	Data	Key findings	Keywords		
MBIE ShinyApp	MBIE ShinyApp report				
R&D Expenditure	Total R&D Expenditure by Sector (2008-2020) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Total research and development expenditure by industry (Annual-Jun)'.	 Total expenditure increased by 90% between 2010 and 2020 Greatest increase in business sector Business sector = 60% of total expenditure in 2020; while higher education = 24% and government = 17% 	● Funding		
	Total Expenditure on R&D as a percentage of GDP for NZ and other small advanced economies (2009-2019) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then	 NZ's total R&D expenditure as a proportion of GDP increased from 1.25% in 2009 to 1.41% in 2019 NZ's expenditure is much lower than many of these other small advanced economies (except for Ireland), which range from 1.23-4.93% of GDP in 2019 	● Funding		
	'Total research and development expenditure by industry (Annual-Jun)'. https://stats.oecd.org/Index.aspx?DataSetCode=MSTIPUB GERD as percentage of GDP				

	R&D expenditure by sector and purpose of research (2008-2020) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Purpose of research and development by sector (Annual-Jun)'.	 Government R&D directed towards health, environment, primary industries and manufacturing, accounting for ~90% of all government expenditure on R&D in 2020 Business R&D directed towards health, manufacturing, primary industries and information and communication services, accounting for 70% of all business R&D expenditure in 2020 Higher education R&D directed towards health, education and training, general knowledge, cultural understanding and the environment, accounting for 54% of all higher education R&D expenditure in 2020 73% of all R&D expenditure directed towards the environment was government-funded in 2020 Business sector funded all R&D for construction and transport and information and communication services in 2020 86% of commercial services and tourism funded by business sector in 2020 84% of cultural understanding and 64% of education and training R&D were undertaken by the higher education sector in 2020 	FundingPriorities
R&D funding	R&D funding by source and sector of recipient (2008-2020) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Source of funds for sector totals (Annual-Jun)	 Total funding for R&D increased by 80% between 2010 and 2020, where most of the increase being in business funding Since 2016, business has been the largest source of funding for R&D in NZ Between 2010 and 2020, the government was the largest funder of R&D, with funds primarily targeted towards higher education and government research sectors Funding from non-government sources (business and overseas) increased from 43% to 58% of the total between 2010 and 2020 	● Funding
Public funding	Total public R&D funding	Public funding for R&D increased by 75% between 2010 and	● Funding

(1987-2021) https://infoshare.stats.govt.n z/ Under 'Economic Indicators' subject category and 'National Accounts' group. Then under 'Series, GDP(E), Nominal, Actual, Total	 2020 Drop between 2015 (0.52%) and 2018 (0.45%) in public funding as a percentage of GDP but increased to 0.56% in 2020 	
(Qrtly-Mar/Jun/Sep/Dec)'. 'Gross Domestic Product - expenditure measure' for 'Total All Institutional Sectors' was used.		
Public R&D funding as a percentage of GDP compared with other small advanced economies (1987-2021) https://infoshare.stats.govt.n	 Public funding is low compared to other economies Increased by 0.15% since 2017 in NZ (this increased trend also seen in Australia and Denmark) 	● Funding
Under 'Economic Indicators' subject category and 'National Accounts' group. Then under 'Series, GDP(E), Nominal, Actual, Total (Qrtly-Mar/Jun/Sep/Dec)'. 'Gross Domestic Product - expenditure measure' for 'Total All Institutional Sectors' was used.		
https://stats.oecd.org/ Denominator: GDP. This variable is gross domestic product in constant prices USD and purchasing power		

	parity (PPP) Numerator: GBARD, Government Budget Appropriations in R&D in constant prices USD and purchasing power parity (PPP). Public funding of R&D by	Largest increases in funding have been directed towards	• Funding
	mechanism (2016-2020 with 2021/2022 estimates) https://www.treasury.govt.nz/publications/data/budget-2020-data-estimates-appropriations-2020-21 https://www.treasury.govt.nz/publications/data/budget-2021-data-estimates-appropriations-2021-22	supporting industry research, including investment through the Strategic Science Investment Fund Research and Development Tax Incentive was introduced in April 2019 was not included in this data	
Business expenditure on R&D	Funding sources for business R&D expenditure (2008-2020) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Source of funds to the business sector (Annual-Jun)'	 Total business expenditure on R&D had a 2.8-fold increase over 2010-2020 (from \$971 to \$2,709 million) In 2020, 73% of this increased amount (\$1,941 million) was contributed by businesses' own funds Government funding increased 3.6-fold from \$82 to \$295 million for 2010-2020 Overseas funding grew 4.2-fold from \$81 to \$344 million for 2010-2020 	● Funding

	Proportion of business sector R&D undertaken by business size https://www.stats.govt.nz/inf ormation-releases/research-and-development-survey-2020	In 2020, large businesses (100 or more employees) contributed more than half of the business sector's R&D expenditure, but only accounted for 14% of the number of businesses carrying out R&D	● Funding
	BERD by purpose of research https://www.stats.govt.nz/inf ormation-releases/research- and-development-survey- 2020	 In 2020, 25% (\$649 million) of BERD was intended to benefit the manufacturing industry ⅓s of BERD (\$555 million) went to information and communication services 3%, 1.7% and 0.2% went to energy, environment and cultural understanding, respectively In 2020, computer services industry spent \$924 million on R&D (>⅓ of total BERD) Over the last 10 years, computer services industry has quadrupled their R&D expenditure, while the total BERD almost tripled The number of FTEs working on R&D in the computer services industry has more than tripled from 2010 (6300 in 2020) 	FundingPriorities
Government expenditure on R&D	Funding sources for government R&D expenditure https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Source of funds to the government sector (Annual-Jun)'	 Total government expenditure on R&D (GovERD) increased by 23.3% between 2010 and 2020, primarily through greater public funding Funding from business increased by 1.2-fold during this time Most government R&D is carried out by Crown research institutes, which also receive contracts or grants from private and overseas funders In 2020, R&D funding from government was 52% of the total amount of government expenditure on R&D, private sector funding was 26%, and overseas funding was 6% Drop from 2019 to 2020 in expenditure from \$828 to \$758 million due to drop in funding from NZ government (\$533 to \$394 million) 	● Funding

