Environmental Sustainability

Federative Unit	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
SÃO PAULO	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
CEARÁ	**0.478**	**2nd**	**5th**	**8th**	**10th**	**7th**	▲
MINAS GERAIS	**0.469**	**3rd**	**2nd**	**2nd**	**2nd**	**4th**	▲
BAHIA	**0.405**	**4th**	**3rd**	**3rd**	**3rd**	**5th**	▲
RIO DE JANEIRO	**0.277**	**5th**	**4th**	**10th**	**17th**	**10th**	▲
Rio Grande do Norte	0.252	6th	6th	5th	5th	2nd	▼
Piauí	0.224	7th	7th	7th	7th	15th	▲
Pará	0.184	8th	8th	6th	6th	6th	▼
Paraná	0.152	9th	9th	4th	4th	3rd	▼
Paraíba	0.137	10th	10th	14th	13th	14th	▲
Goiás	0.097	11th	13th	9th	9th	11th	=
Rio Grande do Sul	0.086	12th	11th	11th	11th	9th	▼
Mato Grosso	0.080	13th	12th	16th	12th	12th	▼
Santa Catarina	0.068	14th	17th	15th	14th	16th	▲
Pernambuco	0.066	15th	15th	13th	16th	17th	▲
Rondônia	0.065	16th	14th	12th	8th	8th	▼
Mato Grosso do Sul	0.048	17th	18th	17th	15th	19th	▲
Amazonas	0.039	18th	16th	18th	18th	18th	=
Espírito Santo	0.036	19th	21st	19th	20th	22nd	▲
Distrito Federal	0.030	20th	19th	23rd	23rd	21st	▲
Tocantins	0.030	21st	20th	21st	19th	20th	▼
Sergipe	0.026	22nd	22nd	20th	27th	25th	▲
Alagoas	0.012	23rd	23rd	22nd	21st	13th	▼
Maranhão	0.011	24th	24th	25th	25th	26th	▲
Acre	0.007	25th	25th	26th	22nd	23rd	▼
Amapá	0.007	26th	26th	24th	24th	24th	▼
Roraima	0.000	27th	27th	27th	26th	27th	=

Region	2025 Index	2025 Ranking	2024 Ranking	2023 Ranking	2022 Ranking	2021 Ranking	2025 - 2021 Comparison
Southeast	**1.000**	**1st**	**1st**	**1st**	**1st**	**1st**	=
Northeast	**0.586**	**2nd**	**2nd**	**2nd**	**2nd**	**2nd**	=
South	**0.046**	**3rd**	**3rd**	**3rd**	**3rd**	**3rd**	=
North	**0.023**	**4th**	**4th**	**4th**	**4th**	**4th**	=
Central-West	**0.000**	**5th**	**5th**	**5th**	**5th**	**5th**	=

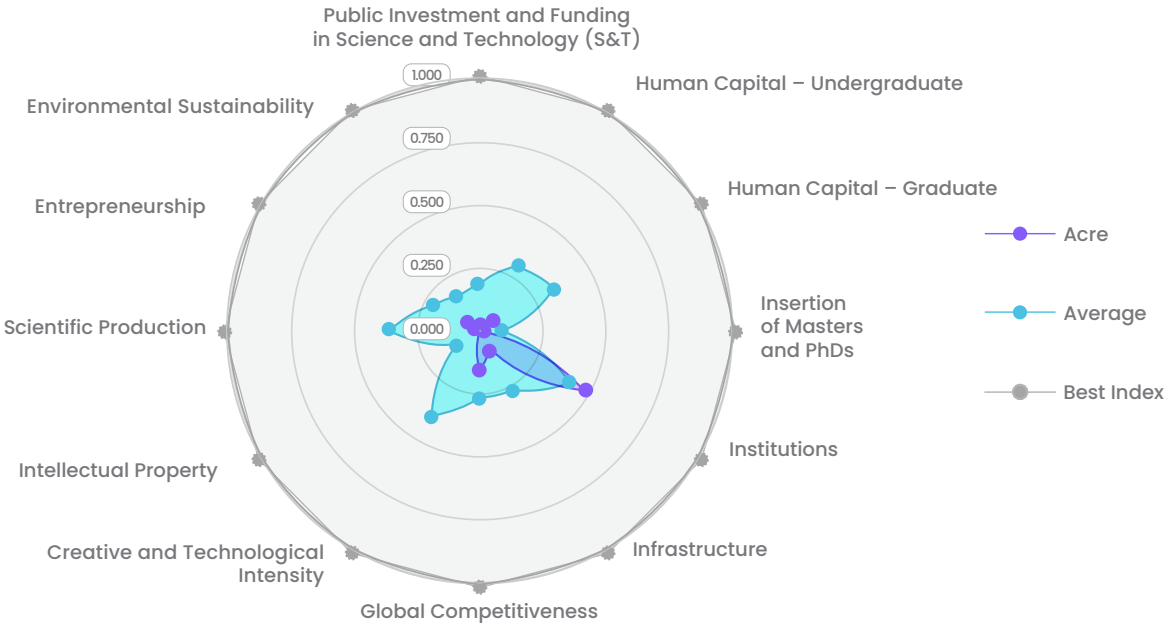
6. Results by Federative Unit



Acre

24th in Brazil Ranking
5th in North Ranking

Source: Ceará Industry Observatory

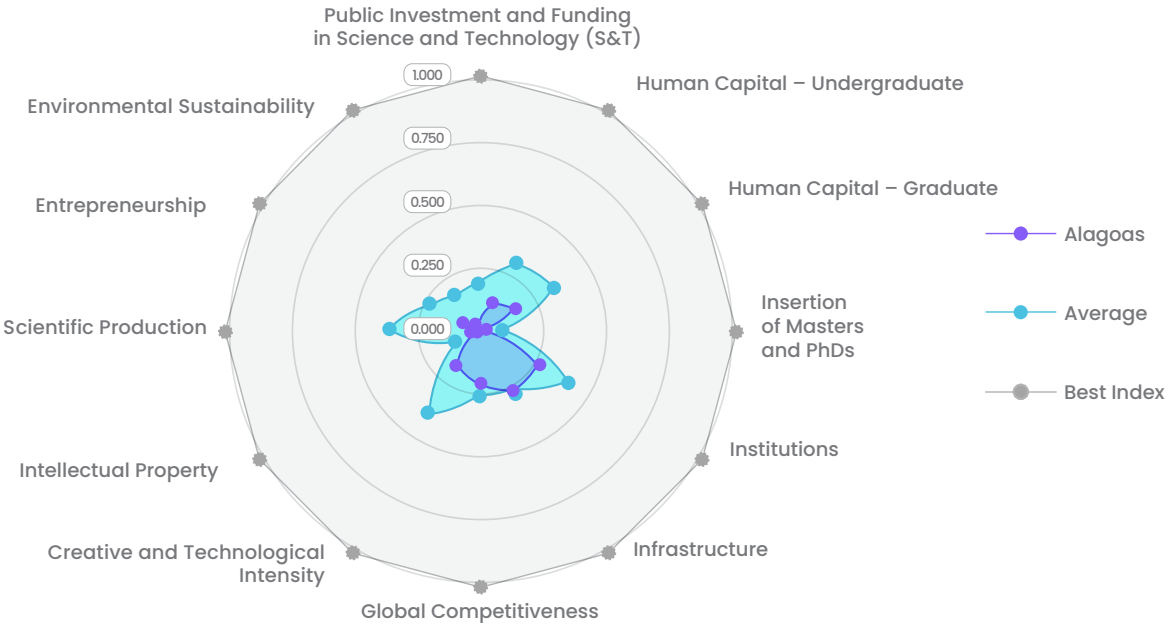


Capabilities Index	23rd	Results Index	26th
Human Capital – Undergraduate	26th	Global Competitiveness	19th
Human Capital – Graduate	24th	Entrepreneurship	24th
Insertion of Masters and PhDs	20th	Scientific Production	27th
Public Investment and Funding in Science and Technology (S&T)	26th	Creative and Technological Intensity	27th
Infrastructure	23rd	Intellectual Property	27th
Institutions	11ª	Environmental Sustainability	25th

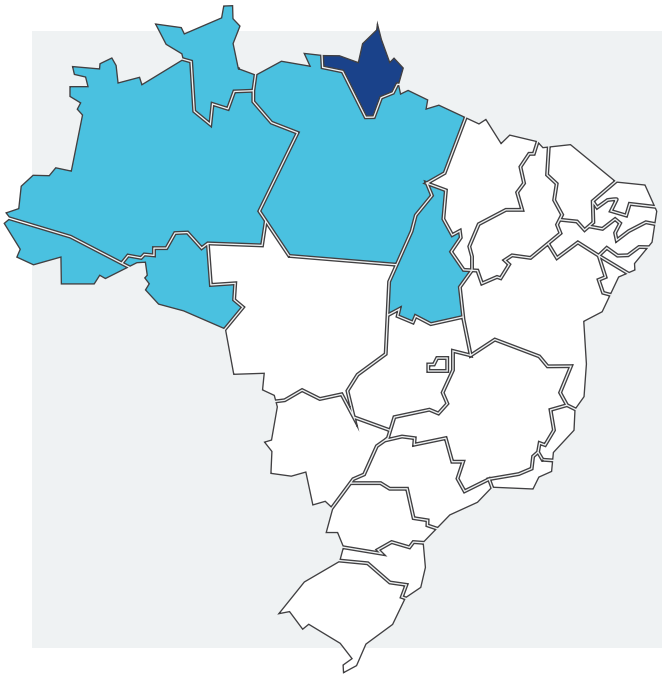
Alagoas

22nd in Brazil Ranking
8th in Northeast Ranking

Source: Ceará Industry Observatory



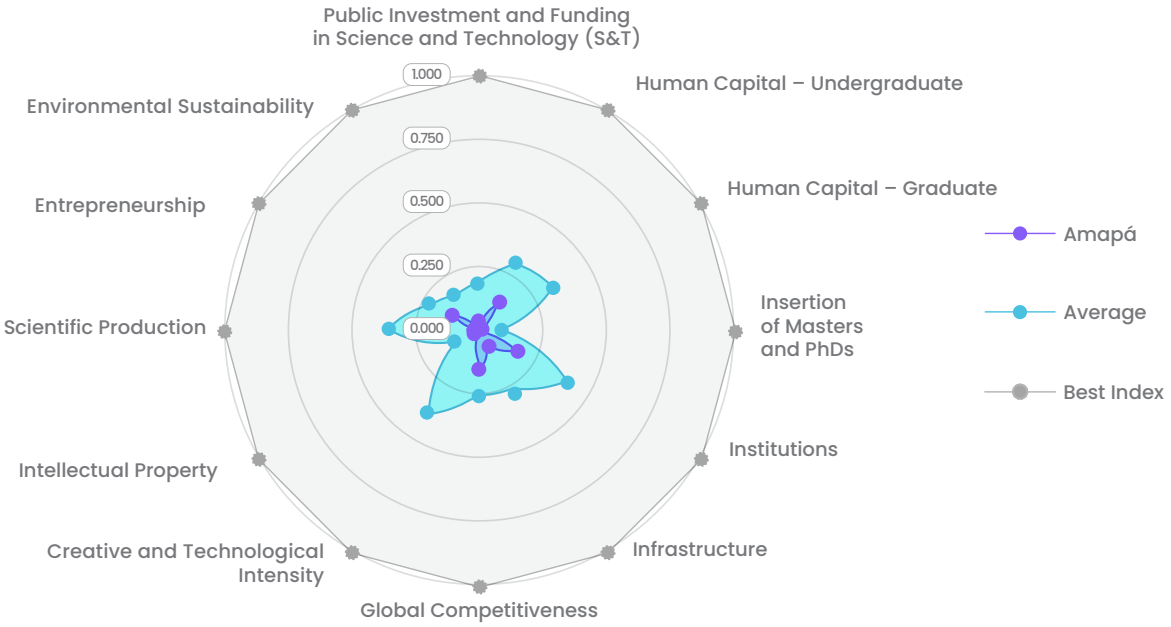
Capabilities Index	19th	Results Index	22nd
Human Capital – Undergraduate	22nd	Global Competitiveness	16th
Human Capital – Graduate	19th	Entrepreneurship	22nd
Insertion of Masters and PhDs	18th	Scientific Production	18th
Public Investment and Funding in Science and Technology (S&T)	23rd	Creative and Technological Intensity	19th
Infrastructure	9th	Intellectual Property	19th
Institutions	17th	Environmental Sustainability	23rd



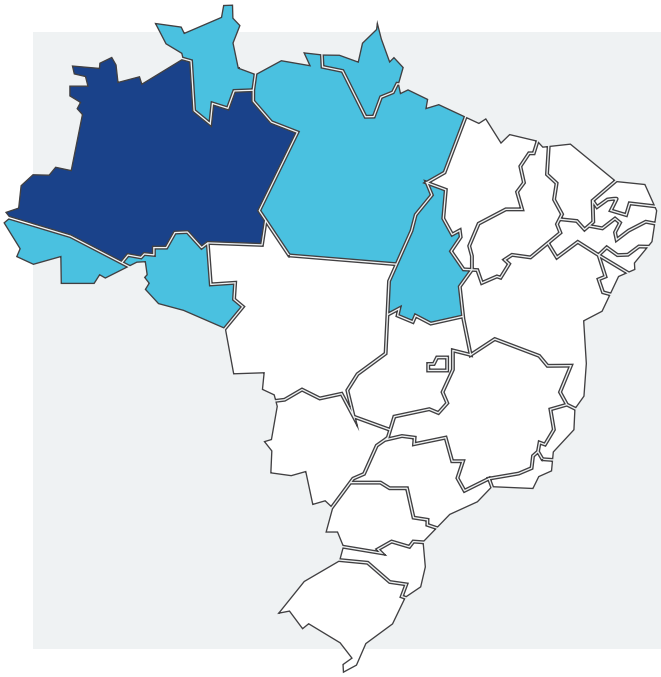
Amapá

25th in Brazil Ranking
6th in North Ranking

Source: Ceará Industry Observatory



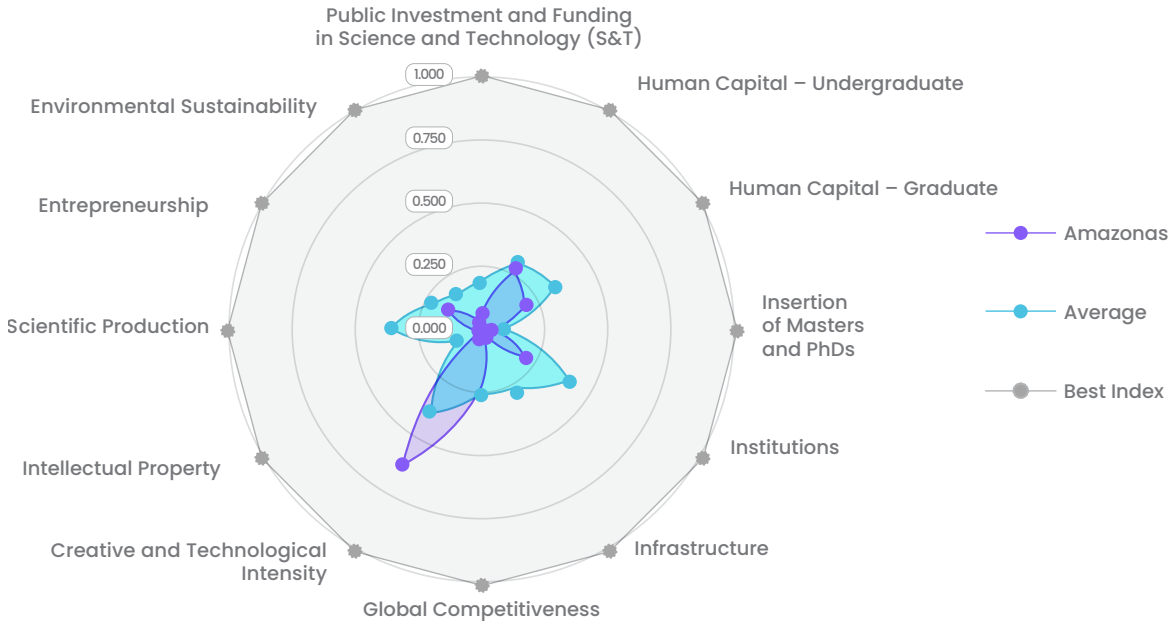
Capabilities Index	25th	Results Index	24th
Human Capital – Undergraduate	21st	Global Competitiveness	20th
Human Capital – Graduate	27th	Entrepreneurship	14th
Insertion of Masters and PhDs	23rd	Scientific Production	24th
Public Investment and Funding in Science and Technology (S&T)	20th	Creative and Technological Intensity	25th
Infrastructure	24th	Intellectual Property	25th
Institutions	23rd	Environmental Sustainability	26th



