



## NEW ZEALAND

**24th** New Zealand ranks 24th among the 132 economies featured in the GII 2022.

The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.

The following table shows the rankings of New Zealand over the past three years, noting that data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of New Zealand in the GII 2022 is between ranks 24 and 28.

### Rankings for New Zealand (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	26	19	33
2021	26	19	32
2022	24	23	28

- New Zealand performs better in innovation inputs than innovation outputs in 2022.
- This year New Zealand ranks 23rd in innovation inputs, lower than both 2021 and 2020.
- As for innovation outputs, New Zealand ranks 28th. This position is higher than both 2021 and 2020.

**23rd** New Zealand ranks 23rd among the 48 high-income group economies.

**6th** New Zealand ranks 6th among the 17 economies in South East Asia, East Asia, and Oceania.

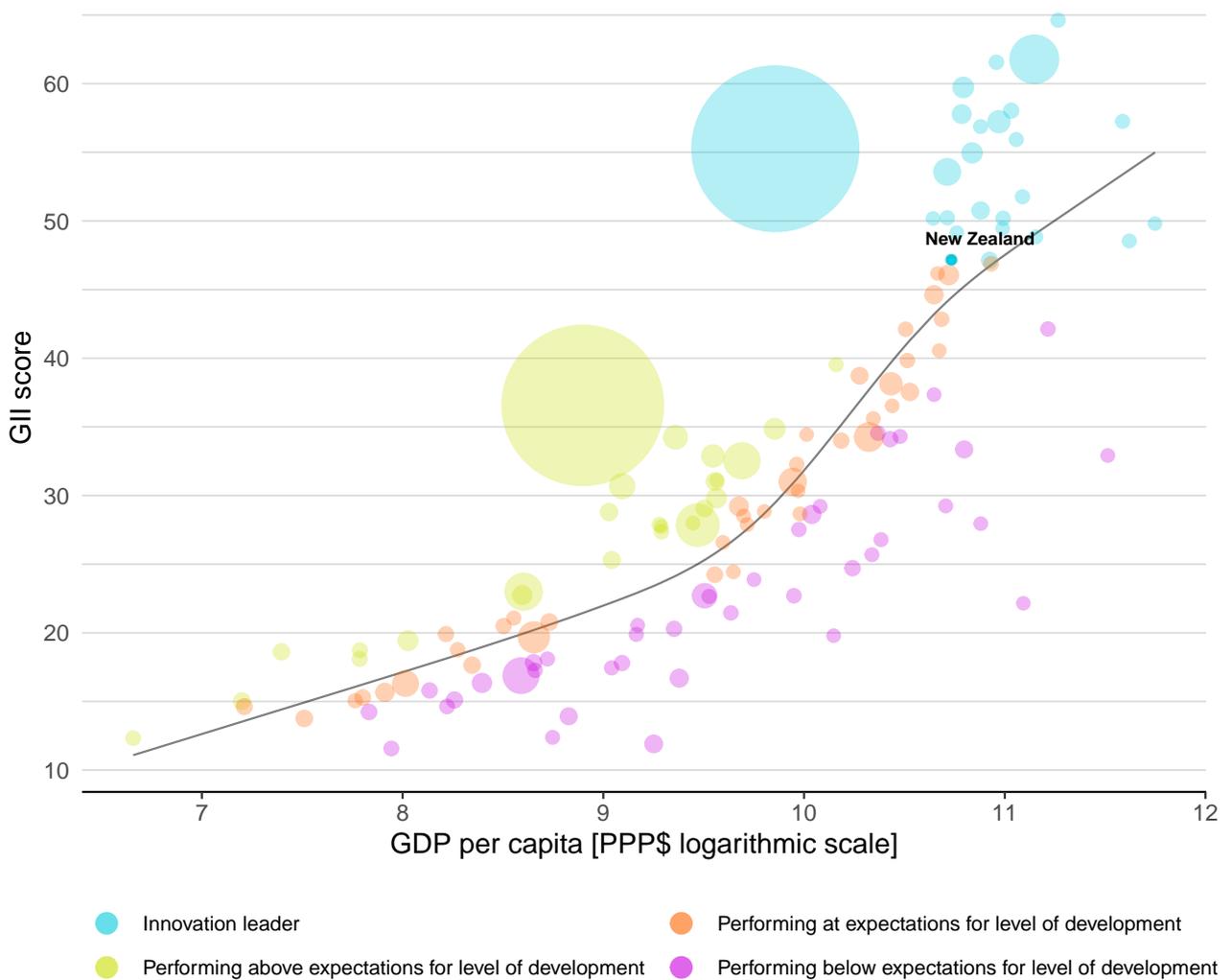


## EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.

Relative to GDP, New Zealand's performance is above expectations for its level of development.