	Government expenditure on R&D as a percentage of GDP compared with other small advanced economies https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Source of funds to the government sector (Annual-Jun)' https://stats.oecd.org/Index.aspx?DataSetCode=MSTIPUB 'GOVERD as a percentage of GDP'	 Government R&D expenditure as a percentage of GDP in NZ was relatively high compared with other small advanced economies From 2009 to 2019 NZ government expenditure decreased from 0.32% to 0.24% of GDP Funding for CRIs makes up a large part of government expenditure on R&D 	• Funding
Higher Education R&D Expenditure	Funding sources for higher education R&D expenditure (2008-2020) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Source of funds to the higher education sector (Annual-Jun)'	 Total expenditure for higher education on R&D (HERD) increased by ~35% for 2010-2020 from \$802 to \$1082 million 45% of funding over this period came from government Since 2010, almost half of the total R&D funding for HE came from universities and other tertiary institutions 	FundingInfrastructure
	Higher education expenditure on R&D as a percentage of GDP http://stats.oecd.org/Index.a	 NZ's HERD fell from 0.41% of GDP in 2009 to 0.34% in 2019 NZ's HERD is lower than other small advanced economies (except Ireland from 2015) 	● Funding

	spx?DataSetCode=MSTI_P UB variable is HERD as a percentage of GDP https://infoshare.stats.govt.n z/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Source of funds to the higher education sector (Annual-Jun)'		
	R&D expenditure by NZ universities Source: Education Counts https://www.educationcounts.govt.nz/ data/assets/excel_doc/0012/16302/Research-financing-final.xlsx	 Although university R&D expenditure increased in the universities from \$877 million in 2015 to \$960 million in 2017, as a percentage of GDP, this expenditure decreased slightly from 0.35% in 2015 to 0.34% in 2017 Universities had much higher proportion of expenditure on Basic research than the overall research sector in NZ In 2017, 56% was on basic research compared with 25% for the overall sector The proportion of university research expenditure on basic research has increased from 48% in 2009 The proportion of expenditure on applied research has decreased from 16% (2009) to 8% (2017) Expenditure on health research continues to represent the largest proportion of university R&D expenditure In 2017, 24% of expenditure was in this area followed by Cultural understanding (10%) 	• Funding
Research productivity	Publications per million dollars spent compared with other small advanced economies https://app.dimensions.ai/discover/publication	 NZ researchers consistently produce a high number of publications per dollar spent when compared to most small advanced economies (except Ireland in 2016-2017) Increased by 13% from 2011 to 2019 	● Funding

	https://stats.oecd.org/Index. aspx?DataSetCode=MSTI PUB This variable is GERD minus BERD for current PPP		
Trends in Research Fields	Change in number of publications by research field in 2010 and 2020 https://app.dimensions.ai/discover/publication	 NZ produced more publications across all research fields in 2020 compared to 2010 Greatest proportional increases seen in: Built environment and design (3.4-fold) Studies in creative arts and writing (2.6-fold) Law and legal studies (2.4-fold) Education (2.3-fold) Engineering (2.3-fold) In 2020, three fields accounted for 51% of all publications Medical and health sciences (30%, 6804 publications) Biological sciences (12%, 2621 publications) Engineering (9%, 2053 publications) 	• Priorities
	Change in relative number of publications by research field in 2010 and 2020 https://app.dimensions.ai/discover/publication	 The relative number of publications is calculated using the revealed comparative advantage, which is the proportion of NZ publications in one field divided by the proportion of publications in the same field globally In 2020, NZ had a higher proportion of publications in some research fields relative to the rest of the world: Earth sciences Environmental sciences Commerce, management, tourism services Agricultural and veterinary sciences Biological sciences Studies in creative arts and writing Education In 2020, fields with fewer publications by NZ-affiliated authors than rest of the world: Mathematical sciences Physical sciences Technology 	• Priorities

		 History and archaeology Chemical sciences Research fields with the greatest increases in publications by NZ-affiliated authors Studies in creative arts and writing Built environment and design Studies in human society 	
		 Psychology and cognitive sciences Research fields with the greatest decreases in publications by NZ-affiliated authors Economics Environmental sciences Earth sciences 	
	R&D expenditure by type of research (2008-2020) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then 'Type of research and development expenditure by industry (Annual-Jun)'	 Includes three types of research activity: basic research, applied research and experimental development Expenditure increased for all 3 types between 2010 and 2020 2.0-fold increase in experimental development 1.9-fold increase in applied research 1.5-fold increase in basic research In 2020, ~39% of R&D expenditure was spent on experimental development, ~39% on applied research and 23% on basic research May be explained by the increase in business R&D expenditure, which is much less likely to include basic research than in government or higher education sectors 	FundingPriorities
Size and profile of the RSI workforce	Size of the R&D workforce by sector and occupation (2010-2020) https://infoshare.stats.govt.nz/ Under 'Industry sectors' subject category and 'Research and Development survey - RAD' group. Then	 Support and technical staff comprise ~43-46% of personnel involved in R&D in business and government sectors and 13% in the higher education sector R&D workforce increased by 47% between 2010 and 2020 Business sector workforce had the greatest increase, with numbers more than doubling Higher education workforce had a 15% increase Government workforce had a 0.6% increase 	Workforce