Amazonas

18th in Brazil Ranking
2nd in North Ranking

Source: Ceará Industry Observatory

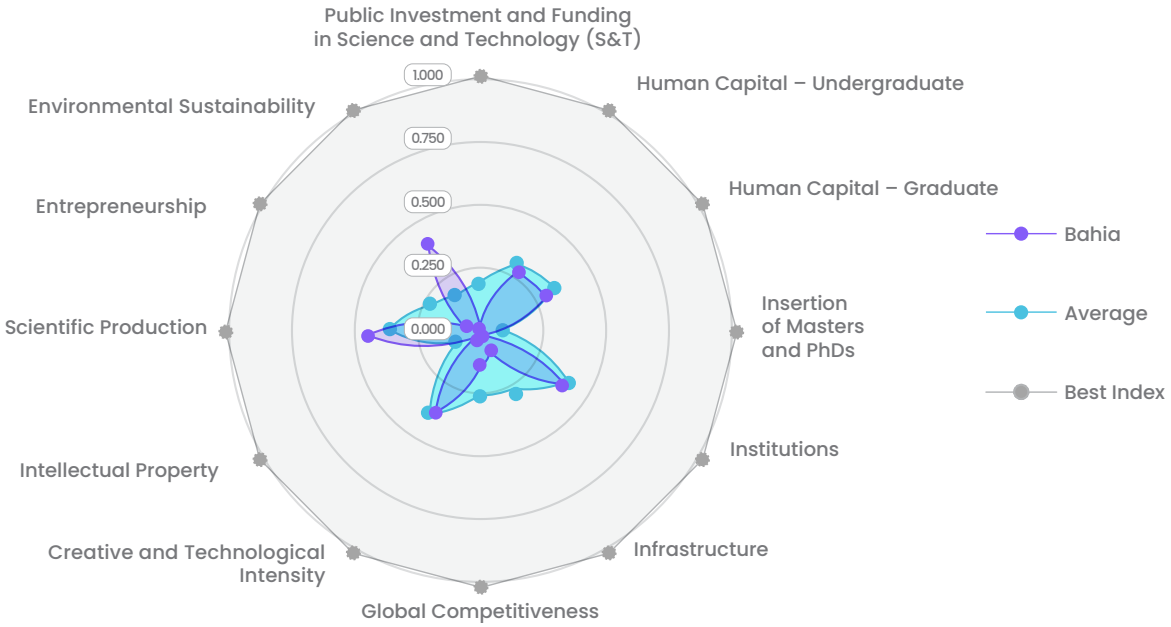


Capabilities Index	21st	Results Index	16th
Human Capital – Undergraduate	13th	Global Competitiveness	14th
Human Capital – Graduate	18th	Entrepreneurship	12th
Insertion of Masters and PhDs	9th	Scientific Production	19th
Public Investment and Funding in Science and Technology (S&T)	16th	Creative and Technological Intensity	6th
Infrastructure	27th	Intellectual Property	20th
Institutions	20th	Environmental Sustainability	18th

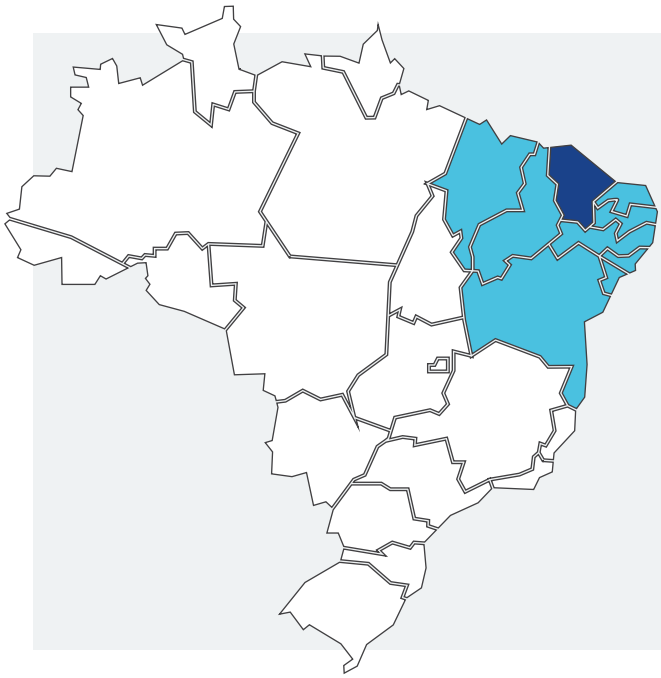
Bahia

13th in Brazil Ranking
3rd in Northeast Ranking

Source: Ceará Industry Observatory



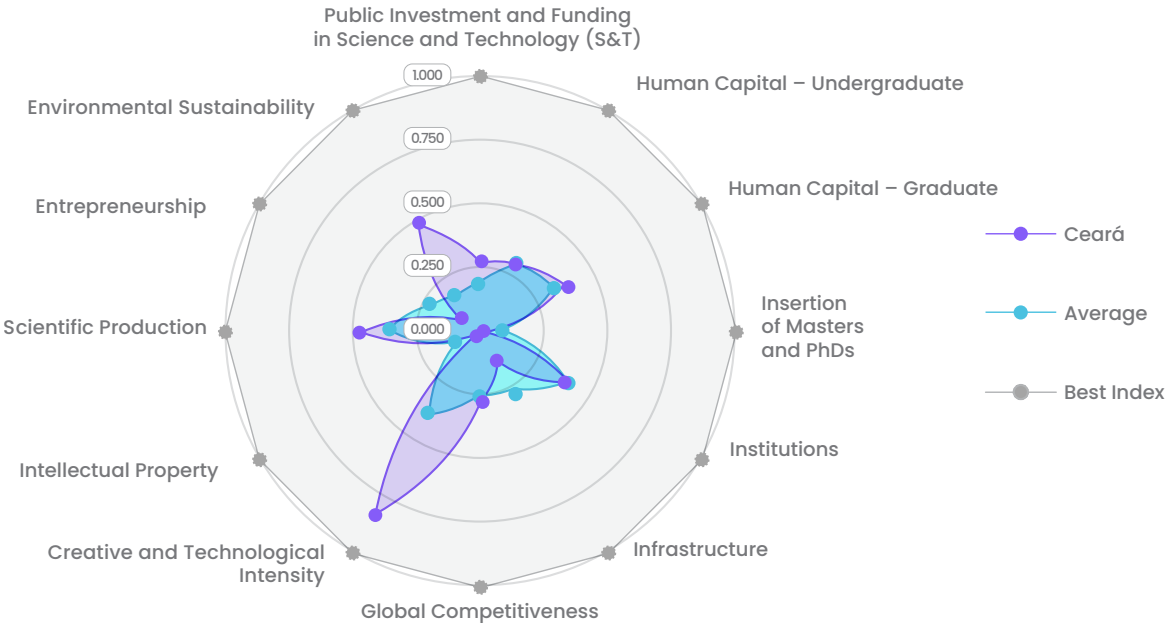
Capabilities Index	14th	Results Index	11th
Human Capital – Undergraduate	12th	Global Competitiveness	23rd
Human Capital – Graduate	13th	Entrepreneurship	19th
Insertion of Masters and PhDs	13th	Scientific Production	14th
Public Investment and Funding in Science and Technology (S&T)	18th	Creative and Technological Intensity	15th
Infrastructure	22nd	Intellectual Property	12th
Institutions	14th	Environmental Sustainability	4th



Ceará

7th in Brazil Ranking
1st in Northeast Ranking

Source: Ceará Industry Observatory



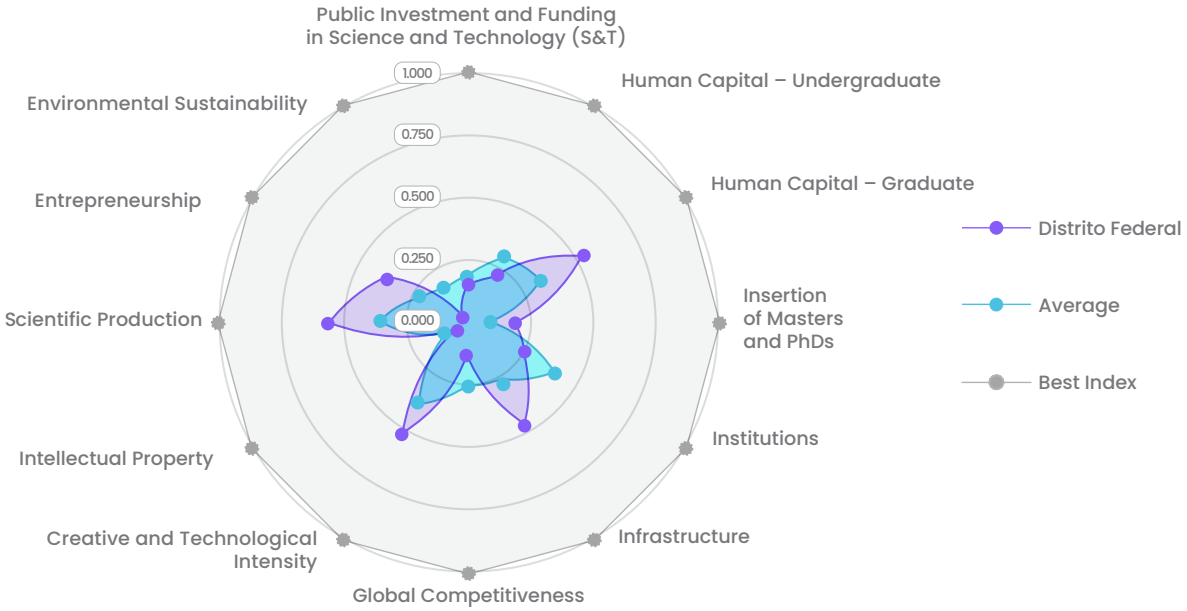
Capabilities Index	11th	Results Index	7th
Human Capital – Undergraduate	10th	Global Competitiveness	9th
Human Capital – Graduate	9th	Entrepreneurship	16th
Insertion of Masters and PhDs	11th	Scientific Production	11th
Public Investment and Funding in Science and Technology (S&T)	6th	Creative and Technological Intensity	4th
Infrastructure	17th	Intellectual Property	13th
Institutions	13th	Environmental Sustainability	2nd

Distrito Federal

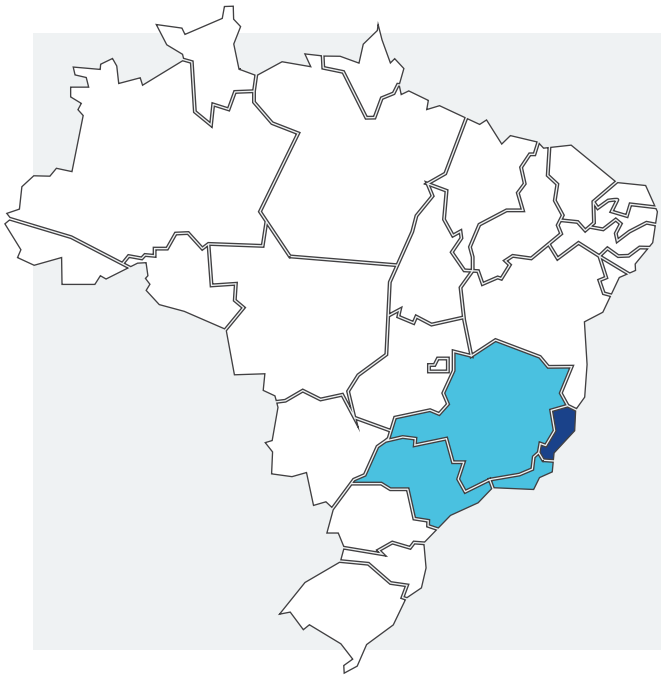
8th in Brazil Ranking

1st in Central-West Ranking

Source: Ceará Industry Observatory



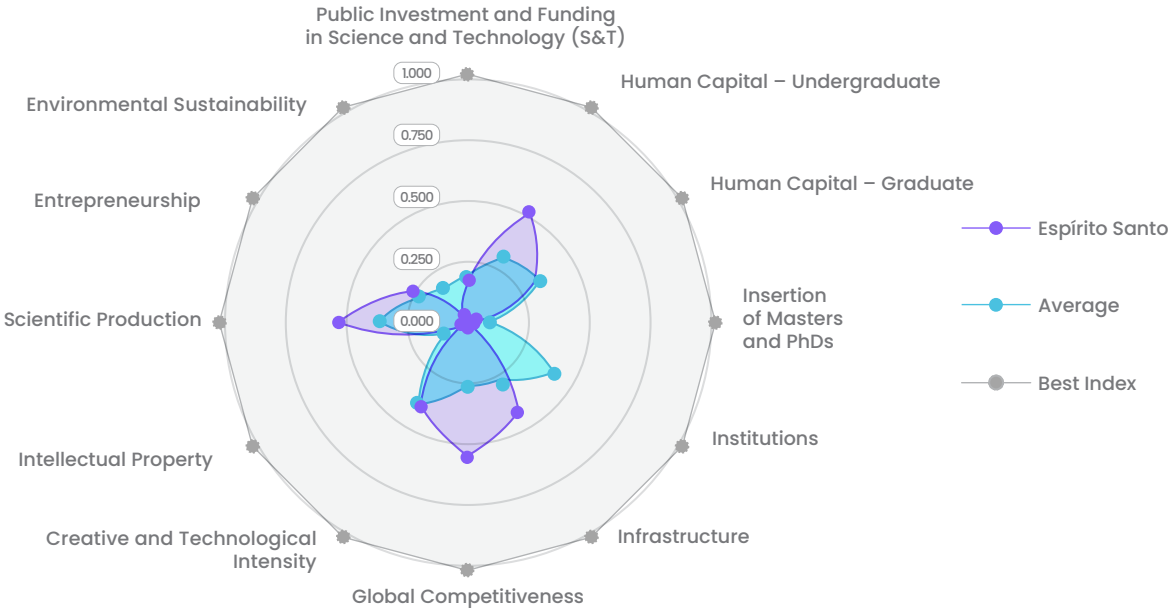
Capabilities Index	7th	Results Index	9th
Human Capital – Undergraduate	16th	Global Competitiveness	24th
Human Capital – Graduate	6th	Entrepreneurship	4th
Insertion of Masters and PhDs	3rd	Scientific Production	7th
Public Investment and Funding in Science and Technology (S&T)	10th	Creative and Technological Intensity	9th
Infrastructure	5th	Intellectual Property	7th
Institutions	19th	Environmental Sustainability	20th