### The positive relationship between innovation and development



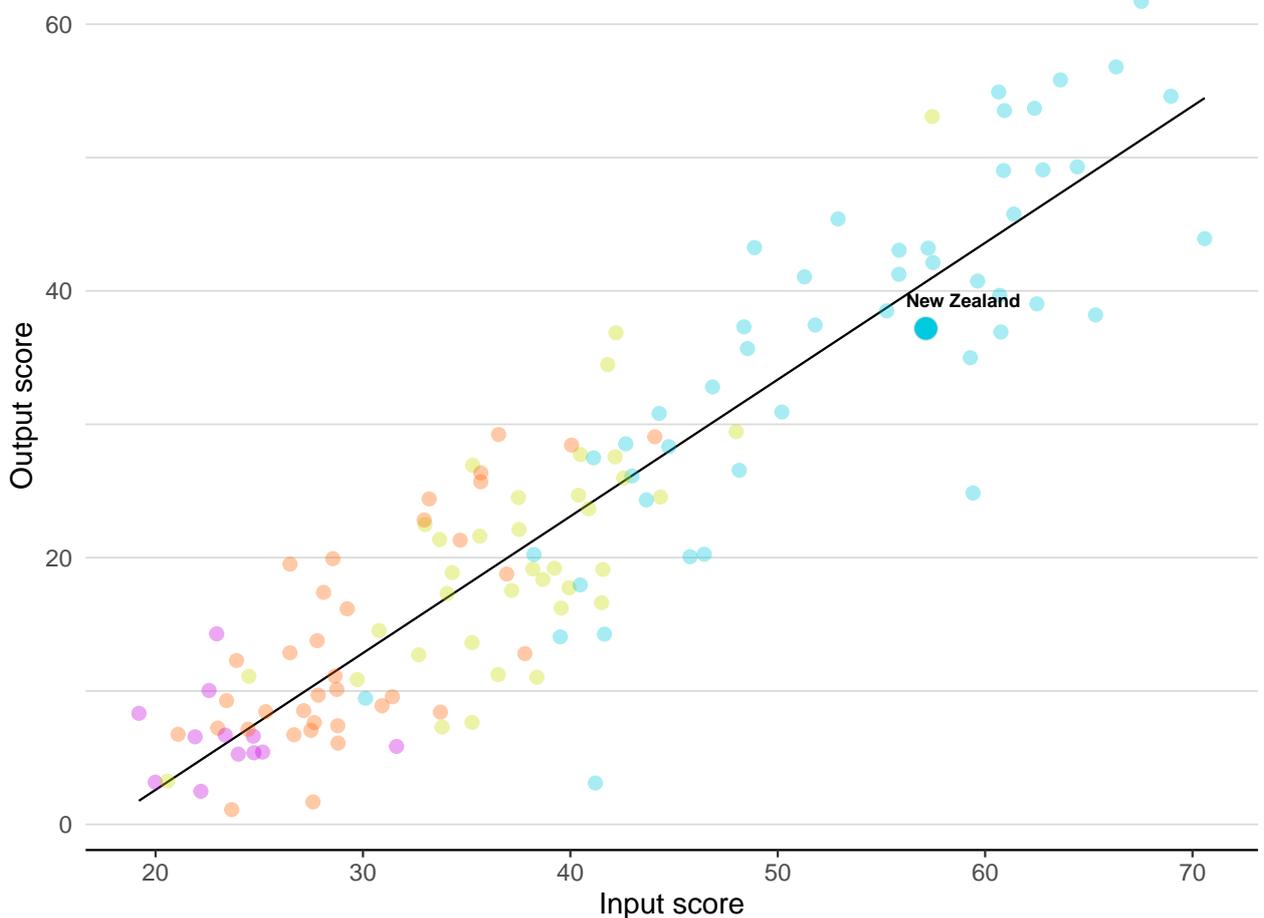


## EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

New Zealand produces less innovation outputs relative to its level of innovation investments.