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	'Personnel involved in research and development by industry and occupation (Annual-Jun)'		
	https://www.stats.govt.nz/inf ormation-releases/research- and-development-survey- 2020		
	R&D workforce as a proportion of the total workforce compared with other small advanced economies https://stats.oecd.org/Index.aspx?DataSetCode=MSTIPUB Th variables are total researchers per thousand total employment and total R&D personnel per thousand total employment	 R&D workforce has increased as a proportion of NZ's total employed workforce since 2011 R&D workforce made up 15 per 1000 NZers employed in 2019, lower than other small advanced economies (except Singapore) The researcher workforce (excludes support staff and technicians) comprised 10.8 per 1000 NZers employed in 2019, which is lower than Denmark, Finland and Ireland but higher than OECD-Totals and Switzerland 	• Workforce
Diversity in the RSI workforce	Tertiary sector researchers by gender and field https://www.tec.govt.nz/funding/funding-and-performance/funding/fund-finder/performance-based-research-fund/previous-quality-evaluation-rounds/pbrf-2018-quality-evaluation-results/researcher-	 In 2018, female researchers were under-represented in disciplines related to STEM, making up less than 25% of researchers in fields such as engineering and technology, physics and computer science In 2018, male researchers made up less than 30% of researchers in nursing, Pacific research and education 	• Workforce

	demographics/#!/ Tertiary sector researchers by ethnicity and field https://www.tec.govt.nz/funding/funding-and-performance/funding/fund-finder/performance-based-research-fund/previous-quality-evaluation-rounds/pbrf-2018-quality-evaluation-persults/researcherdemographics/#!/	 The Māori population of NZ is 16.5% but in 35/43 fields of research, less than 5% of researchers are Māori Pacific Peoples comprise 8.1% of the NZ population but in all fields (except for Pacific research) make up less than 5% of the total researchers Engineering technology and molecular, cellular and whole organism biology have the lowest proportion of Pacific researchers 	Workforce Te Tiriti, Mātauranga Māori and supporting Māori aspiration
Growing and nurturing STEM skills	Proportion of graduates attaining degrees in STEM subjects Custom data requests from MoE and raw data held by MBIE https://www.educationcountsgovt.nz/statistics/achievement-and-attainment	 The proportion of bachelor and postgraduate students gaining qualifications in STEM subjects increased from 2009 to 2019 for domestic and international students Although international students were more likely than domestic to complete degrees in STEM There is no sustained upward trend in the number of domestic STEM doctorates since 2009 (43.7% in 2009 to 38.3% in 2019) Trends suggest the science and research pipeline is increasingly reliant on international students and immigrants joining the RSI workforce 	Workforce
Ensuring a diverse pipeline of workers	Doctorates completed by student gender and international status Custom data requests from MoE and raw data held by MBIE	 For NZers, in 2019, 55% of domestic doctoral graduates are female, while 54% of international doctoral graduates are male Domestic students are more likely to work in NZ after completing their degrees than international students 	Workforce

	https://www.educationcounts .govt.nz/statistics/achieveme nt-and-attainment Doctorates completed by student ethnicity and international status Custom data requests from MoE and raw data held by MBIE https://www.educationcounts	 The proportion of Māori, Pacific Peoples and Asian students is low among domestic PhD graduates Māori and Pacific Peoples are also under-represented in the total number of PhD graduates compared to the ethnic mix of the NZ population Between 2009 and 2019, Māori comprised ~7% of domestic doctoral graduates and Pacific Peoples ~3% There were minimal increases in the number of doctoral 	Workforce
	.govt.nz/statistics/achieveme nt-and-attainment	completions by Māori and Pacific Peoples in the past decade Five-fold increase in the number of international Asian students	
	Doctorates completed by student international status and field of study Custom data requests from MoE and raw data held by MBIE https://www.educationcounts.govt.nz/statistics/achievement-and-attainment	 In general, domestic students are under-represented in STEM subjects, this under-representation has increased in the past decade For both domestic and international students, more than 70% of doctoral completions are in 4 research fields: engineering and related technologies, health, natural and physical sciences, and society and culture In 2019, 36% of engineering and related technology PhD students were domestic students compared to 42% in natural and physical sciences, 61% in health, and 60% in society and culture International students have increased from 70 in 2009 to 225 in 2019 in natural and physical sciences (and 35 to 140 in engineering and related technologies), while domestic don't show any clear increasing/decreasing trends in any field 	● Workforce
Attracting and retaining skilled workers from overseas	Migration and immigration of STEM professionals https://infoshare.stats.govt.nz/ Under 'Tourism' subject category and 'International	 Between 2010 and 2018, there was a net increase in STEM professionals migrating to NZ There is also an increasing trend of STEM professionals immigrating out of NZ between 2013 and 2018 	workforce