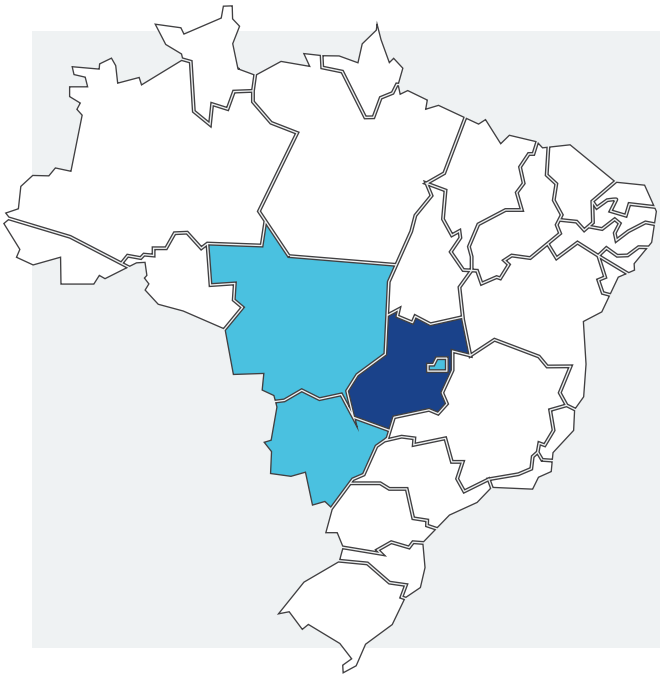
Espírito Santo

10th in Brazil Ranking
4th in Southeast Ranking

Source: Ceará Industry Observatory



Capabilities Index	12th	Results Index	8th
Human Capital – Undergraduate	5th	Global Competitiveness	2nd
Human Capital – Graduate	12th	Entrepreneurship	9th
Insertion of Masters and PhDs	10th	Scientific Production	8th
Public Investment and Funding in Science and Technology (S&T)	9th	Creative and Technological Intensity	12th
Infrastructure	7th	Intellectual Property	10th
Institutions	27th	Environmental Sustainability	19th

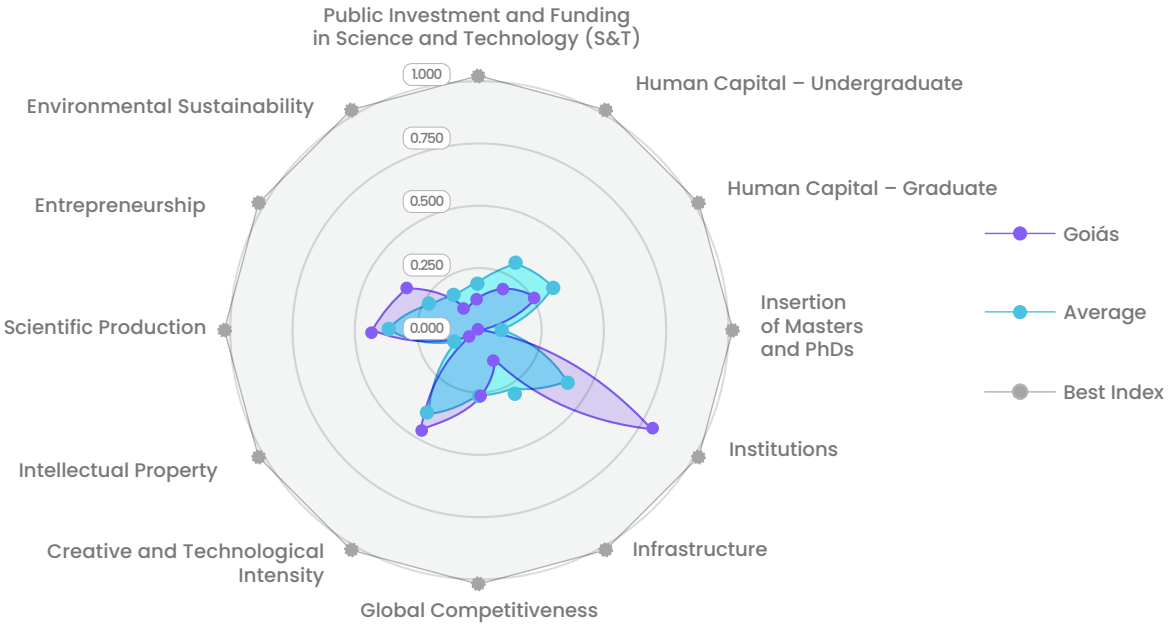


Goiás

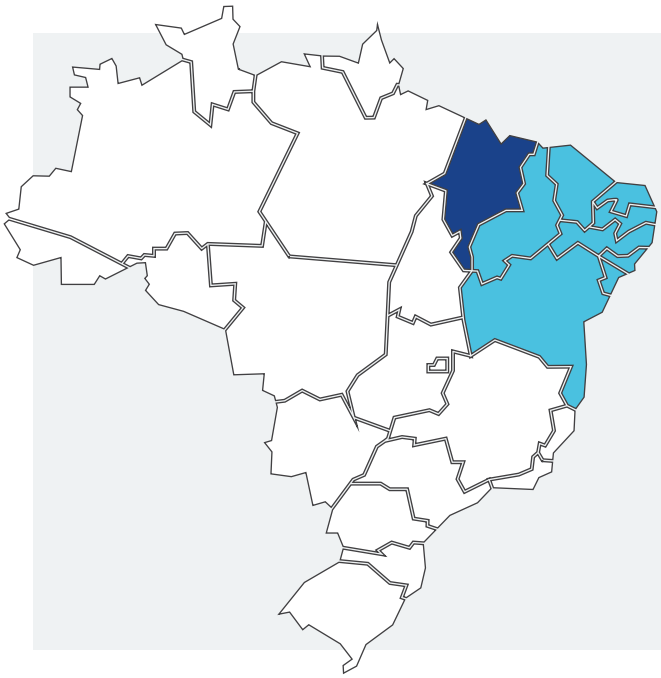
9th in Brazil Ranking

2nd in Central-West Ranking

Source: Ceará Industry Observatory



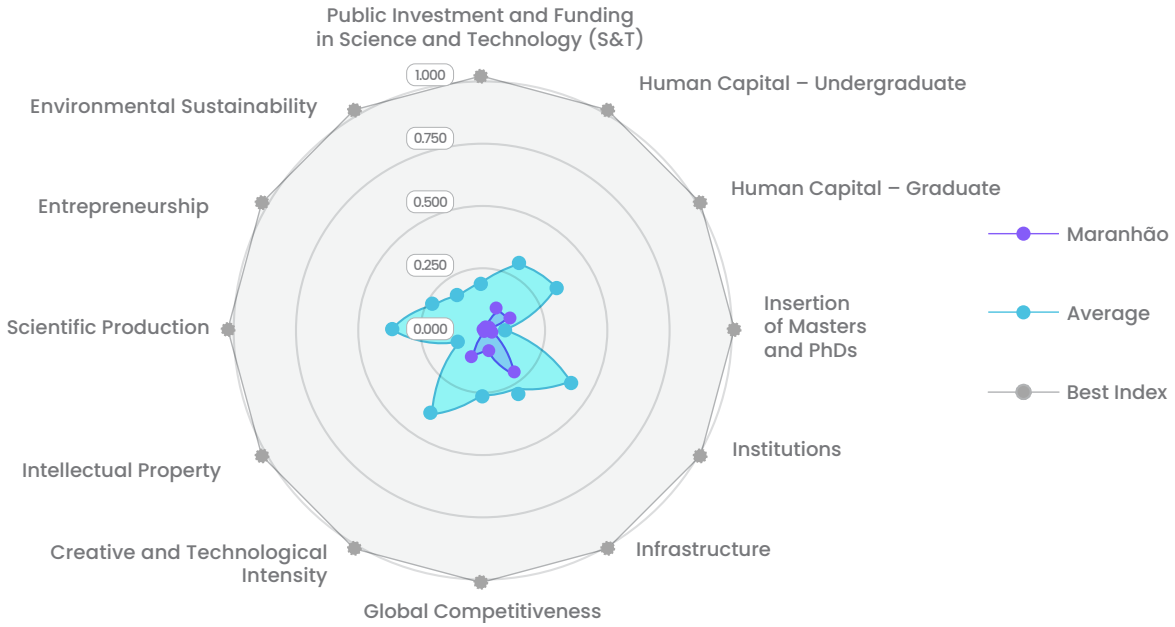
Capabilities Index	9th	Results Index	10th
Human Capital – Undergraduate	18th	Global Competitiveness	8th
Human Capital – Graduate	15th	Entrepreneurship	6th
Insertion of Masters and PhDs	12th	Scientific Production	15th
Public Investment and Funding in Science and Technology (S&T)	11th	Creative and Technological Intensity	10th
Infrastructure	14th	Intellectual Property	8th
Institutions	4th	Environmental Sustainability	11th



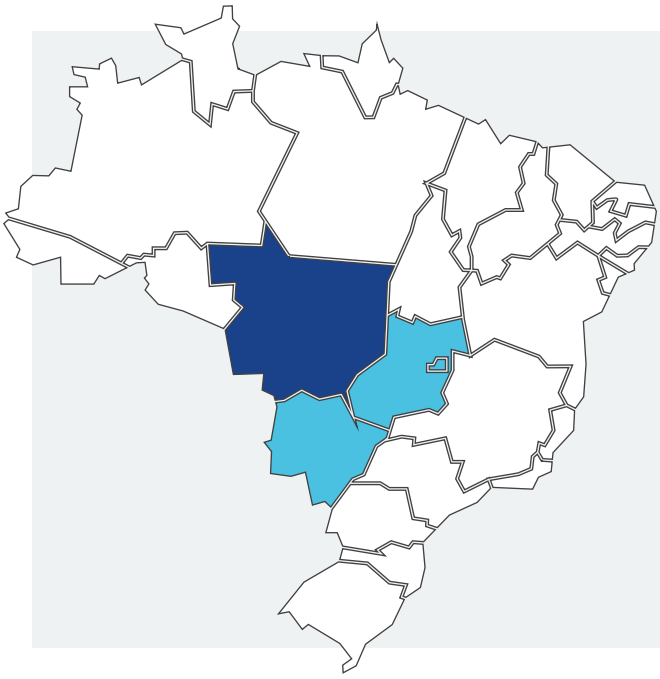
Maranhão

27th in Brazil Ranking
9th in Northeast Ranking

Source: Ceará Industry Observatory



Capabilities Index	26th	Results Index	25th
Human Capital – Undergraduate	24th	Global Competitiveness	25th
Human Capital – Graduate	23rd	Entrepreneurship	27th
Insertion of Masters and PhDs	24th	Scientific Production	21st
Public Investment and Funding in Science and Technology (S&T)	25th	Creative and Technological Intensity	22nd
Infrastructure	10th	Intellectual Property	23rd
Institutions	26th	Environmental Sustainability	24th

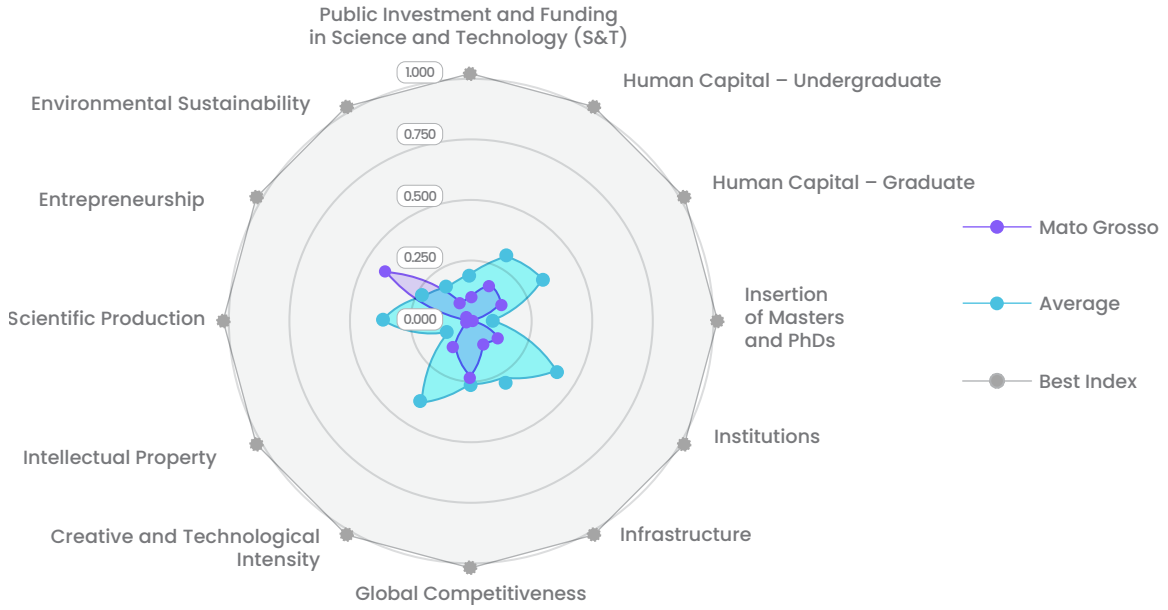


Mato Grosso

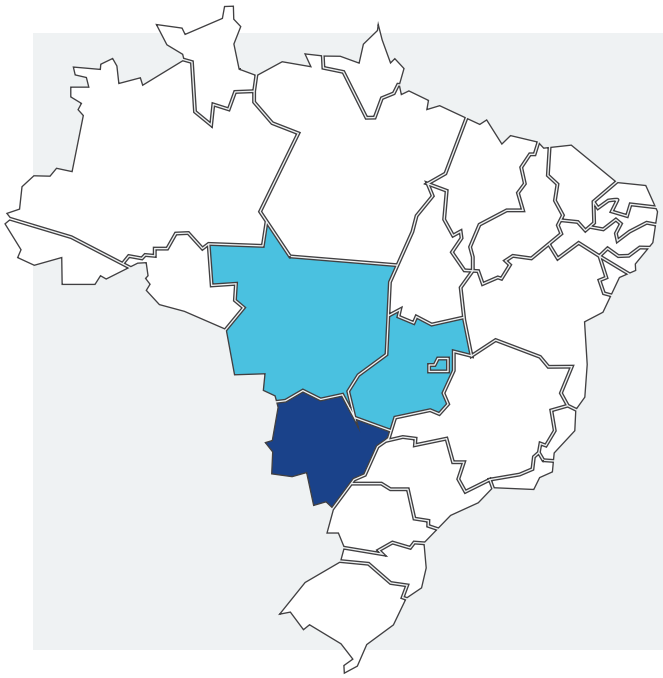
20th in Brazil Ranking

4th in Central-West Ranking

Source: Ceará Industry Observatory



Capabilities Index	24th	Results Index	19th
Human Capital – Undergraduate	20th	Global Competitiveness	11th
Human Capital – Graduate	20th	Entrepreneurship	3rd
Insertion of Masters and PhDs	22nd	Scientific Production	20th
Public Investment and Funding in Science and Technology (S&T)	12th	Creative and Technological Intensity	21st
Infrastructure	21st	Intellectual Property	14th
Institutions	24th	Environmental Sustainability	13th