### Innovation input to output performance

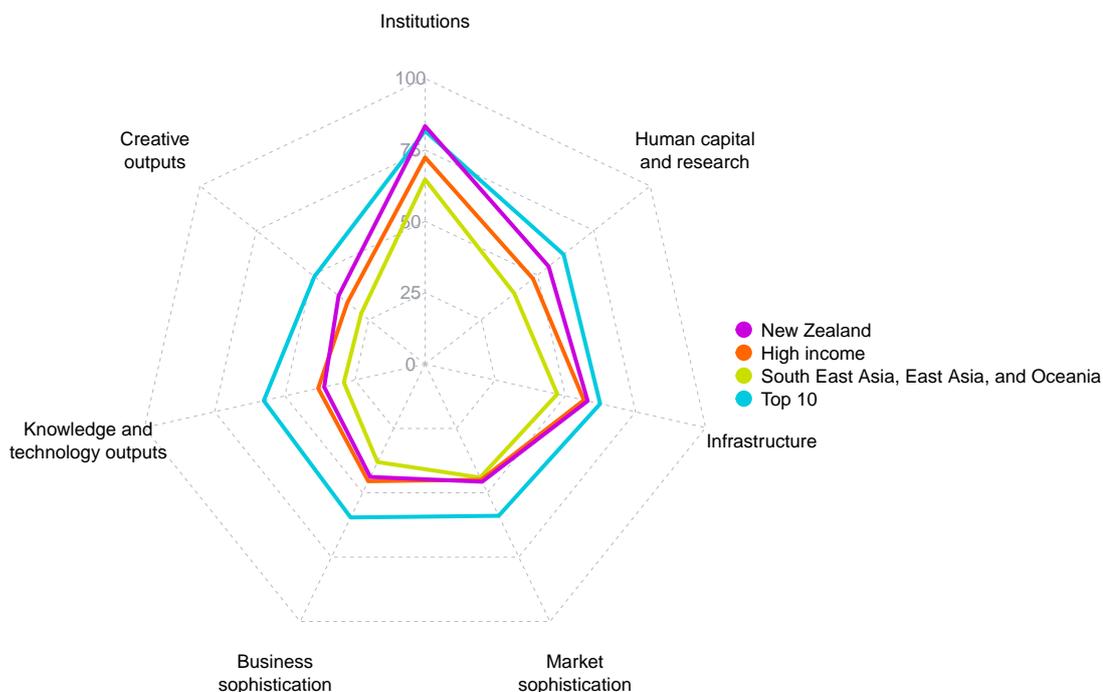


Income    ● High income    ● Upper middle    ● Lower middle    ● Low income    — Fitted line



## BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND SOUTH EAST ASIA, EAST ASIA, AND OCEANIA

### The seven GII pillar scores for New Zealand



#### High-income group economies

New Zealand performs above the high-income group average in five pillars, namely: Institutions; Human capital and research; Infrastructure; Market sophistication; and, Creative outputs.

#### South East Asia, East Asia, and Oceania

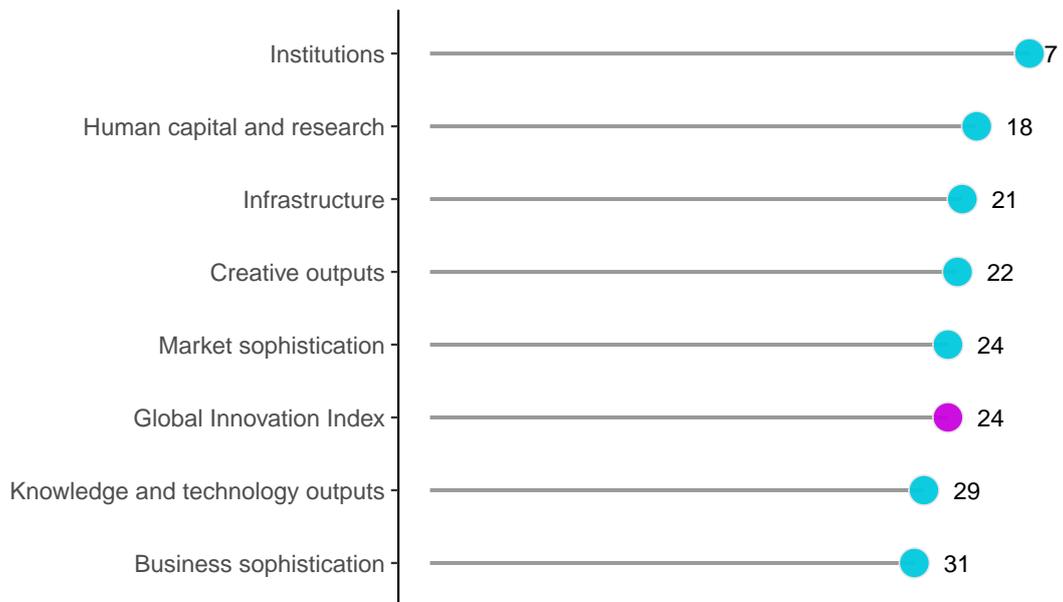
New Zealand performs above the regional average in all GII pillars.



## OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

New Zealand performs best in Institutions and its weakest performance is in Business sophistication.

### The seven GII pillar ranks for New Zealand



Note: The highest possible ranking in each pillar is 1.