	Travel and Migration – ITM' group. Then 'Permanent & long-term migration by ctry of residence, occupation (ANZSCO minor) (Annual-Sep)'.		
	Migration and immigration of science professionals https://infoshare.stats.govt.nz/ Under 'Tourism' subject category and 'International Travel and Migration – ITM' group. Then 'Permanent & long-term migration by ctry of residence, occupation (ANZSCO minor) (Annual-Sep)'.	 Net increase in science professionals between 2010 and 2018 Between 2010 and 2018, net increase in arrivals Increasing trend of departures 	• workforce
Connectivity within the Research Community	Proportion of publications with more than one author https://app.dimensions.ai/discover/publication	 Average coauthorship rates for NZ-affiliated publications increased by 3.7% between 2010 and 2020 (87.8%) Rates are broadly similar across small advanced economies, ranging from 87-91% in 2020 Collaboration on authorship is >85% in science and engineering but lowest in fields such as history and archaeology, studies in creative arts and writing, language, communication and culture and philosophy and religious studies Trend towards increased coauthorship in all fields of research 	• Institutions
	Effect of external coauthorship on publication impact by field, 2019 https://app.dimensions.ai/discover/publication	 In all fields of research, the field citation ratios (FCRs) from publications with external coauthorship were substantially higher than those without coauthors On average, a 2.7-fold increase in FCR was seen in publications involving external coauthorship ranging from 1.5-fold increase in agricultural and 	 Institutions

		veterinary sciences to a 5.7-fold increase in studies in creative arts and writing • The fields of research where FCR was most influenced by external coauthorship for 2019 were: • Studies in creative arts and writing (2.4 vs 0.4) • Law and legal studies (2.6 vs 0.5) • History and archaeology (2.1 vs 0.4) • Philosophy and religious studies (3.4 vs 0.8)	
Growing international research collaborators	Proportion of publication with international coauthorship https://app.dimensions.ai/discover/publication	 Publications with international coauthorship are cited more frequently The proportion of publications with international collaboration is increasing across all small advanced economies and Australia Nearly 56% of publications in NZ have international coauthors in 2020, up from 39% in 2010 In 2020, international collaboration rates were highest in: Earth sciences Physical sciences Biological sciences Technology Chemical sciences Environmental sciences Mathematical sciences The rates were much lower for fields in: Studies in creative arts and writing Philosophy and religious studies Law and legal studies Language, communication and culture 	• Institutions
	Effect of international collaboration on publication impact by field https://app.dimensions.ai/discover/publication	 Across all fields of research, the citation performance of publications with international coauthorship substantially exceeded the citation performance of publications without average 2.6-fold increase; ranging from 7.3-fold increase in studies in creative arts and writing to a 1.5-fold increase in agricultural and veterinary sciences In 2019, fields with the largest difference were Studies in creative arts and writing (3.5 vs 0.5) 	 institutions

		 Physical sciences (3.7 vs 1.3) Law and legal studies (3.1 vs 0.7) Education (4.1 vs 1.9) 	
Growing research connectivity with business	Proportion of businesses cooperating with research organisations for innovation, by business size https://infoshare.stats.govt.nz/ under 'Businesses' subject category and 'Business Operations Survey – BUO' group. Then 'Cooperative arrangements for innovation by partner by Business Size (Annual-Aug)'	Reduction in the level of business cooperation with universities, CRIs and other research organisations in 2013 Corresponds to the timing of agency changes including the disestablishment of Industrial Research Limited and the establishment of Callaghan Innovation as the main government agency supporting business innovation Levels of business cooperation had generally not recovered from 2009 levels by 2019	• Institutions
Increasing international capital investment in NZ R&D	Proportion of business expenditure on R&D financed from overseas https://stats.oecd.org/Index.aspx?DataSetCode=MSTIPUB this variable is the percentage of BERD financed by the rest of the world	 Between 2009 and 2019, the proportion of funding from international sources for business R&D was above the OECD-Totals and similar to most small advanced economies (apart from Israel and Ireland) The proportion of funding from international sources for business R&D in NZ increased from 8.5 to 12.7% during this period 	InstitutionsFunding
	Volume and quality of NZ research, by field https://app.dimensions.ai/dis cover/publication	 The relative quality of NZ publications (mean FCR) declined between 2010 and 2019 but remains twice the world average In 2019, physical sciences, commerce, management, tourism and services, and education were the fields with the highest FCRs The specialisation of NZ research was consistent in 2010 and 2020 Earth sciences and environmental sciences were the fields with the highest relative volume in both 2010 and 2020 as 	 Priorities

	measured by the revealed comparative advantage, RCA				
Education Counts Data https://www	Education Counts Data https://www.educationcounts.govt.nz/statistics/research				
https://www.educatio .govt.nz/data/assedoc/0013/16303/Reperformance-final.xls https://www.educatio .govt.nz/statistics/achnt-and-attainment	increased by 1.8% in 2019, to reach 10,395 o 17% higher than in 2014 o 40% higher than in 2009 In 2019, the number of international doctoral degree students increased by 3.1% compared with an increase of 0.8% for domestic students ncounts In 2006, government policy changed so that international				
https://www.educatio .govt.nz/_data/asse_doc/0013/16303/Reperformance-final.xls https://www.educatio .govt.nz/statistics/ach	increased by 2.8% in 2019 to reach 1480. o The number of domestic doctoral completions decreased by 0.7% in 2019, while the number of international completions increased by 6.9% o 52% of completions were by international students Between 2018 and 2019, the increase in doctoral degree completions was 3.4% for women and 2.1% for men				