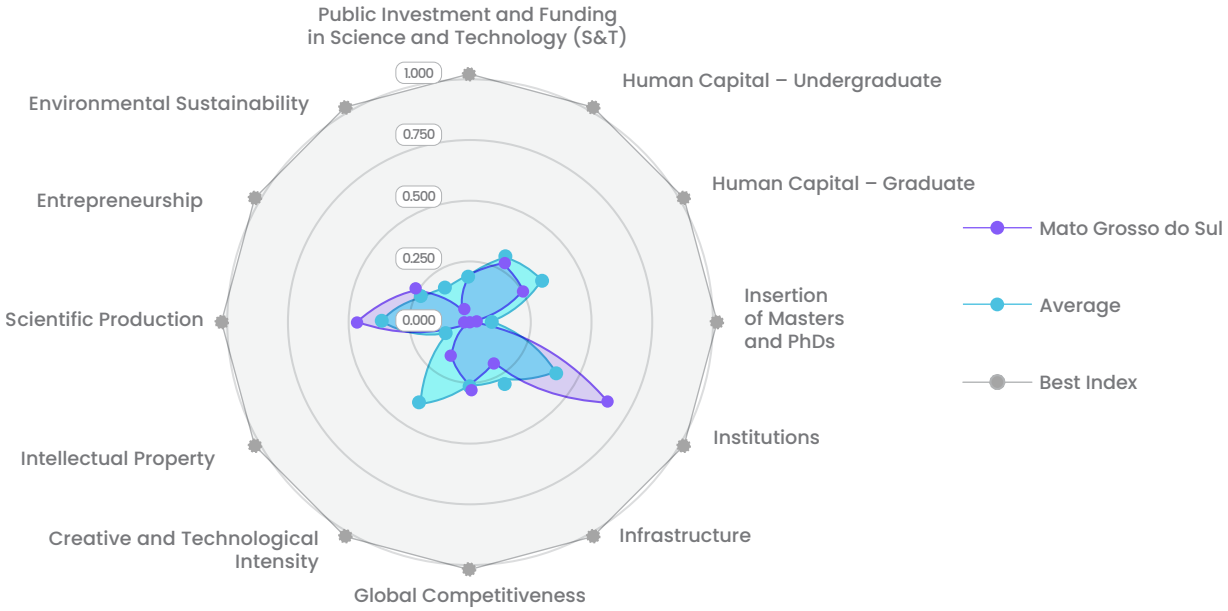


Mato Grosso do South

11th in Brazil Ranking

3rd in Central-West Ranking

Source: Ceará Industry Observatory

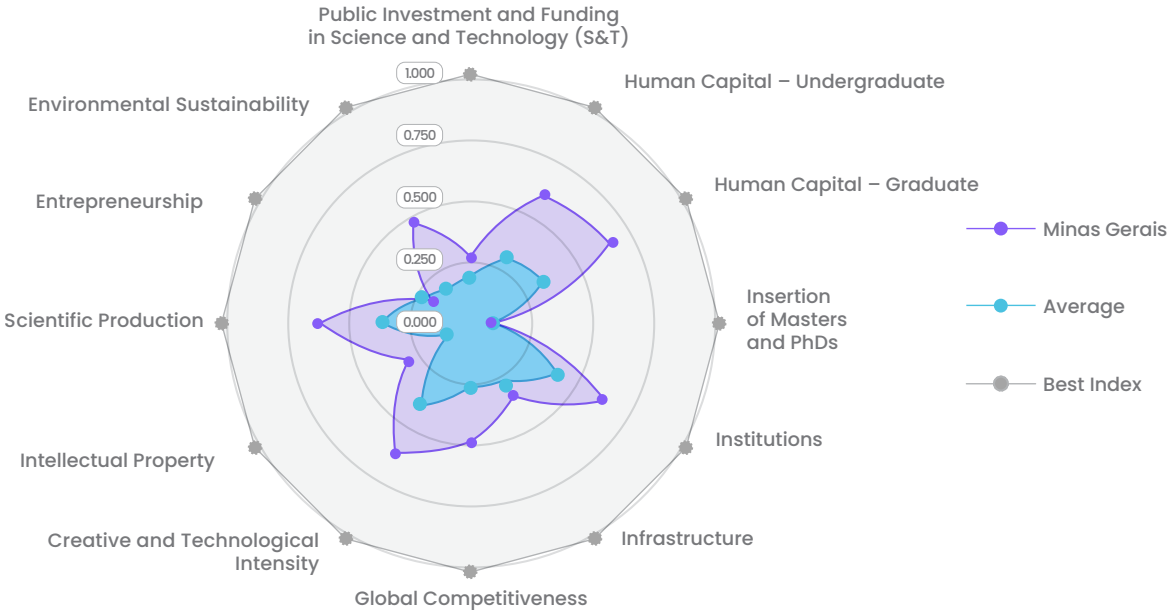


Capabilities Index	8th	Results Index	14th
Human Capital – Undergraduate	14th	Global Competitiveness	10th
Human Capital – Graduate	16th	Entrepreneurship	8th
Insertion of Masters and PhDs	16th	Scientific Production	12th
Public Investment and Funding in Science and Technology (S&T)	8th	Creative and Technological Intensity	20th
Infrastructure	11th	Intellectual Property	15th
Institutions	5th	Environmental Sustainability	17th

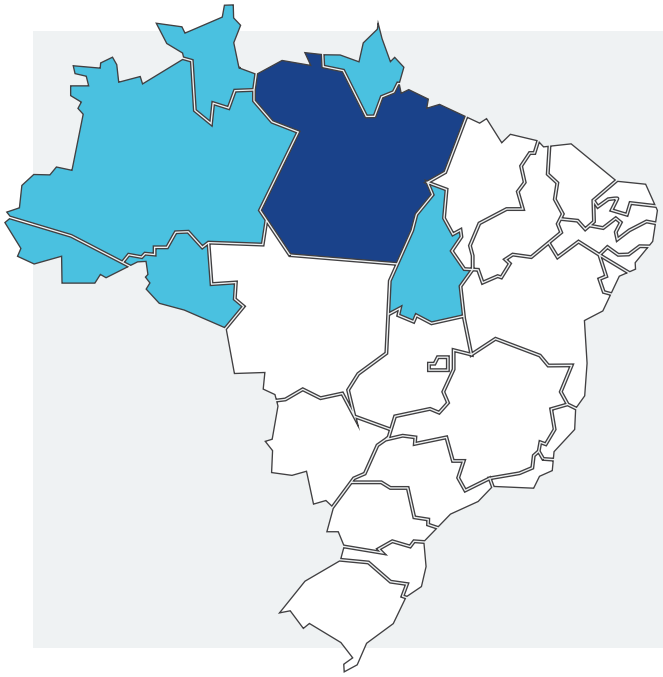
Minas Gerais

6th in Brazil Ranking
3rd in Southeast Ranking

Source: Ceará Industry Observatory



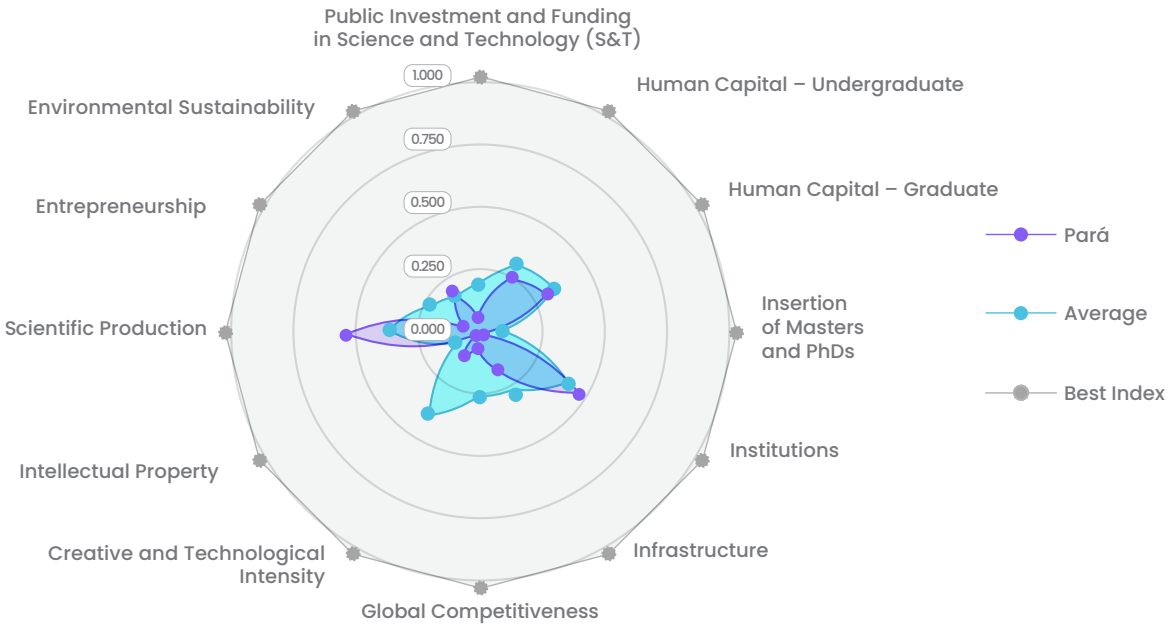
Capabilities Index	6th	Results Index	5th
Human Capital – Undergraduate	2nd	Global Competitiveness	3rd
Human Capital – Graduate	4th	Entrepreneurship	11th
Insertion of Masters and PhDs	6th	Scientific Production	5th
Public Investment and Funding in Science and Technology (S&T)	7th	Creative and Technological Intensity	7th
Infrastructure	8th	Intellectual Property	3rd
Institutions	6th	Environmental Sustainability	3rd



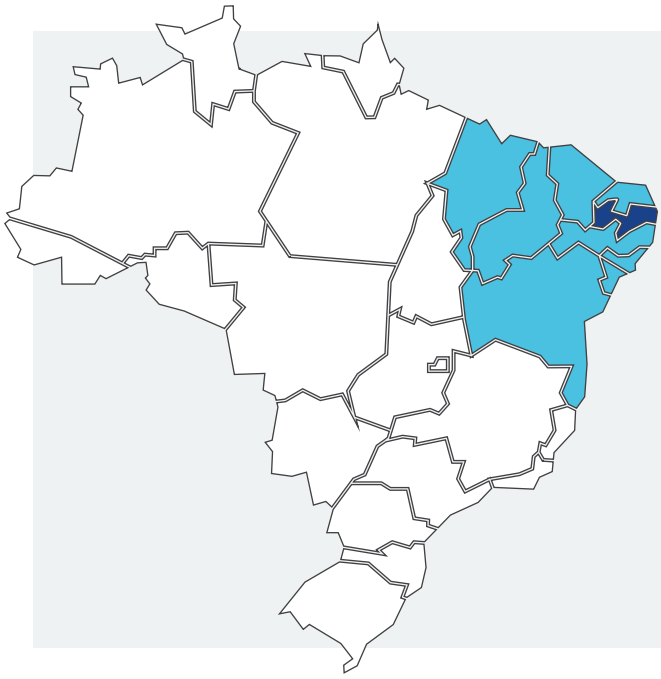
Pará

15th in Brazil Ranking
1st in North Ranking

Source: Ceará Industry Observatory



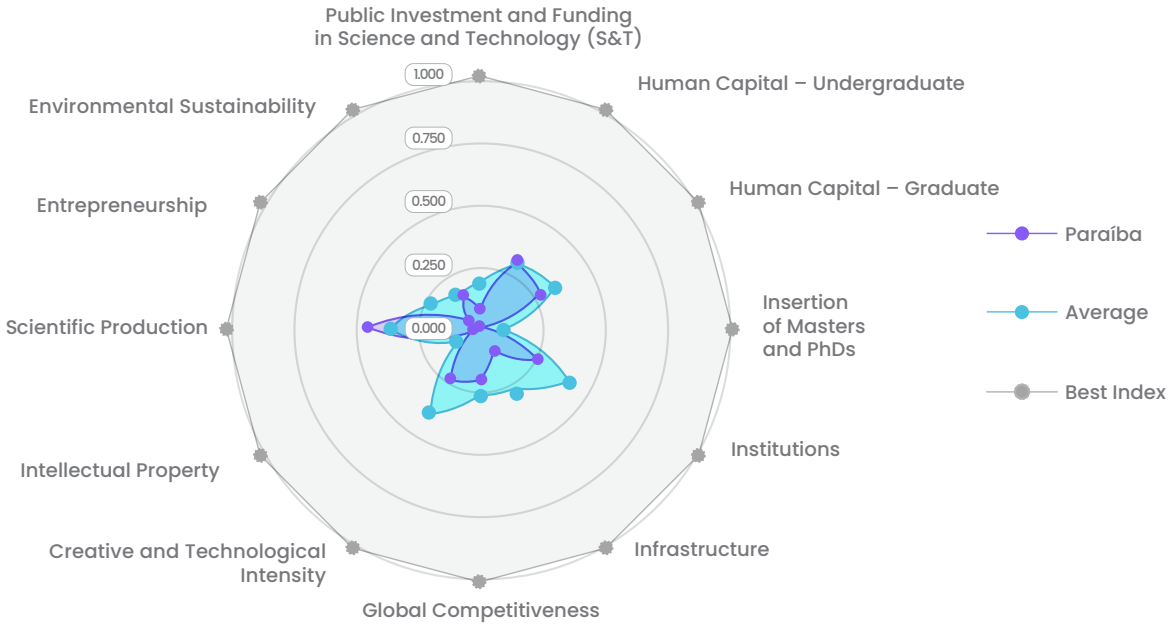
Capabilities Index	13th	Results Index	18th
Human Capital – Undergraduate	15th	Global Competitiveness	26th
Human Capital – Graduate	11th	Entrepreneurship	21st
Insertion of Masters and PhDs	14th	Scientific Production	9th
Public Investment and Funding in Science and Technology (S&T)	14th	Creative and Technological Intensity	23rd
Infrastructure	13th	Intellectual Property	18th
Institutions	12th	Environmental Sustainability	8th