The full WIPO Intellectual Property Statistics profile for New Zealand can be found at:

[https://www.wipo.int/ipstats/en/statistics/country\\_profile/profile.jsp?code=NZ](https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=NZ).



## INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the indicator strengths and weaknesses of New Zealand in the GII 2022.

### Strengths and weaknesses for New Zealand

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.1.1	Political and operational stability	2	2.1.2	Government funding/pupil, secondary, % GDP/cap	63
1.2.1	Regulatory quality	2	2.1.5	Pupil-teacher ratio, secondary	69
1.2.2	Rule of law	3	3.2.3	Gross capital formation, % GDP	73
1.2.3	Cost of redundancy dismissal	1	3.3.1	GDP/unit of energy use	71
2.1.3	School life expectancy, years	2	4.2.4	Venture capital received, value, % GDP	55
2.2.3	Tertiary inbound mobility, %	6	4.3.2	Domestic industry diversification	82
3.1.4	E-participation	4	5.3.4	FDI net inflows, % GDP	85
4.3.1	Applied tariff rate, weighted avg., %	9	6.2.1	Labor productivity growth, %	64
6.2.2	New businesses/th pop. 15–64	5	6.2.5	High-tech manufacturing, %	71
7.2.2	National feature films/mn pop. 15–69	4	7.2.5	Creative goods exports, % total trade	63
7.3.2	Country-code TLDs/th pop. 15–69	9			

## New Zealand

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Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
28	23	High	SEAO	4.9	235.0	45,880