	nt-and-attainment	 In 2019, the number of Māori completing doctoral degrees was 50 from 70 in 2018 and for Pacific Peoples was 15 from 25 in 2018. 	
Research quality and quantity	PBRF Quality Evaluation results https://www.educationcounts .govt.nz/ data/assets/excel _doc/0013/16303/Research- performance-final.xlsx	 The peer reviewed quality of research at NZ universities has been increasing over time The number of FTE staff awarded an 'A' quality category in the 2018 PBRF Quality Evaluation was 1159, compared with 831 in 2012 and 597 in 2006 	•
	Bibliometric performance of NZ universities https://www.educationcounts .govt.nz/data/assets/excel _doc/0013/16303/Research- performance-final.xlsx	 Rates of citation of research from NZ universities have generally been rising over time compared with the world average The category normalised citation impact (CNCI) measure was 1.30 in the 2013-17 five-year period compared with 1.08 in the 2001-05 five-year period Australian universities were higher with a CNCI of 1.41 in the 2013-2017 five-year period Rates of collaboration have been increasing over time The percentage of articles and reviews produced by NZ universities that had interinstitutional collaboration has increased from 54% in 2001-05 to 67% in 2013-17 	• Institutions
Research Financing	Vote Tertiary Education funding for research and research-led teaching https://www.educationcounts .govt.nz/data/assets/excel _doc/0012/16302/Research- financing-final.xlsx	 Includes money distributed vis PBRF, Centres of Research Excellence fund and Wānanga Capability Fund Total funding for research and research-led teaching was \$366 million in 2019 (same in 2018) 86% by the PBRF (\$315 million) Vote Tertiary Education research funding is 32% higher than in 2009 due to increases in the size of the PBRF and Centres for Research Excellence fund over time In 2019, 96.7% of PBRF funding was allocated to the universities, 2.7% to Institutes of Technology and Polytechnics (ITPs), 0.2% to wānanga and 0.4% to private training establishments (PTEs) 	 Funding Te Tiriti, Mātauranga Māori and supporting Māori aspiration

University external research contract income Sources: PBRF external research income measure (annual) and the Research and Development Survey (bi-annual)	 The value of PBRF external research income (ERI) earned by universities reached \$582 million in 2018 ERI per FTE researcher increased by 9.5% in 2018 and was 32% higher than in 2013 (adjusting for number of academic/research staff and inflation) Government was the largest source of funding for universities In 2017, 78% of funding was sourced from Government In 2017, 49% of contract funding came from Government research purchase agencies (Ministry of Business Innovation and Employment, Health Research Council and the Royal Society) 	• Funding
University of Auckland (2020) https://www.auckland.ac.nz/en/about-us/about-the-university/the-university/official-publications/annual-report.html	FTE Staff = 5985 total • 2449 Academic, 313 UniServices, 3223 Professional • 14% are professors (231 male; 104 female) • 14% are associate professors (205 male; 130 female; 1 diverse) • 23% are senior lecturers (283 male; 285 female) • 7% lecturers (82 male; 79 female) • 15% senior research fellows/research fellows (182 male; 192 female; 1 diverse) • 14% professional teaching fellows (142 male; 211 female) • 13% other teaching and research roles (134 male; 187 female; 2 diverse) • Academic salaries \$320,455,000 (\$308,186,000) Equivalent Full-Time Students (EFTS) = 34,388 total • 73% (25,008) undergraduate; 16% (5621) taught postgraduate; 9% (2956) research postgraduate; 2% (803) non-formal degree • Number of EFTS have increased from 2011 (~32,100) to 2020 (34,388) but composition of undergrad/taught postgrad/research postgrad have stayed relatively the same • Ethnicity of students • 14,308 European; 3073 Māori; 3714 Pacific Island; 19,611 Asian; 1607 MELAA; 687 Other	 Workforce Funding

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	 Gender of students 18,065 male; 24,700 female; 175 diverse International students = 8199 total Percentage of participate at postgraduate level 5.1% Māori; 5.2% Pasifika; 90.2% non-Māori, non-Pacific Course completions Qualification 472 Doctoral (462 in 2019; 394 in 2018) 1840 Masters 1297 Bachelor Honours 1804 Postgraduate Certificate/Diploma 4845 Bachelors 501 Undergraduate Certificate/Diploma Māori 86.4%; Pasifika 79.8%; 92.6% non-Māori, non-Pacific Research Research output cost \$384,706,000 (2019: \$359,935,000; 2018: \$339,105,000) Consolidated research and contracts revenue \$269,059,000 (2019: \$269,236,000) external research income \$227,791,000 (\$223,323,000 in 2019) other research and contract income \$41,268,000 (\$45,913,,000 in 2019) University research and contracts revenue \$214,837,000 (2019: \$220,264,000) external research income \$214,228,000 (\$219,938,000 in 2019) other research and contract income \$609,000 (\$326,000 in 2019) 	
University of Canterbury (2020) https://www.canterbury.ac.n z/about/governance/annual- reports/	EFTS = 15,378 ■ 12,224 undergraduate ■ 3154 postgraduate ■ 13,678 Domestic (11,053 in 2015); 1700 International (878 in 2015) ■ Percentage of SAC (Student Achievement Component) students in 2020: □ 9.3% Māori at degree-level	WorkforceFunding

- 3% Pasifika at degree-level
- 9.4% Māori at postgrad level
- 2.5% Pasifika at postgrad level
- 382 research degrees completed in 2020 (394 in 2018)
- First year retention rate at degree-level in 2020:
 - o non-Māori, non-Pasifika 71.1%
 - Māori 70.5%
 - o Pasifika 60.5%
- Successful course completion rate:
 - o non-Māori, non-Pasifika 87.9%
 - Māori 81.9%
 - o Pasifika 72.6%