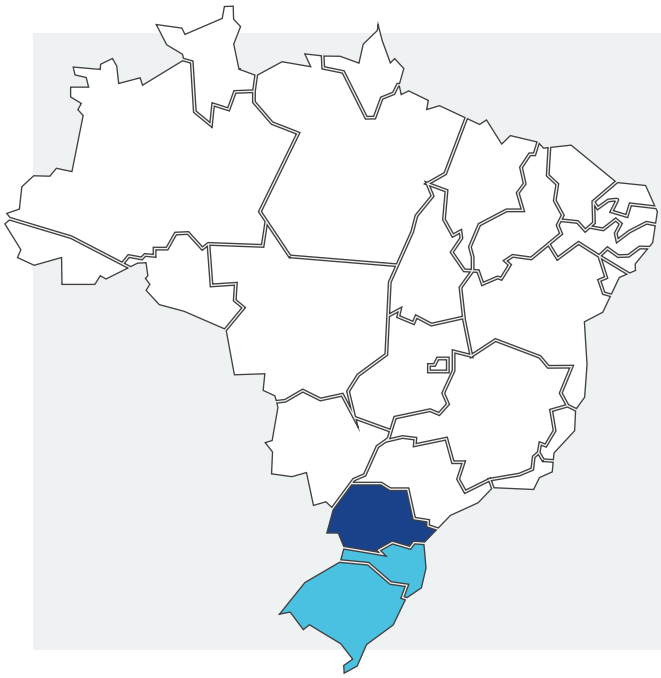
Paraíba

16th in Brazil Ranking
5th in Northeast Ranking

Source: Ceará Industry Observatory



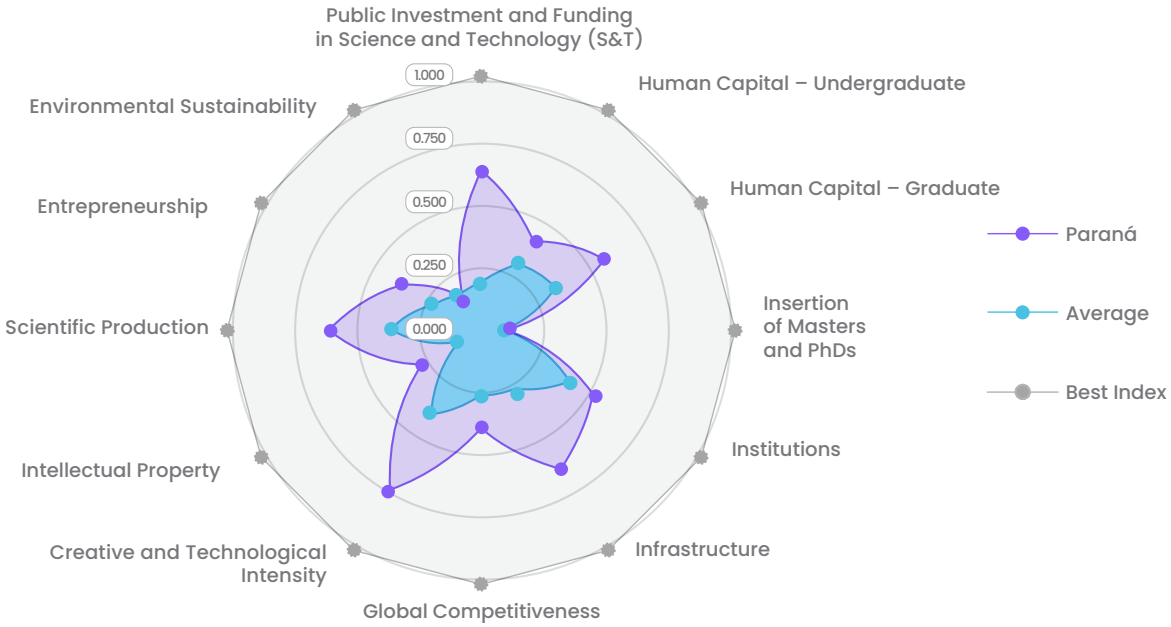
Capabilities Index	15th	Results Index	15th
Human Capital – Undergraduate	11th	Global Competitiveness	17th
Human Capital – Graduate	14th	Entrepreneurship	23rd
Insertion of Masters and PhDs	15th	Scientific Production	13th
Public Investment and Funding in Science and Technology (S&T)	13th	Creative and Technological Intensity	16th
Infrastructure	20th	Intellectual Property	9th
Institutions	18th	Environmental Sustainability	10th



Paraná

5th in Brazil Ranking
3rd in South Ranking

Source: Ceará Industry Observatory

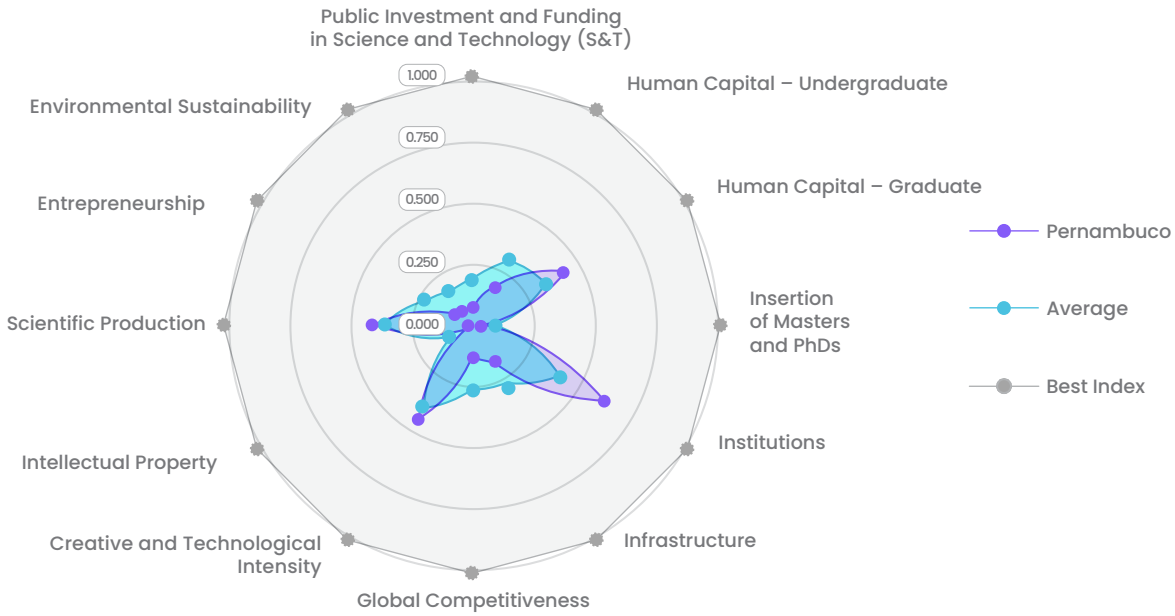


Capabilities Index	4th	Results Index	6th
Human Capital – Undergraduate	7th	Global Competitiveness	6th
Human Capital – Graduate	5th	Entrepreneurship	5th
Insertion of Masters and PhDs	4th	Scientific Production	4th
Public Investment and Funding in Science and Technology (S&T)	2nd	Creative and Technological Intensity	5th
Infrastructure	4th	Intellectual Property	4th
Institutions	10th	Environmental Sustainability	9th

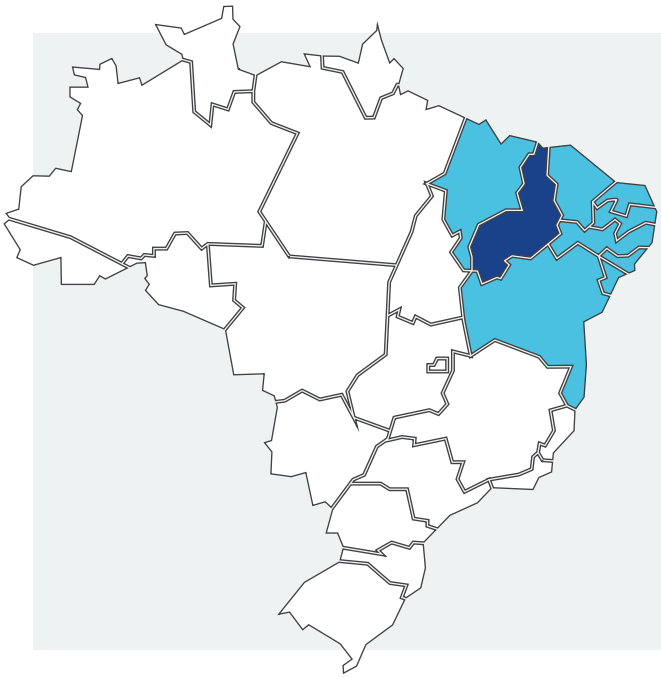
Pernambuco

12th in Brazil Ranking
2nd in Northeast Ranking

Source: Ceará Industry Observatory



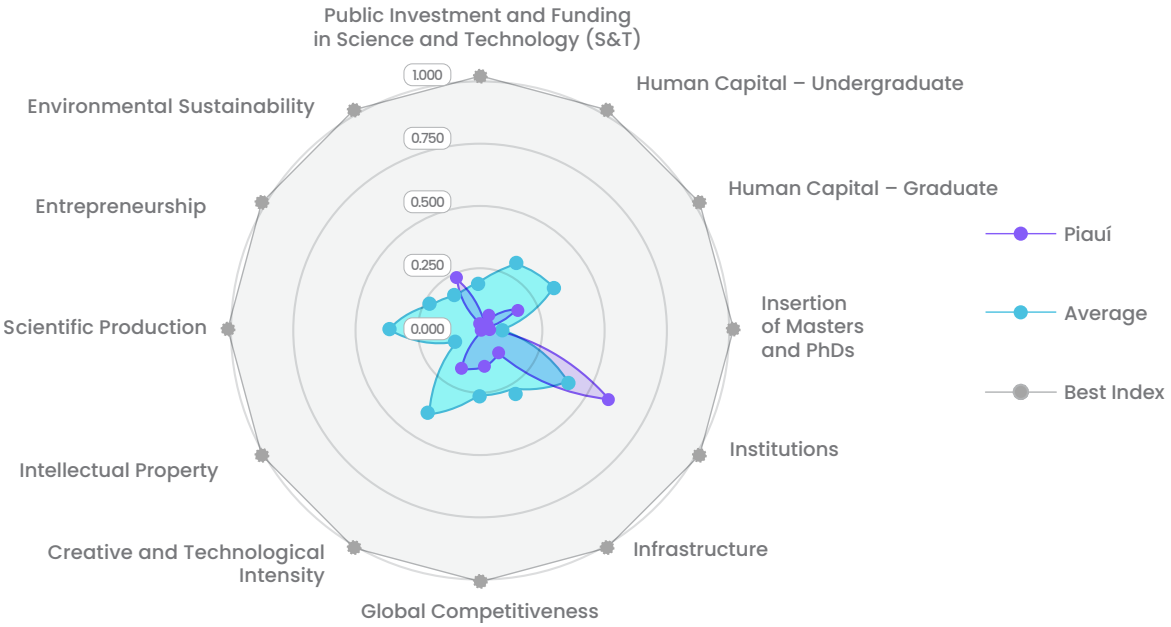
Capabilities Index	10th	Results Index	13th
Human Capital – Undergraduate	19th	Global Competitiveness	22nd
Human Capital – Graduate	8th	Entrepreneurship	17th
Insertion of Masters and PhDs	8th	Scientific Production	16th
Public Investment and Funding in Science and Technology (S&T)	15th	Creative and Technological Intensity	11th
Infrastructure	12th	Intellectual Property	11th
Institutions	7th	Environmental Sustainability	15th



Piauí

19th in Brazil Ranking
7th in Northeast Ranking

Source: Ceará Industry Observatory

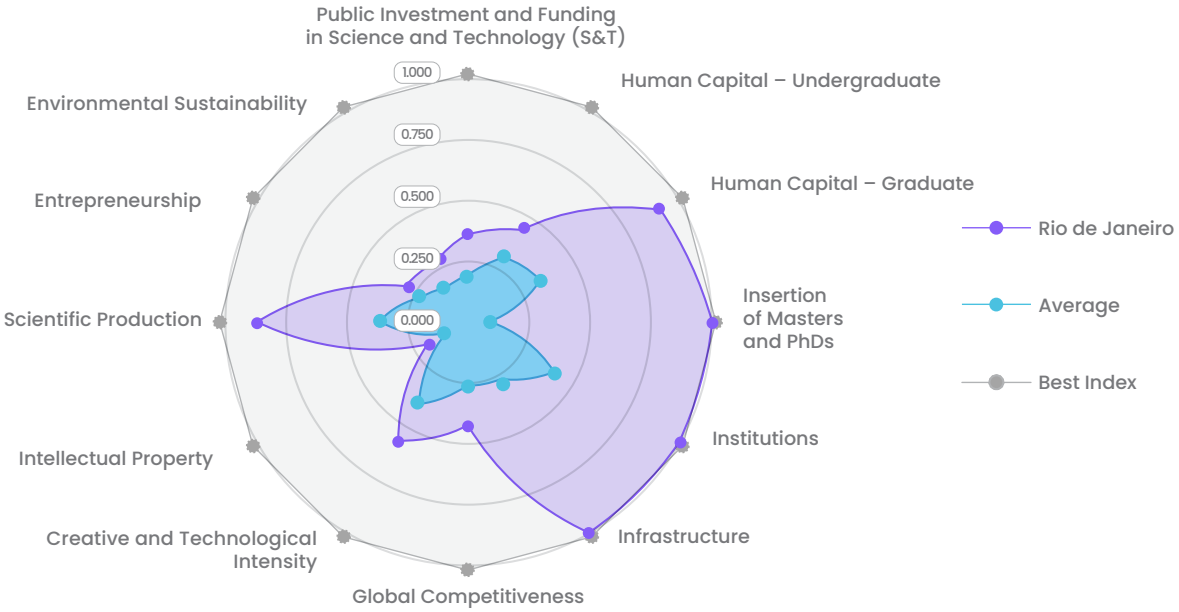


Capabilities Index	17th	Results Index	20th
Human Capital – Undergraduate	25th	Global Competitiveness	18th
Human Capital – Graduate	21st	Entrepreneurship	26th
Insertion of Masters and PhDs	21st	Scientific Production	23rd
Public Investment and Funding in Science and Technology (S&T)	24th	Creative and Technological Intensity	18th
Infrastructure	19th	Intellectual Property	21st
Institutions	8th	Environmental Sustainability	7th