	Score/ Value	Rank		Score/ Value	Rank
 <b>Institutions</b>	83.3	7 ●	 <b>Business sophistication</b>	43.8	31 ◇
<b>1.1 Political environment</b>	90.1	4 ●	<b>5.1 Knowledge workers</b>	50.0	[31]
1.1.1 Political and operational stability*	96.4	2 ●◆	5.1.1 Knowledge-intensive employment, %	n/a	n/a
1.1.2 Government effectiveness*	83.9	14	5.1.2 Firms offering formal training, %	n/a	n/a
<b>1.2 Regulatory environment</b>	96.7	2 ●◆	5.1.3 GERD performed by business, % GDP	⊙	0.8
1.2.1 Regulatory quality*	91.8	2 ●	5.1.4 GERD financed by business, %	⊙	49.9
1.2.2 Rule of law*	94.9	3 ●	5.1.5 Females employed w/advanced degrees, %	⊙	21.5
1.2.3 Cost of redundancy dismissal	8.0	1 ●	<b>5.2 Innovation linkages</b>	37.8	28 ◇
<b>1.3 Business environment</b>	63.2	[27]	5.2.1 University-industry R&D collaboration†	55.5	31
1.3.1 Policies for doing business†	63.2	32	5.2.2 State of cluster development and depth†	48.7	60 ◇
1.3.2 Entrepreneurship policies and culture*	n/a	n/a	5.2.3 GERD financed by abroad, % GDP	0.1	31
			5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.1	20
			5.2.5 Patent families/bn PPP\$ GDP	1.3	24 ◇
 <b>Human capital and research</b>	54.9	18	<b>5.3 Knowledge absorption</b>	43.8	28
<b>2.1 Education</b>	65.5	11	5.3.1 Intellectual property payments, % total trade	1.6	18
2.1.1 Expenditure on education, % GDP	⊙	6.0	5.3.2 High-tech imports, % total trade	10.4	36
2.1.2 Government funding/pupil, secondary, % GDP/cap	18.2	63 ○◇	5.3.3 ICT services imports, % total trade	3.2	15
2.1.3 School life expectancy, years	20.3	2 ●◆	5.3.4 FDI net inflows, % GDP	1.5	85 ○
2.1.4 PISA scales in reading, maths and science	502.9	13	5.3.5 Research talent, % in businesses	⊙	35.7
2.1.5 Pupil-teacher ratio, secondary	14.6	69 ○◇	 <b>Knowledge and technology outputs</b>	36.0	29 ◇
<b>2.2 Tertiary education</b>	51.3	9	<b>6.1 Knowledge creation</b>	37.7	25
2.2.1 Tertiary enrolment, % gross	80.3	21	6.1.1 Patents by origin/bn PPP\$ GDP	1.6	47 ◇
2.2.2 Graduates in science and engineering, %	⊙	23.0	6.1.2 PCT patents by origin/bn PPP\$ GDP	1.6	20
2.2.3 Tertiary inbound mobility, %	20.8	6 ●◆	6.1.3 Utility models by origin/bn PPP\$ GDP	n/a	n/a
<b>2.3 Research and development (R&amp;D)</b>	48.0	24	6.1.4 Scientific and technical articles/bn PPP\$ GDP	50.5	10
2.3.1 Researchers, FTE/mn pop.	⊙	5,854.1	6.1.5 Citable documents H-index	35.2	27
2.3.2 Gross expenditure on R&D, % GDP	⊙	1.4	29		
2.3.3 Global corporate R&D investors, top 3, mn USD	47.6	31	<b>6.2 Knowledge impact</b>	36.8	34
2.3.4 QS university ranking, top 3*	49.8	19	6.2.1 Labor productivity growth, %	0.8	64 ○
			6.2.2 New businesses/th pop. 15–64	17.9	5 ●◆
 <b>Infrastructure</b>	57.9	21	6.2.3 Software spending, % GDP	0.3	51
<b>3.1 Information and communication technologies (ICTs)</b>	90.2	12	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	4.9	58
3.1.1 ICT access*	93.2	23	6.2.5 High-tech manufacturing, %	16.6	71 ○◇
3.1.2 ICT use*	76.0	36 ◇	<b>6.3 Knowledge diffusion</b>	33.4	47
3.1.3 Government's online service*	92.9	10	6.3.1 Intellectual property receipts, % total trade	1.5	16
3.1.4 E-participation*	98.8	4 ●	6.3.2 Production and export complexity	47.1	49 ◇
<b>3.2 General infrastructure</b>	52.8	20	6.3.3 High-tech exports, % total trade	2.5	55
3.2.1 Electricity output, GWh/mn pop.	8,839.5	16	6.3.4 ICT services exports, % total trade	2.0	63
3.2.2 Logistics performance*	85.1	15	 <b>Creative outputs</b>	38.4	22
3.2.3 Gross capital formation, % GDP	22.5	73 ○	<b>7.1 Intangible assets</b>	44.9	27
<b>3.3 Ecological sustainability</b>	30.8	52	7.1.1 Intangible asset intensity, top 15, %	64.4	33
3.3.1 GDP/unit of energy use	9.9	71 ○	7.1.2 Trademarks by origin/bn PPP\$ GDP	104.8	10 ◆
3.3.2 Environmental performance*	56.7	26	7.1.3 Global brand value, top 5,000, % GDP	32.9	43 ◇
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	1.7	57	7.1.4 Industrial designs by origin/bn PPP\$ GDP	1.6	52
 <b>Market sophistication</b>	45.7	24	<b>7.2 Creative goods and services</b>	28.9	32
<b>4.1 Credit</b>	61.6	[6]	7.2.1 Cultural and creative services exports, % total trade	0.5	52
4.1.1 Finance for startups and scaleups*	n/a	n/a	7.2.2 National feature films/mn pop. 15–69	9.3	4 ●
4.1.2 Domestic credit to private sector, % GDP	161.3	9	7.2.3 Entertainment and media market/th pop. 15–69	49.4	14
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	7.2.4 Printing and other media, % manufacturing	1.4	27
<b>4.2 Investment</b>	17.8	36 ◇	7.2.5 Creative goods exports, % total trade	0.4	63 ○
4.2.1 Market capitalization, % GDP	51.3	37	<b>7.3 Online creativity</b>	34.9	19
4.2.2 Venture capital investors, deals/bn PPP\$ GDP	0.1	28 ◇	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69	32.6	19
4.2.3 Venture capital recipients, deals/bn PPP\$ GDP	0.1	20	7.3.2 Country-code TLDs/th pop. 15–69	63.2	9 ●
4.2.4 Venture capital received, value, % GDP	0.0	55 ○◇	7.3.3 GitHub commit pushes received/mn pop. 15–69	36.9	18
<b>4.3 Trade, diversification, and market scale</b>	57.7	63	7.3.4 Mobile app creation/bn PPP\$ GDP	7.0	51 ◇
4.3.1 Applied tariff rate, weighted avg., %	0.8	9 ●			
4.3.2 Domestic industry diversification	73.5	82 ○◇			
4.3.3 Domestic market scale, bn PPP\$	235.0	63			

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; \* an index; † a survey question. ⊙ indicates that the economy's data are older than the base year; see appendices for details, including the year of the data, at [https://www.wipo.int/global\\_innovation\\_index/en/2022](https://www.wipo.int/global_innovation_index/en/2022). Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

## DATA AVAILABILITY

The following tables list indicators that are either missing or outdated for New Zealand.