3644 Graduates:

- 153 PhDs
- 850 Masters
- 384 Postgrad/Honours
- 2257 Bachelors
- Number of undergrad EFTS increased from 9329 in 2015 to 12,224 in 2020, while postgrads have increased from 2602 (2015) to 3154 (2020)
- 90.6% of graduates are in employment or further study (92.7% in 2018)

Revenue

- \$404m earned
- \$42m external research revenue earned

3373 staff

- In 2020, 867 FTE Academic staff (cf. 708 in 2015)
- EFTS:Staff ratio in 2020 is 17.7
- Staff turnover in 2020:
 - o Academic 3.1% (2.2% in 2018)
 - General staff 10.6% (13.1% in 2018)
- Diversity:
 - 5.2% of all staff are Māori
 - 1.6% of all staff are Pasifika
 - 49.1% of all staff are female
- Academic salaries in 2020: \$101,110,000
- General salaries in 2020: \$90,685,000

University Financial Operating Data

• Government grant \$148 million in 2020 (\$131 million in 2015)

	 SAC funding, PBRF and other Tuition fees \$129 million in 2020 (\$83 million in 2015) Research funding (incl. PBRF and External Research Funding) \$70 million in 2020 (\$55 million in 2015) Capital expenditure \$76 million in 2020 (\$117 million in 2015) Proportion of publication outputs coauthored with international academics is 68.5% in 2020 (64.5% in 2018) 	
University of Otago (2020) https://www.otago.ac.nz/about/official-documents/	 Research \$17.5m from Marsden fund \$27.4m MBIE Endeavour Fund grants 2 Centres of Research Excellence (CoREs; received a combined \$69m over 7-year period) Revenue \$257,988,000 in government grants \$167,498,000 in tuition fees \$145,795,000 in externally-funded research \$62,299,000 in PBRF \$7,703,000 in trust donations \$20,712,000 in finance revenue 18,722 EFTS Ethnicity 11% (2288) Māori students (12.8% of domestic); 9.2% of domestic postgraduate EFTS \$5.6% (1150) Pasifika students (5.9% of domestic); 3.6% of domestic postgraduate EFTS 72.9% European/Pākehā 20% Asian 3.6% Middle Eastern/Latin American/African 2.8% other/unknown Gender: 12501 female; 8187 male; 33 gender diverse 18.8% are postgraduate (1368 PhD in 2020; 1325 in 2016) 1183 degrees completed (969 in 2016) EFTS enrolments by subject: 	 Workforce Funding Institutions

	 FTE professional staff Female:Male (1635:881) 9:17 senior managers 1238:676 professional services, student and community staff 83:22 librarians and library assistants 305:166 research support staff and technicians 5559 total publications 	
Victoria University of Wellington (2020) https://www.wgtn.ac.nz/abou t/governance/university-publications/annual-report	 Research 27 Marsden Fund grants (>\$16m) and >\$26m MBIE to the Robinson Research Institute Total external research income of \$86.8m 42% (\$209.3m) of expenditure on research; 51% on teaching and learning 4883 qualifications awarded 2708 Bachelor's; 190 Honours; 1107 Master's; 168 PhDs and other doctorates; 264 Postgraduate certificates and diplomas; 304 Graduate certificates and diplomas; 142 Undergraduate certificates and diplomas 2336 FTE Staff and 1150 teaching and research staff 27.8% of professors are female 5.9% of academic staff are Māori 1.9% of academic staff are Pasifika Students (17,767 EFTS) 12,974 female; 9336 male; 128 diverse Research postgraduate/total EFTS = 6.1 Commencing Māori student EFTS = 561 Commencing Pasifika student EFTS = 310 Diversity of total SAV eligible EFTS enrolled at level 7 degree 82.2% are non-Māori, non-Pasifika 12.4% are Māori 6.4% are Pasifika At level 8-10 88.3% are non-Māori, non-Pasifika 8% are Māori 	 Workforce Funding

	 4.2% are Pasifika 1817 international student EFTS 552 research degrees completed Expenditure Salaries \$249,984,000 	
Massey University (2020) https://www.massey.ac.nz/massey/about-massey/plans-reports/plans-and-reports_home.cfm	 Research Revenue \$115,914,000; expenditure \$178,299,000 External research income \$77.5m PBRF external research income \$73m Active international research partnerships: 205 Research degree completions: 399 (504 in 2016) Māori research degree completions: 29 (40 in 2016) Postgraduate successful course completion: 87.6% Students (30,653 total; 4803 international; 18,568 EFTS; 2885 international EFTS) Degree-level (L07) 79.5% non-Māori, non-Pacific 15% Māori 6.6% Pasifika Postgrad level (L08-10) 86.2% non-Māori, non-Pacific 10.4% Māori 3.9% Pasifika First-Year Retention 75% non-Māori, non-Pacific 62.8% Māori 61.6% Pasifika Successful course completion all study levels 85.8% non-Māori, non-Pacific 74.2% Māori, 65.4% Pasifika Student progression to employment total 82.3% (88.3% in 2019) Māori 83.3% (87.5% in 2019) Gender 2645 female:1007 male:1 diverse Māori students 	 Workforce Funding