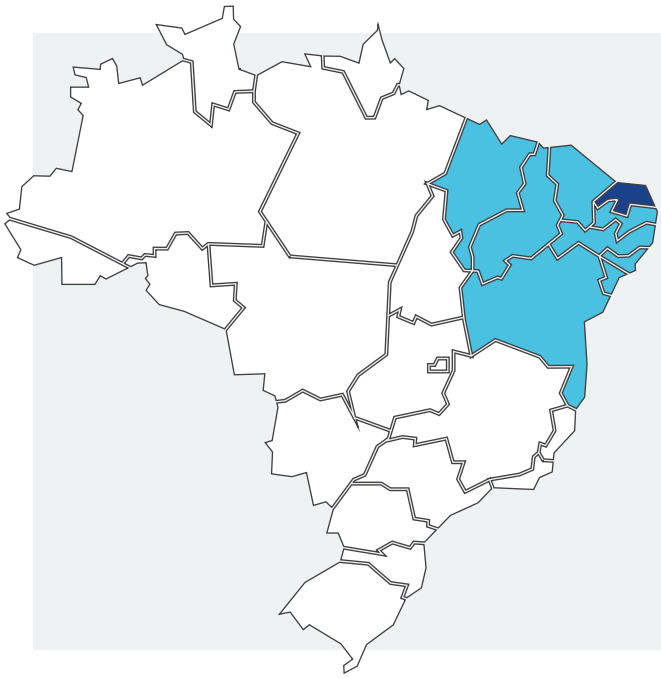
Rio de Janeiro

2nd in Brazil Ranking
2nd in Southeast Ranking

Source: Ceará Industry Observatory



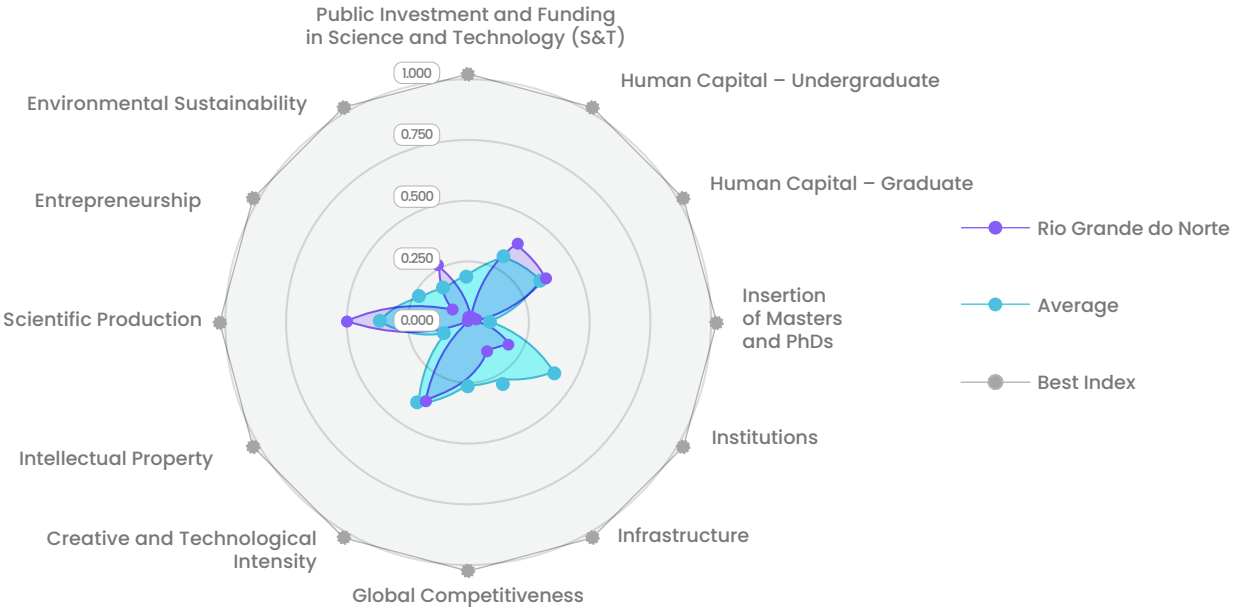
Capabilities Index	2nd	Results Index	4th
Human Capital – Undergraduate	6th	Global Competitiveness	4th
Human Capital – Graduate	2nd	Entrepreneurship	7th
Insertion of Masters and PhDs	1st	Scientific Production	2nd
Public Investment and Funding in Science and Technology (S&T)	5th	Creative and Technological Intensity	8th
Infrastructure	1st	Intellectual Property	6th
Institutions	1st	Environmental Sustainability	5th



Rio Grande do North

14th in Brazil Ranking
4th in Northeast Ranking

Source: Ceará Industry Observatory

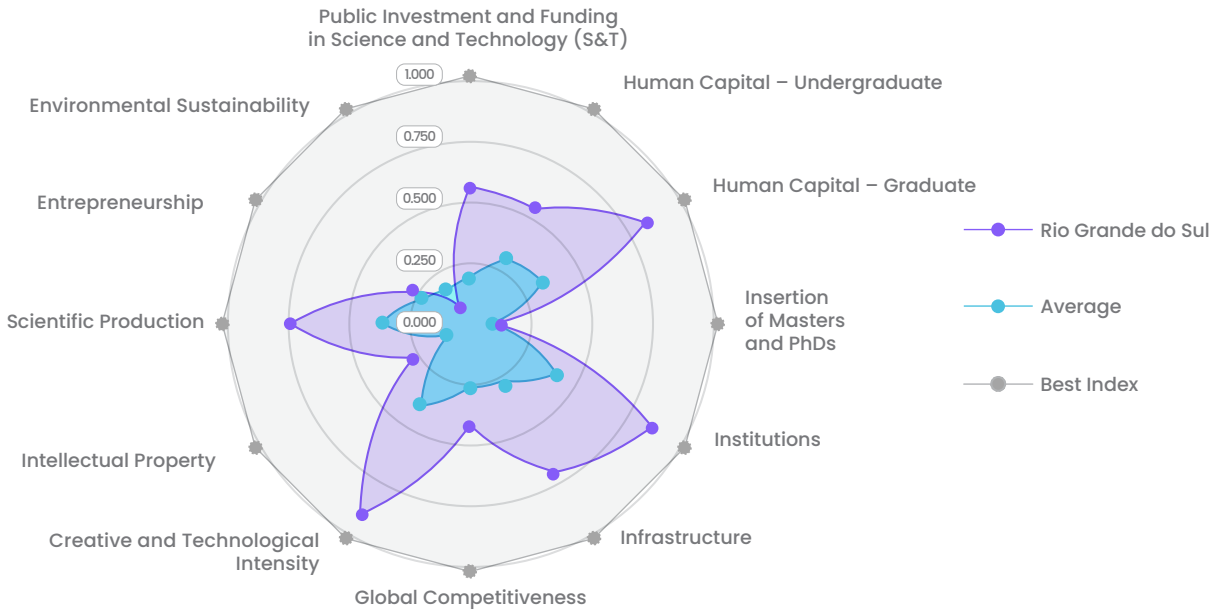


Capabilities Index	16th	Results Index	12th
Human Capital – Undergraduate	9th	Global Competitiveness	15th
Human Capital – Graduate	10th	Entrepreneurship	18th
Insertion of Masters and PhDs	17th	Scientific Production	10th
Public Investment and Funding in Science and Technology (S&T)	22nd	Creative and Technological Intensity	14th
Infrastructure	15th	Intellectual Property	17th
Institutions	21st	Environmental Sustainability	6th

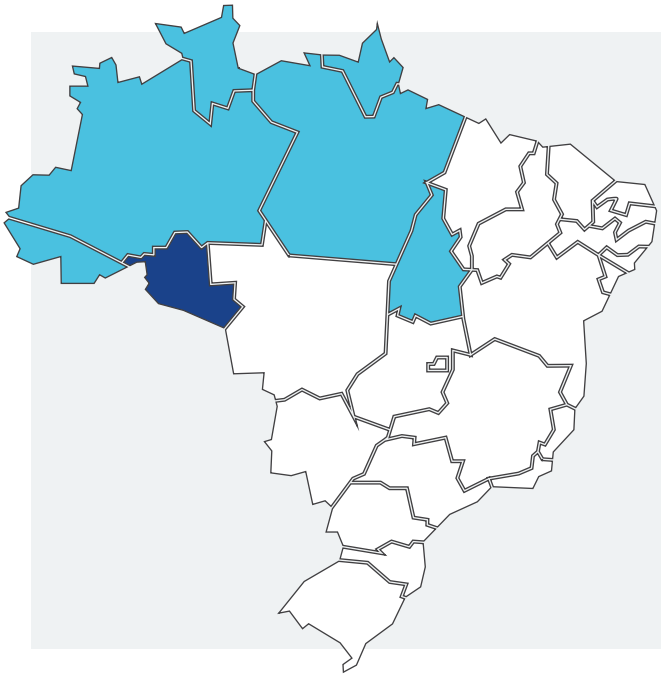
Rio Grande do South

3rd in Brazil Ranking
1st in South Ranking

Source: Ceará Industry Observatory



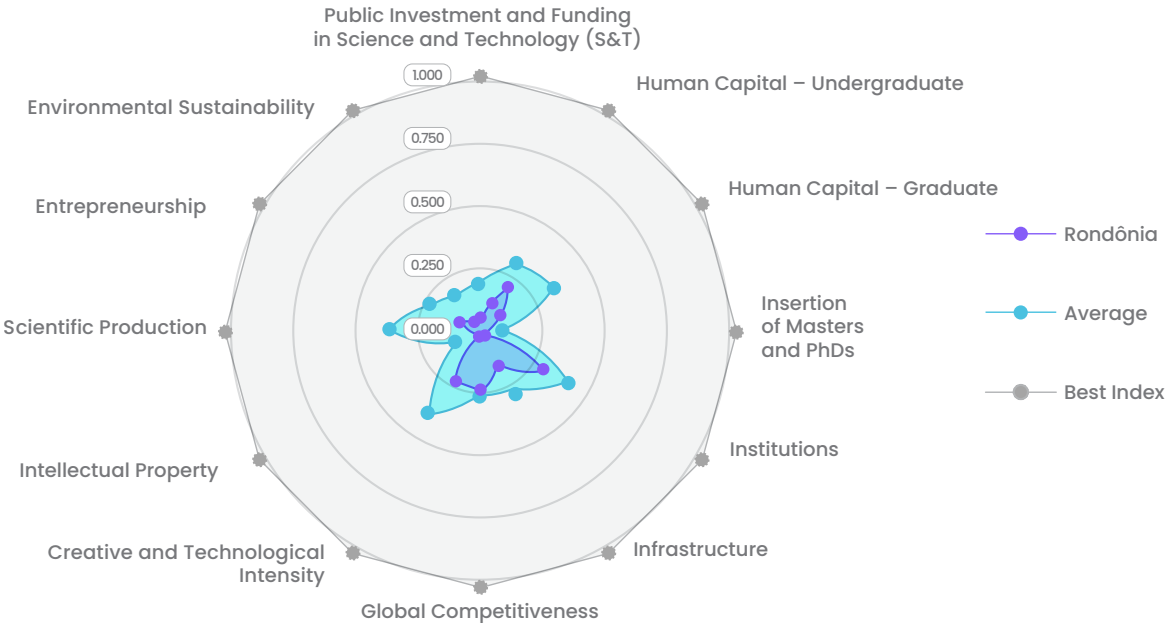
Capabilities Index	3rd	Results Index	3rd
Human Capital – Undergraduate	4th	Global Competitiveness	5th
Human Capital – Graduate	3rd	Entrepreneurship	10th
Insertion of Masters and PhDs	5th	Scientific Production	3rd
Public Investment and Funding in Science and Technology (S&T)	4th	Creative and Technological Intensity	2nd
Infrastructure	3rd	Intellectual Property	5th
Institutions	2nd	Environmental Sustainability	12th



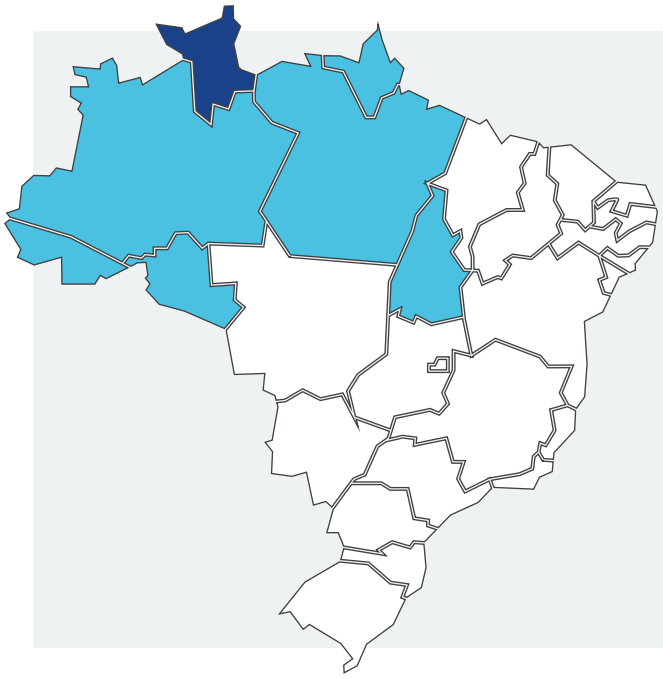
Rondônia

21st in Brazil Ranking
3rd in North Ranking

Source: Ceará Industry Observatory



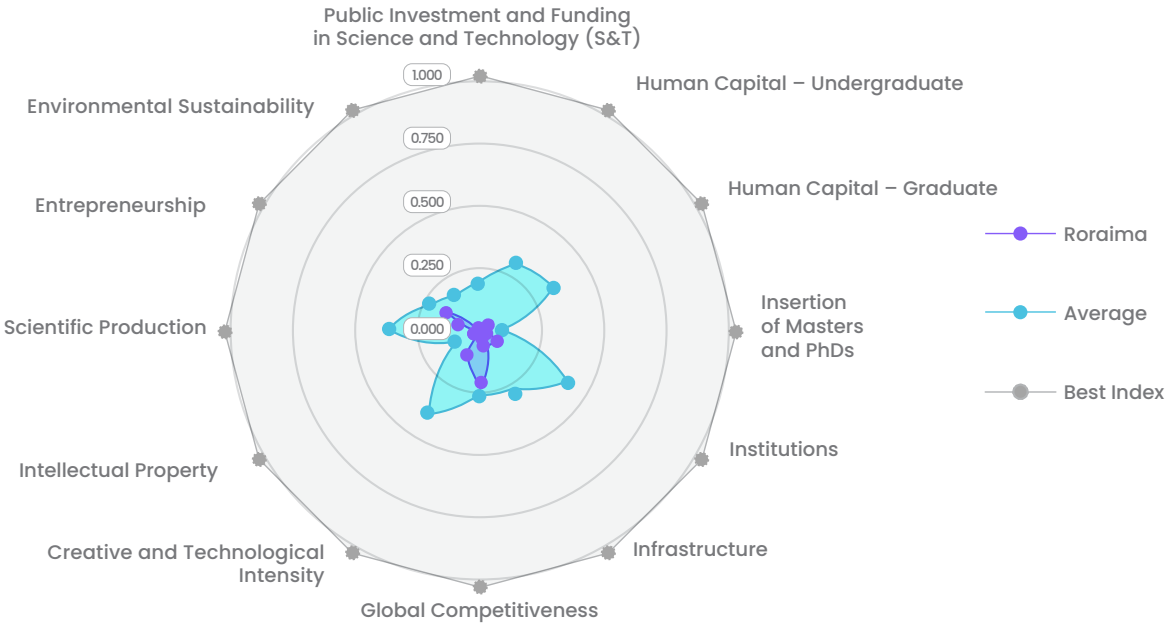
Capabilities Index	20th	Results Index	21st
Human Capital – Undergraduate	17th	Global Competitiveness	12th
Human Capital – Graduate	25th	Entrepreneurship	15th
Insertion of Masters and PhDs	27th	Scientific Production	25th
Public Investment and Funding in Science and Technology (S&T)	17th	Creative and Technological Intensity	17th
Infrastructure	16th	Intellectual Property	24th
Institutions	16th	Environmental Sustainability	16th