### Missing data for New Zealand

Code	Indicator name	Economy year	Model year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2021	Global Entrepreneurship Monitor
4.1.1	Finance for startups and scaleups	n/a	2021	Global Entrepreneurship Monitor
4.1.3	Loans from microfinance institutions, % GDP	n/a	2020	International Monetary Fund, Financial Access Survey (FAS)
5.1.1	Knowledge-intensive employment, %	n/a	2021	International Labour Organization
5.1.2	Firms offering formal training, %	n/a	2019	World Bank Enterprise Surveys
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2020	World Intellectual Property Organization

### Outdated data for New Zealand

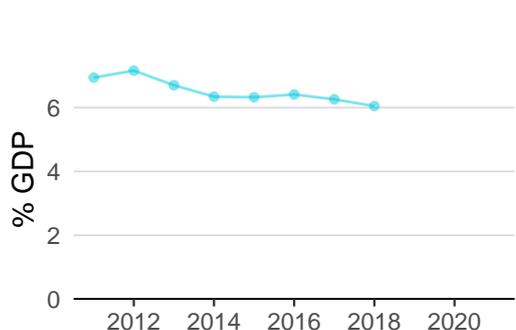
Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	2018	2020	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2019	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2019	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2019	2020	UNESCO Institute for Statistics
5.1.3	GERD performed by business, % GDP	2019	2020	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	2020	2021	International Labour Organization
5.3.5	Research talent, % in businesses	2019	2020	UNESCO Institute for Statistics



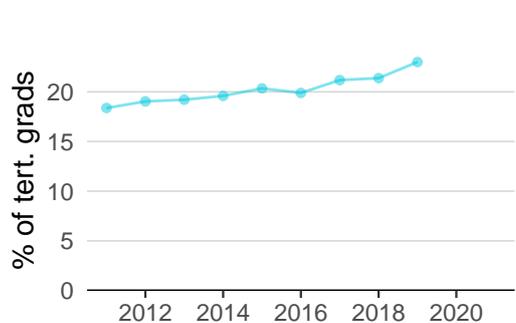
## NEW ZEALAND'S INNOVATION SYSTEM

As far as practicable, the plots below present unscaled indicator data.

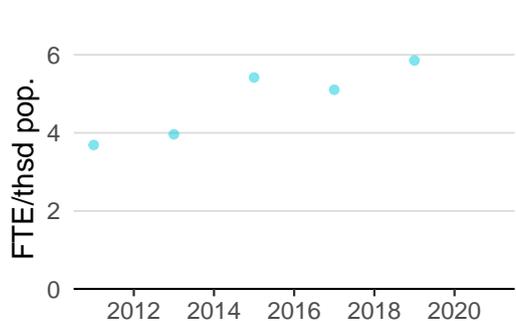
### Innovation inputs



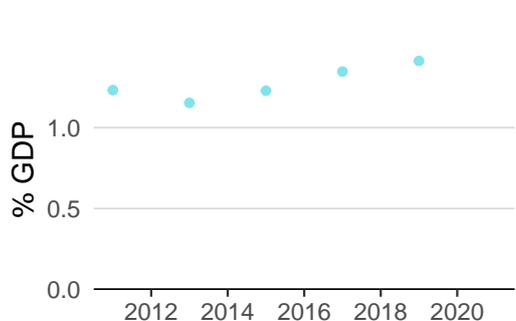
**2.1.1 Expenditure on education** was equal to 6.0% GDP in 2018—down by 3 percentage points from the year prior—and equivalent to an indicator rank of 21.



**2.2.2 Graduates in science and engineering** was equal to 23.0% of tert. grads in 2019—up by 8 percentage points from the year prior—and equivalent to an indicator rank of 51.



**2.3.1 Researchers** was equal to 5.9 FTE/thsd pop. in 2019 and equivalent to an indicator rank of 9.



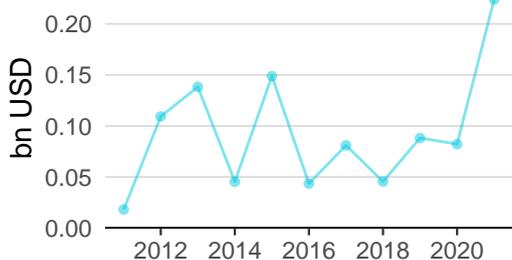
**2.3.2 Gross expenditure on R&D** was equal to 1.4% GDP in 2019 and equivalent to an indicator rank of 29.



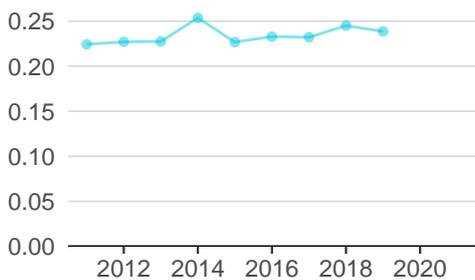
**2.3.4 QS university ranking** was equal to 49.8 in 2021—effectively unchanged from the year prior—and equivalent to an indicator rank of 19.