			T
		 1180 female:492 male Pasifika students Staff Total FTE academic staff: 1362 Total FTE professional staff: 1876 Females in senior positions 55% (6) senior leadership team 44% (140) senior managers/directors/managers 35% (109) professors/associate professors Staff-related costs: salaries and wages: \$296,684,000 	
(202	versity of Waikato 20) ps://www.waikato.ac.nz/a ual-report/	 Students (8262 EFTS domestic; 2186 EFTS international) 4252 qualifications completed (13% increase) 1028 graduate/postgraduate 339 subdegree EFTS; 8254 degree EFTS; 1285 taught postgrad EFTS; 594 research postgrad EFTS EFTS by organisational unit Division of arts, law, psychology and social sciences 2820 Division of education 1624 Division of health, engineering, computing and science 2580 Division of management 2590 PVC teaching and learning 53 Te pua wānanga ki te ao 466 Pathways college 339 Ethnicity 5129 Pākehā/European 2527 Māori (19.3%) 721 Pasifika 2106 Chinese 616 Indian 1977 Other Gender 7675 Female 5388 Male 13 Diverse Completion rates 	Workforce Funding

	■ 100-level: 72% Māori; 65.3% Pasifika	
	■ 200-level: 80% Māori; 73.0% Pasifika	
	■ 300-level: 85.2% Māori; 81.1% Pasifika	
	Staff (1499)	
	 649 total academic FTE (16.1 per EFTS); 841 Other staff 	
	 96 professors; 77 associate professors; 195 senior lecturers; 122 lecturers; 157 other 	
	 Total staff FTE by organisational unit 	
	■ Division of arts, law, psychology and social	
	sciences 202	
	■ Division of education 163	
	Division of health, engineering, computing	
	and science 342	
	■ Division of management 147	
	■ Deputy vice-chancellor Māori/te pua	
	wānanga ki te ao 33 ■ Other 612	
	Revenue	
	\$69.6m from research and development	
	 Annual research revenue \$36.147m 	
	 Academic FTE (research) 422 	
	 Research revenue per academic FTE 	
	(research) \$85,656	
	 Government funding and grants \$113,150,000 	
	■ SAC grant \$78,030,000	
	■ Fees free funding \$9,673,000■ PBRF \$15,722,000	
	■ Advisory services grants \$7,794,000	
	■ Other \$1,881,000	
	Expenditure	
	 \$46,336,000 on research; total expenditure 	
	\$272,162,000	
Lincoln University	 Students (3273) 	Funding
(2020)	 60% Domestic (1952); 40% International (1321) 	 Workforce
	 52% female (1703); 48% male (1565); 5 diverse 	 Infrastructure
https://www.lincoln.ac.nz/ass	Level 8-10 level of total SAC eligible EFTS	
ets/Publications/LIN3506-	■ non-Māori & non-Pasifika 95.8%	

Annual-Rep 2020_WEB		 Māori 3.2% (decrease from 4.1% in 2019) Pasifika 1.0% (decrease from 1.7% in 2019) Qualification completion rate (SAC students) of all levels
		■ non-Māori & non-Pasifika 69.5%
		■ Māori 54.1%
		Pasifika 53.8% (20.5% increase from 2019;
		fluctuations due to small numbers)
		 29.9 PhD commencing EFTS: 22.3 international; 7.6
		domestic
		 84.4% postgraduate successful course completion
		(96.6% in 2019; 95.7% in 2018)
		 79% of graduates in paid employment (84% in 2019) 38% of graduates in ideal employment (56% in 2017)
	• FT	E Staff for the group 598.6
		 33% academic; 43% administration and support;
		14% research and technical; 11% trading and
		operations
		 Salaries and wages \$61,427,000 (increase from \$58,745,000 in 2019)
		Decreasing number of academic and research and technical staff since 2015 (196.2 academic FTE in 2020 from 235.7 in 2015; 81.6 research and technical FTE in 2020 from 446.8 in 2015)
	• Po	technical FTE in 2020 from 146.8 in 2015) search Input
	• Ne	Revenue from PBRF \$9,823,000 (decreased from
		2019 \$10,209,000)
		External research income \$31,767,000
		Research revenue \$31,758,000 (group);
		\$17,473,000 (parent)
	• Re	search output
		 41 Māori related research projects approved
		 104 research degrees completed (increase from 84 in 2019)
		 475 quality research publications
	• Ca	pital expenditure
		 \$78,0085,000 for buildings (new Science North
		Building; \$4,337,000 in 2019)

Auckland University of
Technology
(2020)

https://www.aut.ac.nz/about/ auts-leadership/official-autpublications/archivedannual-reports

- Students (20,498 total EFTS)
 - 1011 doctoral students (1017 in 2019; 994 in 2018; growing but due to border closures less international doctoral students seen in 2020)
 - 68 Māori (6.7%); 48 Pasifika (4.7%)
 - Postgraduate: 2586 SAC funded EFTS; 1418 International EFTS
 - o Ethnicity of domestic SAC-funded EFTS
 - Asian 5612 (25%)
 - Māori 2533 (12%)
 - NZ European/Pākehā 8699 (39%)
 - Pacific 3672 (17%)
 - Other 1513 (7%)
 - Non-declared 51 (<1%)
 - Gender of domestic SAC-funded EFTS
 - 13,756 (62%) female; 8251 (38%) male; 73 (<1%) gender diverse
 - 126 doctorates awarded; 1049 Masters
 - EFTS by faculty
 - 4278 Business, Economics and Law
 - 3173 Culture and Society
 - 5599 Design and Creative Technologies
 - 6156 Health and Environmental Sciences
 - 55 Te Ara Poutama
 - 1198 University programmes
 - Course completion for all levels
 - non-Māori, non-Pacific 87% (88.4% in 2019)
 - Māori 77.9% (82.3% in 2019)
 - Pasifika 69.2% (68.8% in 2019)
- Staff (4500)
 - FTE: 1194 academic; 1255 admin; 2449 total
 - Faculty FTE:
 - Business, Economics and Law: 200 academic; 63 admin
 - Culture and Society: 170 academic; 62 admin
 - Design and Creative Technologies: 329 academic; 120 admin
 - Health and Environmental Sciences: 433