Roraima

26th in Brazil Ranking
7th in North Ranking

Source: Ceará Industry Observatory

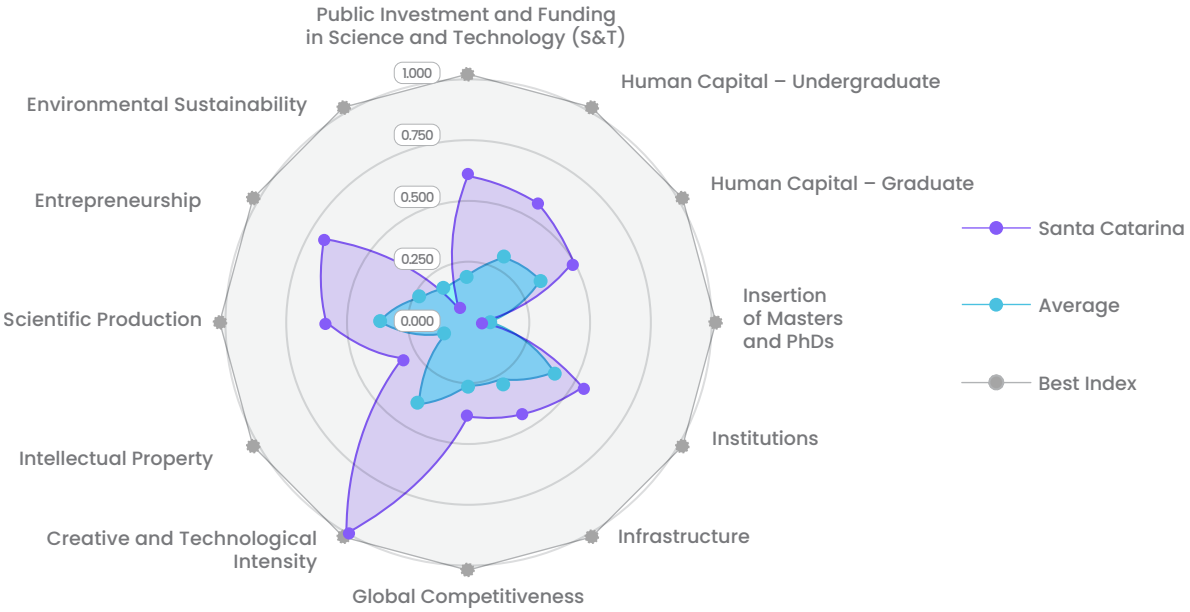


Capabilities Index	27th	Results Index	23rd
Human Capital – Undergraduate	27th	Global Competitiveness	13th
Human Capital – Graduate	26th	Entrepreneurship	13th
Insertion of Masters and PhDs	26th	Scientific Production	26th
Public Investment and Funding in Science and Technology (S&T)	27th	Creative and Technological Intensity	24th
Infrastructure	26th	Intellectual Property	26th
Institutions	25th	Environmental Sustainability	27th

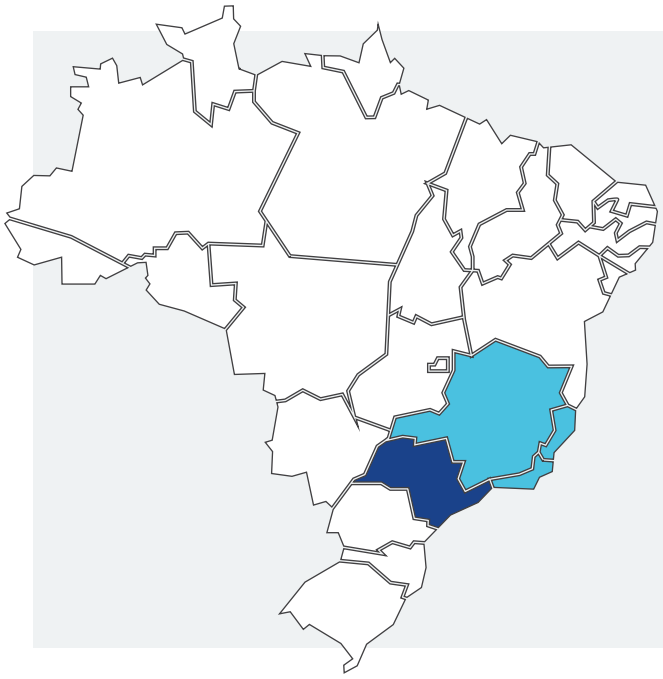
Santa Catarina

4th in Brazil Ranking
2nd in South Ranking

Source: Ceará Industry Observatory



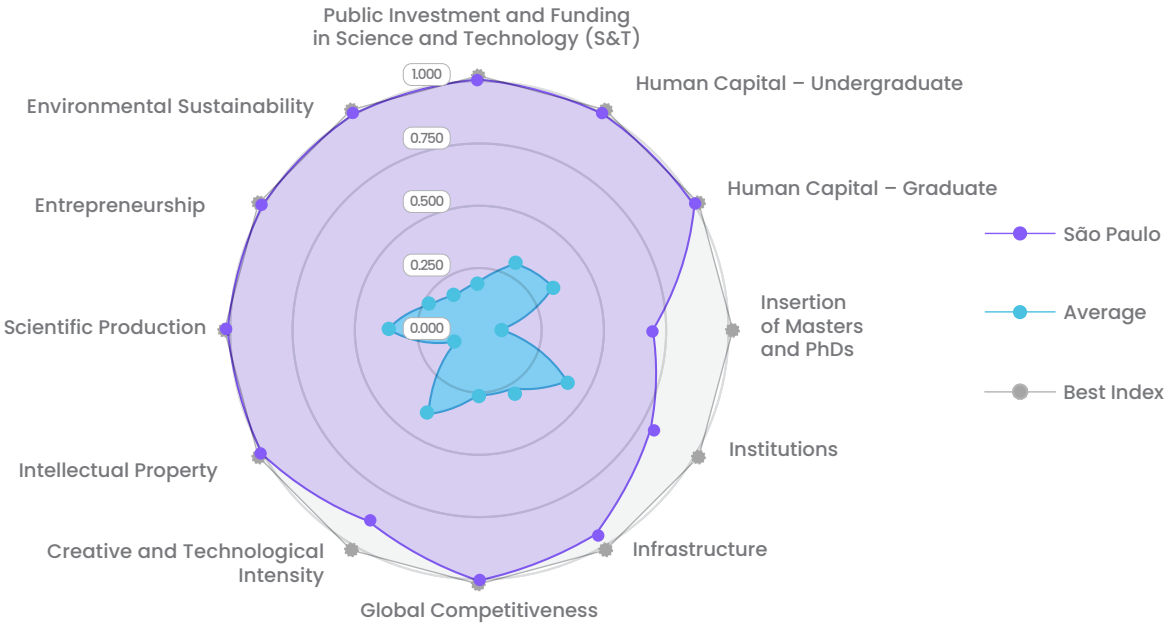
Capabilities Index	5th	Results Index	2nd
Human Capital – Undergraduate	3rd	Global Competitiveness	7th
Human Capital – Graduate	7th	Entrepreneurship	2nd
Insertion of Masters and PhDs	7th	Scientific Production	6th
Public Investment and Funding in Science and Technology (S&T)	3rd	Creative and Technological Intensity	1st
Infrastructure	6th	Intellectual Property	2nd
Institutions	9th	Environmental Sustainability	14th



São Paulo

1st in Brazil Ranking
1st in Southeast Ranking

Source: Ceará Industry Observatory

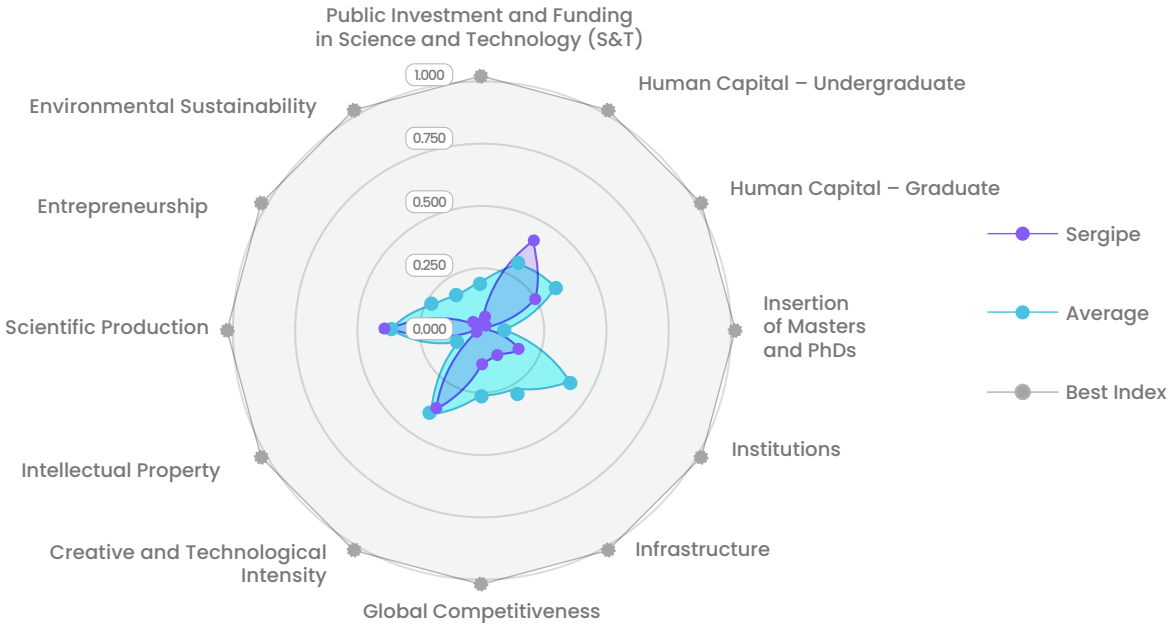


Capabilities Index	1st	Results Index	1st
Human Capital – Undergraduate	1st	Global Competitiveness	1st
Human Capital – Graduate	1st	Entrepreneurship	1st
Insertion of Masters and PhDs	2nd	Scientific Production	1st
Public Investment and Funding in Science and Technology (S&T)	1st	Creative and Technological Intensity	3rd
Infrastructure	2nd	Intellectual Property	1st
Institutions	3rd	Environmental Sustainability	1st

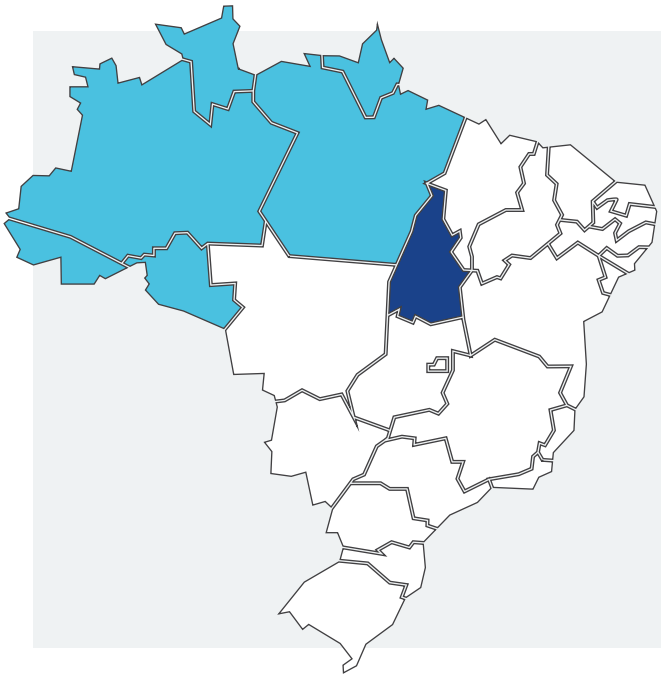
Sergipe

17th in Brazil Ranking
6th in Northeast Ranking

Source: Ceará Industry Observatory



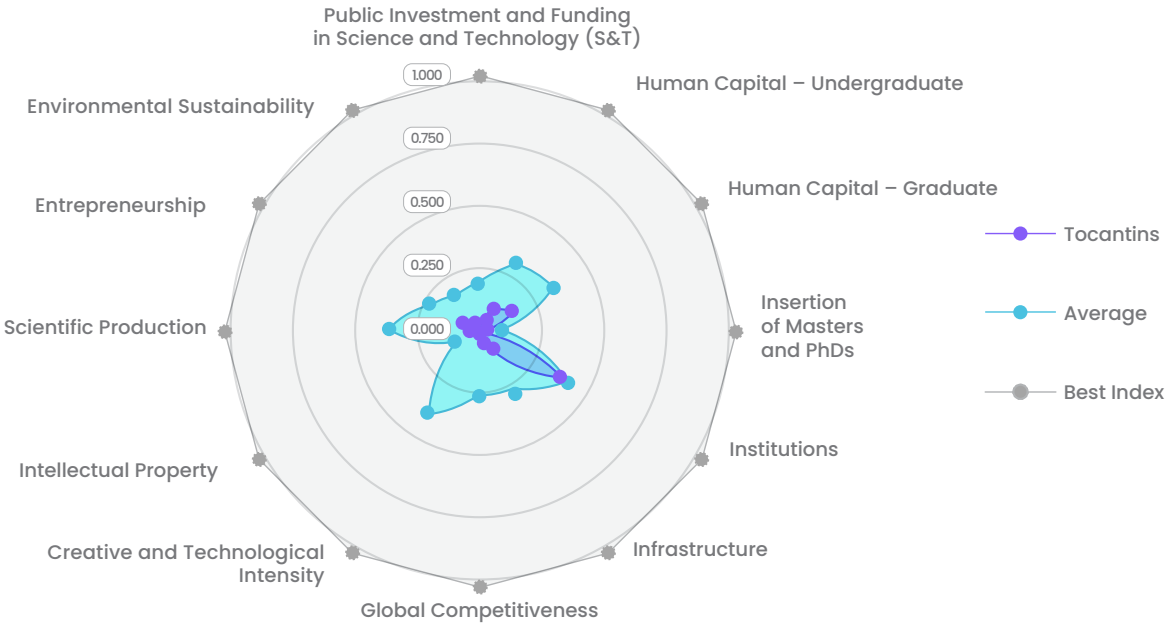
Capabilities Index	18th	Results Index	17th
Human Capital – Undergraduate	8th	Global Competitiveness	21st
Human Capital – Graduate	17th	Entrepreneurship	25th
Insertion of Masters and PhDs	19th	Scientific Production	17th
Public Investment and Funding in Science and Technology (S&T)	19th	Creative and Technological Intensity	13th
Infrastructure	18th	Intellectual Property	16th
Institutions	22nd	Environmental Sustainability	22nd