**3.1.1 ICT access** was equal to 9.3 in 2020 and equivalent to an indicator rank of 23.



**4.2.4 Venture capital received** was equal to 0.2 bn USD in 2021—up by 173 percentage points from the year prior—and equivalent to an indicator rank of 55.

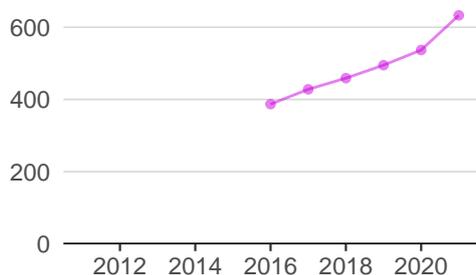


**4.3.2 Domestic industry diversification** was equal to 0.2 in 2019—down by 3 percentage points from the year prior—and equivalent to an indicator rank of 82.

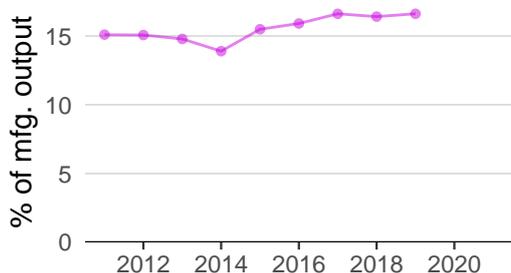
## Innovation outputs



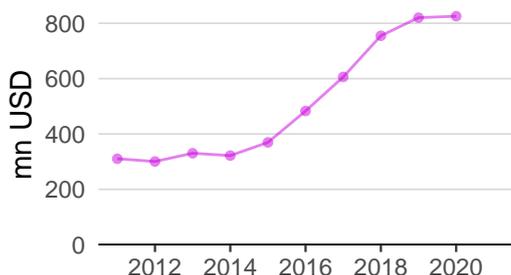
**6.1.1 Patents by origin** was equal to 0.3 thsd in 2020—up by 7 percentage points from the year prior—and equivalent to an indicator rank of 47.



**6.1.5 Citable documents H-index** was equal to 633.0 in 2021—up by 18 percentage points from the year prior—and equivalent to an indicator rank of 27.



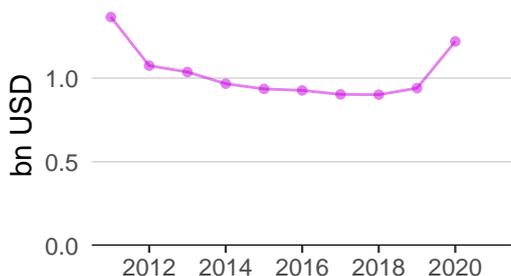
**6.2.5 High-tech manufacturing** was equal to 16.6% of mfg. output in 2019—up by 1 percentage point from the year prior—and equivalent to an indicator rank of 71.



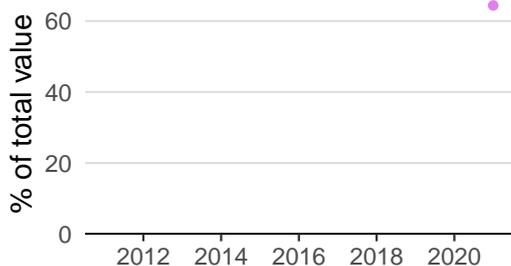
**6.3.1 Intellectual property receipts** was equal to 825.4 mn USD in 2020—up by 1 percentage point from the year prior—and equivalent to an indicator rank of 16.



**6.3.2 Production and export complexity** was equal to 0.2 in 2019—up by 125 percentage points from the year prior—and equivalent to an indicator rank of 49.



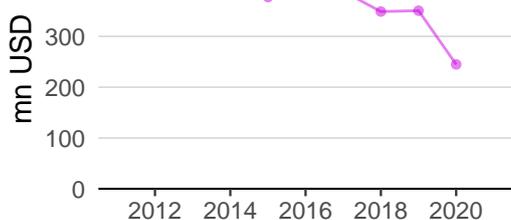
**6.3.3 High-tech exports** was equal to 1.2 bn USD in 2020—up by 30 percentage points from the year prior—and equivalent to an indicator rank of 55.



**7.1.1 Intangible asset intensity** was equal to 64.4% of total value in 2021 and equivalent to an indicator rank of 33.



**7.1.3 Global brand value** was equal to 8.1 bn USD in 2021—down by 9 percentage points from the year prior—and equivalent to an indicator rank of 43.



**7.2.1 Cultural and creative services exports** was equal to 244.8 mn USD in 2020—down by 30 percentage points from the year prior—and equivalent to an indicator rank of 52.