- Workforce
- Funding

		academic; 152 admin Te Ara Poutama: 24 academic; 3 admin 55% research-active academic staff (55% 2019; 59% 2018) Academic salaries and wages \$134,643,000 (2019: \$128,114,000) Research External research income: \$17,928,798 (\$17,062,747 in 2019) Government grants: PBRF \$20,627,000 (2019: \$19,908,000) \$33.8m in research contracts signed \$11.5m with MBIE; \$6.8m with the Health Research Council; \$2.1m with Callaghan Innovation; \$1m with the Marsden Fund \$28.4m in 2019; \$15.9m in 2018 (increasing but staff numbers not increasing to match) 62% of outputs with an international co-author (64% in 2019; 58% in 2018) \$66,887,000 cost of research and scholarship	
Brower and Jan Women in NZ universities	Gender pay gap https://journals.plos.org/plosone/article/figure?id=10.137 1/journal.pone.0226392.t001	 Academic gender performance pay gap by field (not attributable to research performance) Arts 37.4% Science 51.2% Business 38.7% Engineering 58.3% Medicine 32.1% Education 54.0% 	Jniversities • Workforce
	Women less likely to be promoted than men https://journals.plos.org/plosone/article/figure?id=10.137 1/journal.pone.0226392.t002	Gender by position Lecturer (L): 209 female; 218 male Senior lecturer (SL): 292 female; 557 male Associate professor (AP): 45 female; 193 male Promotion between 2003 and 2012 SL/AP/P	Workforce

		 83.7% female L; 90.8% male L AP/P 12.4% female L; 20.2% male L 49.7% female SL; 56.4% male SL P 0.5% female L; 5% male L 13% female SL; 15.6% SL 62.2% female AP; 67.4% AP
	Gender parity of each field https://journals.plos.org/plosone/article/figure?id=10.137 1/journal.pone.0226392.g00 2	 Men more likely to be at higher ranks Less female L/SL/AP/P in Arts, Business, Medicine, and, particularly, Science and Engineering in 2012, but more in Education than males
CRI Annual Rep	orts	•
	AgResearch 2021 https://www.agresearch.co.n z/about/our- organisation/publications/an nual-report/	881 permanent, fixed term and casual employees, studentships and contractors 53% female employees, 47% male 38 research enablers and investments 47 Post doc 55 PhD 102 Casual 196 Research support 34 Consultant/contract/visitors 7 executive 7 research delivery 5 research strategy 3 emeritus scientists 288 research capability Income \$44,963 MBIE strategic science funding \$8768 Land and Water national challenge \$13,570 COVID response and recovery \$61817 commercial

	 \$4855 farm produce \$15662 other 	
ESR 2021 https://www.esr.cri.nz/home/ about-esr/corporate- publications/2021-annual- report/		
PBRF (2003, 2006, 2012, and 2018) Quality Eva	aluation rounds	
Allocations for the PBRF https://www.tec.govt.nz/fundi ng/funding-and- performance/funding/fund- finder/performance-based- research-fund/resources- and-publications/	The TEC allocated:	• Funding

	 \$7.1 million to 10 ITPs (2.5%) \$519,300 to 8 PTEs (<1%) \$528,500 to 1 Wānanga (<1%) 2014 \$267.3 million to 8 universities (97.2%) \$6.8 million to 10 ITPs (2.5%) \$486,000 to 8 PTEs (<1%) \$435,000 to 1 Wānanga (<1%) 2013 \$255.1 million to 8 universities (97%) \$6.6 million to 10 ITPs (2.5%) 8 PTEs \$328,878 to 1 Wānanga (<1%) 	
https://www.tec.govt.nz/funding/funding-and-performance/funding/fund-finder/performance-based-research-fund/previous-quality-evaluation-rounds/pbrf-2018-quality-evaluation-results/researcher-demographics/#!/ https://www.tec.govt.nz/assets/Publications-and-others/PBRF-Publications/27bab27243/Quality-Evaluation-participation-across-four-rounds.pdf	 2018 Gender: F: 42.9%, M: 56.6%, Other: <1% Employment: 88.4% full-time; 11.6% part-time 2012 Gender: F: 38.8%, M: 61%, unknown: <1% Employment: 90.1% full-time; 9.9% part-time 2006 Gender: F: 33.7%, M: 66.3%, unknown: <1% Employment: 92.6% full-time; 7.4% part-time 2003 Gender: F: 23.9%, M: 50.3%, unknown: 25.8% Employment: 92.5% full-time, 7.5% part-time 	

R&D	Research and Development
GovERD	Government Expenditure on R&D
CRI	Crown Research Institute
GERD	Gross Domestic Expenditure on R&D
GBARD	Government Budget Allocations for R&D
HERD	Higher Education Expenditure on R&D
BERD	Business Expenditure on R&D
ERI	External Research Income
ITPs	Institutes of Technology and Polytechnics
PTE	Private Training Establishment
CNCI	Category Normalised Citation Impact
FTE	Full-Time Equivalent
RCA	Revealed Comparative Advantage
FCR	Field Citation Ratio
EFTS	Equivalent Full-Time Students
TEC	Tertiary Education Commission
PBRF	Performance-Based Research Fund