Tocantins

23th in Brazil Ranking
4th in North Ranking

Source: Ceará Industry Observatory



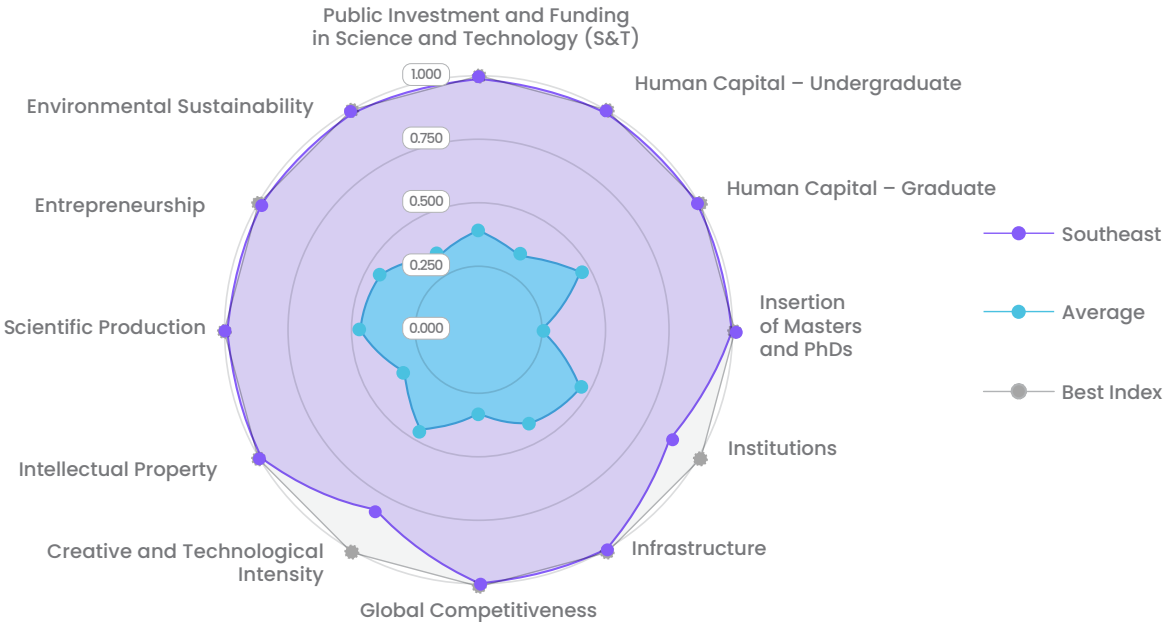
Capabilities Index	22nd	Results Index	27th
Human Capital – Undergraduate	23rd	Global Competitiveness	27th
Human Capital – Graduate	22nd	Entrepreneurship	20th
Insertion of Masters and PhDs	25th	Scientific Production	22nd
Public Investment and Funding in Science and Technology (S&T)	21st	Creative and Technological Intensity	26th
Infrastructure	25th	Intellectual Property	22nd
Institutions	15th	Environmental Sustainability	21st

7. Performance by Region

Southeast

1st in Brazil Ranking

Source: Ceará Industry Observatory

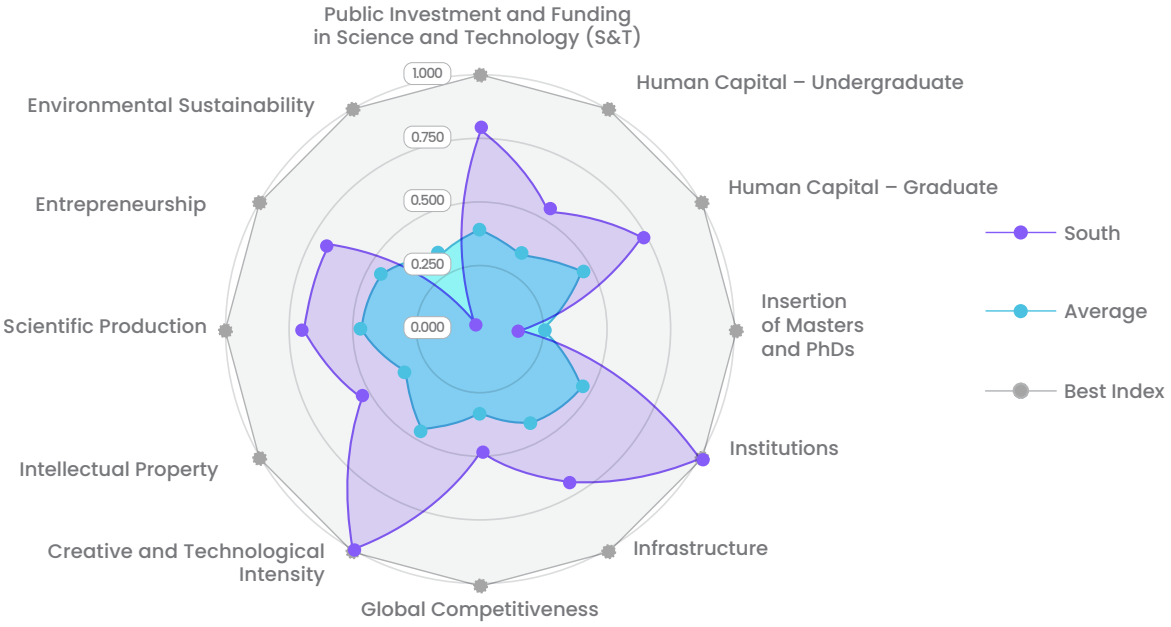


Capabilities Index	1st	Results Index	1st
Human Capital – Undergraduate	1st	Global Competitiveness	1st
Human Capital – Graduate	1st	Entrepreneurship	1st
Insertion of Masters and PhDs	1st	Scientific Production	1st
Public Investment and Funding in Science and Technology (S&T)	1st	Creative and Technological Intensity	2nd
Infrastructure	1st	Intellectual Property	1st
Institutions	2nd	Environmental Sustainability	1st

South

2nd in Brazil Ranking

Source: Ceará Industry Observatory

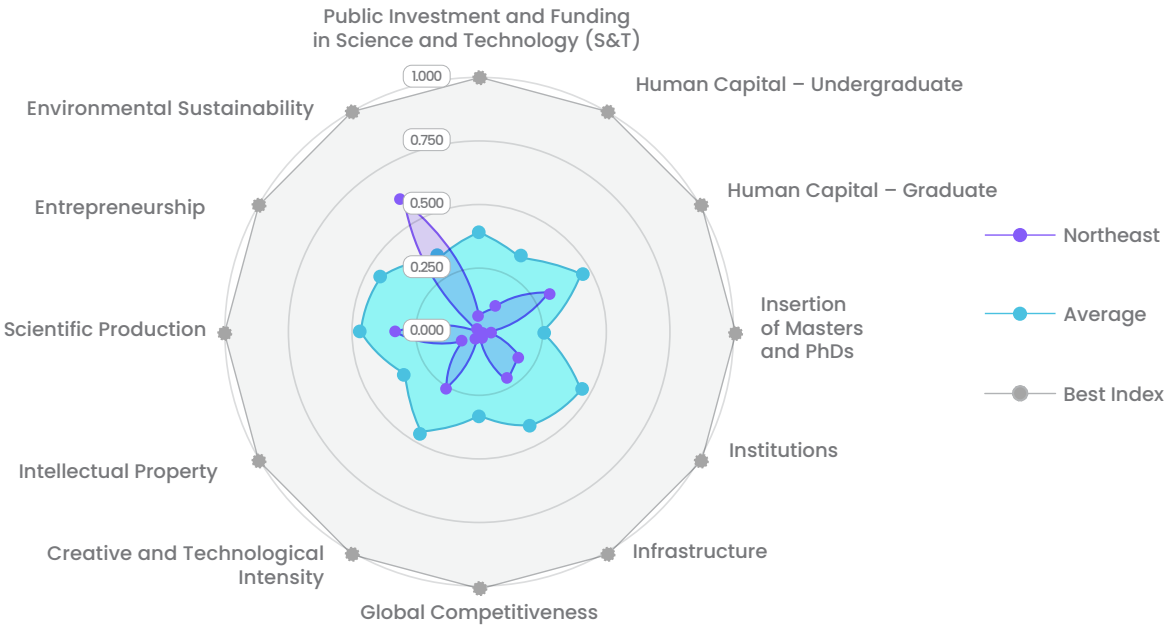


Capabilities Index	2nd	Results Index	2nd
Human Capital – Undergraduate	2nd	Global Competitiveness	2nd
Human Capital – Graduate	2nd	Entrepreneurship	2nd
Insertion of Masters and PhDs	2nd	Scientific Production	2nd
Public Investment and Funding in Science and Technology (S&T)	2nd	Creative and Technological Intensity	1st
Infrastructure	2nd	Intellectual Property	2nd
Institutions	1st	Environmental Sustainability	3rd

Northeast

3rd in Brazil Ranking

Source: Ceará Industry Observatory

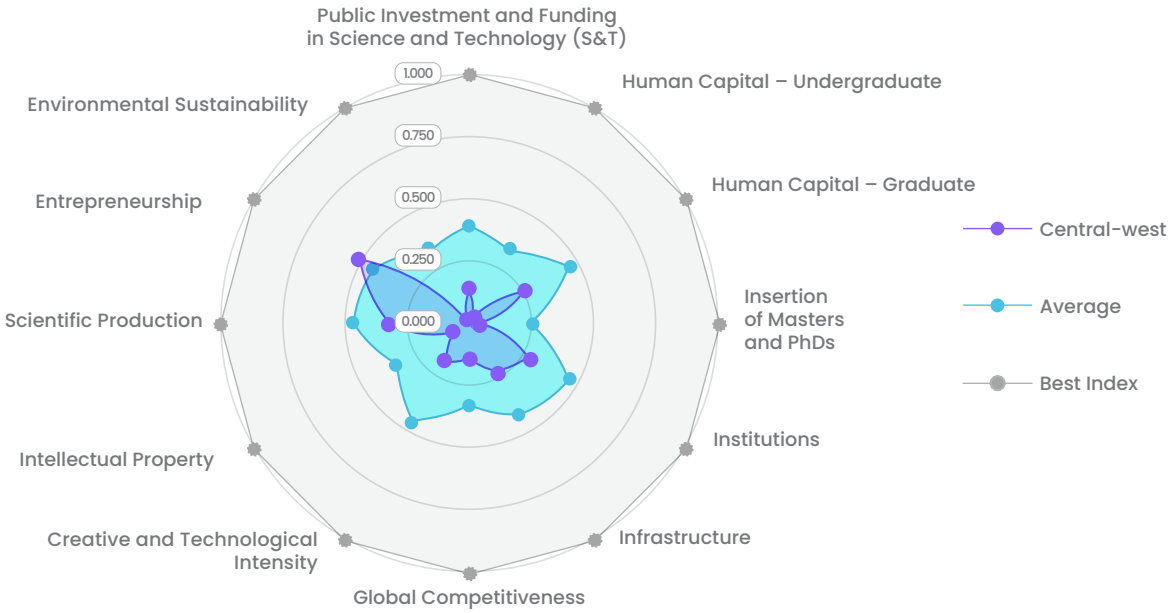


Capabilities Index	4th	Results Index	3rd
Human Capital – Undergraduate	3rd	Global Competitiveness	5th
Human Capital – Graduate	3rd	Entrepreneurship	5th
Insertion of Masters and PhDs	4th	Scientific Production	3rd
Public Investment and Funding in Science and Technology (S&T)	4th	Creative and Technological Intensity	3rd
Infrastructure	4th	Intellectual Property	4th
Institutions	4th	Environmental Sustainability	2nd

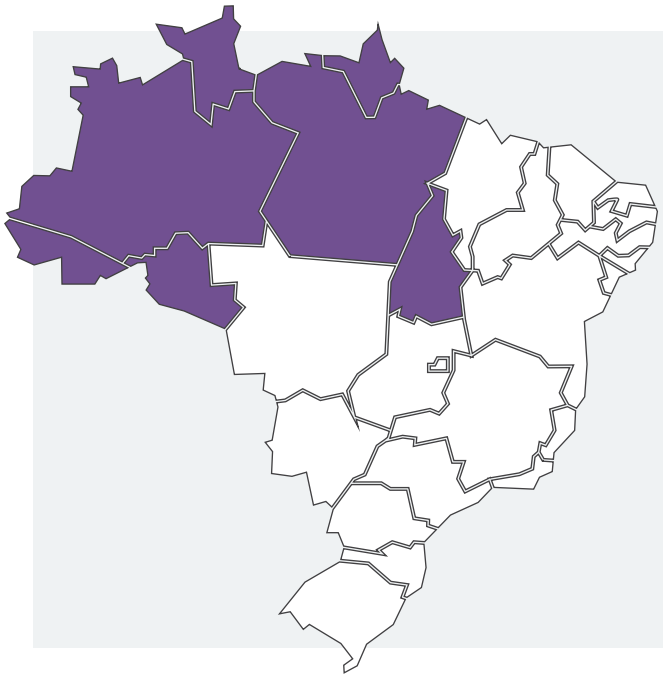
Central-West

4th in Brazil Ranking

Source: Ceará Industry Observatory



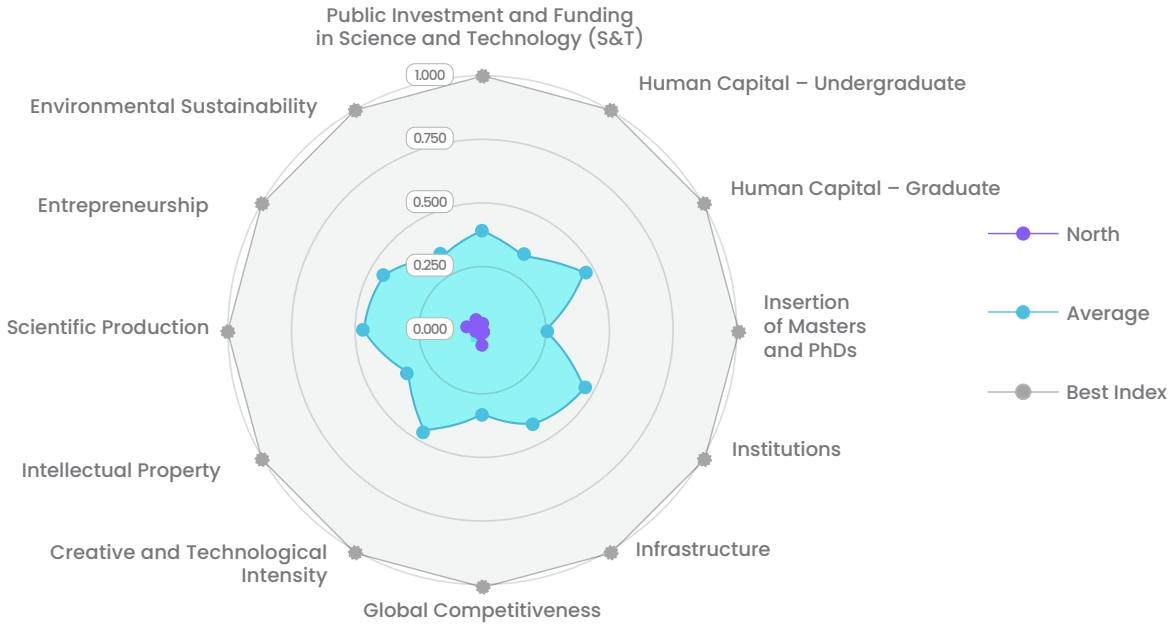
Capabilities Index	3rd	Results Index	4th
Human Capital – Undergraduate	4th	Global Competitiveness	3rd
Human Capital – Graduate	4th	Entrepreneurship	3rd
Insertion of Masters and PhDs	3rd	Scientific Production	4th
Public Investment and Funding in Science and Technology (S&T)	3rd	Creative and Technological Intensity	4th
Infrastructure	3rd	Intellectual Property	3rd
Institutions	3rd	Environmental Sustainability	5th



North

5th in Brazil Ranking

Source: Ceará Industry Observatory



Capabilities Index	5th	Results Index	5th
Human Capital – Undergraduate	5th	Global Competitiveness	4th
Human Capital – Graduate	5th	Entrepreneurship	4th
Insertion of Masters and PhDs	5th	Scientific Production	5th
Public Investment and Funding in Science and Technology (S&T)	5th	Creative and Technological Intensity	5th
Infrastructure	5th	Intellectual Property	5th
Institutions	5th	Environmental Sustainability	4th

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Brazilian States Innovation Index 25

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SEBRAE

Finep INOVAÇÃO E PESQUISA

Implementation:

INDUSTRY OBSERVATORY CEARÁ

FIEC Federation of Industries of the State of Ceara

CNI Brazilian National Confederation of Industry

Fortaleza, 2025

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