## NEW ZEALAND'S INNOVATION TOP PERFORMERS

### 2.3.3 Global corporate R&D investors

Firm	Industry	R&D	R&D Growth	R&D Intensity	Rank
		[mn EUR]	[%]	[%]	
XERO	Software & Computer Services	127	42.3	25.5	972
FONTERRA CO-OPERATIVE	Food Producers	88	-15.3	0.7	1,310
FISHER & PAYKEL HEALTHCARE	Health Care Equipment & Services	81	15.4	6.9	1,393

Source: European Commission's Joint Research Centre (<https://iri.jrc.ec.europa.eu/scoreboard/2021-eu-industrial-rd-investment-scoreboard>).  
Note: European Commission's Joint Research Centre ranks the top 2,500 firms by R&D investment annually.

### 2.3.4 QS university ranking

University	Score	Rank
UNIVERSITY OF OTAGO	44.8	194=
VICTORIA UNIVERSITY OF WELLINGTON	39.6	236=
THE UNIVERSITY OF AUCKLAND	65.0	85=

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2022>).  
Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100].  
Ranks can represent a single value "x", a tie "x=" or a range "x-y".

### 7.1.1 Intangible asset intensity, top 15

Firm	Rank
XERO	1
FISHER & PAYKEL HEALTHCARE	2
MERIDIAN ENERGY	3

Source: Brand Finance (<https://brandirectory.com/reports/gift-2021>).  
Note: Brand Finance only provides within economy ranks.

### 7.1.3 Global brand value, top 5,000

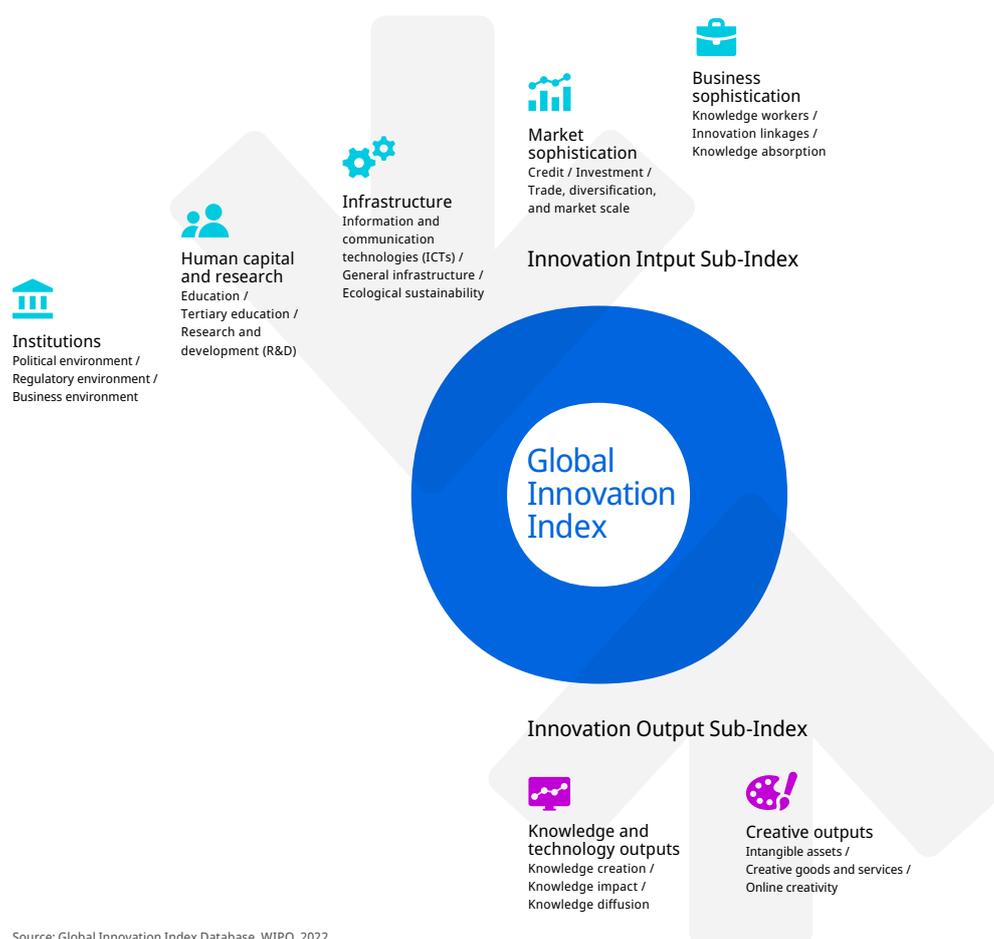
Brand	Industry	Rank
ANLENE	Food	1
ANCHOR	Food	2
SPARK	Telecoms	3

Source: Brand Finance (<https://brandirectory.com>).  
Note: Rank corresponds to within economy ranks.

## ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.

Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.