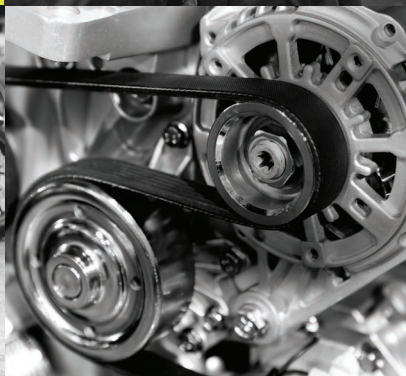




# **AUTOMOTIVE WORKFORCE DEVELOPMENT STRATEGY**

OCTOBER 2021



## EXECUTIVE SUMMARY

To future proof the success of New Zealand's automotive workforce, this strategy has been developed in 2021 to provide a framework for the automotive industry to plan its workforce development priorities over the next 5 - 10 years.

This strategy presents a set of goals that are aimed at creating a sustainable workforce that has the capabilities and skills required to meet current and future challenges.

Key factors impacting the workforce in New Zealand include an ageing workforce, a male dominated industry, the COVID-19 pandemic, pace of technological change and industry access to information related to those changes, sustainability of the environment, and attracting a wide diversity of people to the industry.

The spread of COVID-19 across the world was a defining event in 2020 and a public health crisis that has had a profound impact on the New Zealand and worldwide economies. New Zealand has been in two nationwide Alert Level 4 lockdowns, creating major disruption to the economy and the labour market environment. Demand for skilled labour is competitive and this is driven by a tight labour market with low levels of unemployment and the ongoing border and travel restrictions.

To encourage resilience in the New Zealand labour market, the Government responded by releasing a range of financial initiatives under the COVID-19 Economic Response Package that included wage subsidies, redeployment support, financial support for business, and training initiatives, with a particular focus on the trades.

Vehicle technology is increasingly becoming more complex. With the rapid pace of technological change this requires skill development to be well-timed to support employee upskilling. The New Zealand vehicle fleet is getting older and this has implications for the skill needs of the workforce with technicians needing to keep pace with change, however the majority of their work will be on older technologies. Industry itself recognises the challenge of accessing information for new technologies at the right time for its technical workforce – the right to repair.

The Reform of Vocational Education in New Zealand will change the way that vocational education is delivered in New Zealand. The reform aims to deliver a unified, sustainable system that will have a stronger focus on learners and employers, delivering the skills employers need, providing more support for their employees, and in the longer term increasing the number of employers who are engaged in vocational education. The newly formed Hanga-Aro-Rau Workforce Development Council will take the lead in developing and maintaining a strategic view of the skills that industries will require now and in the future.

This strategy describes the automotive industry's operational context by highlighting factors that will continue to influence the automotive industry. The strategy presents a number of goals underpinned by aspirational objectives. These aim to support the skill development priorities over the next 5 – 10 years and will:

1. Promote career pathways that encourage participation and retention in the automotive industry
2. Attract a sufficient supply of talent to meet industry requirements
3. Build on existing skill sets to enhance management and leadership within the industry
4. Train the existing workforce in new technological requirements, and
5. Support skills utilisation in a workplace setting.

MITO will align its business priorities to deliver a workforce to meet the future skill needs of the automotive industry.

This strategy has been endorsed by New Zealand's automotive industry associations.



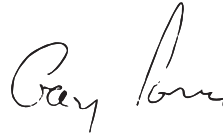
**Janet Lane**, Chief Executive  
MITO



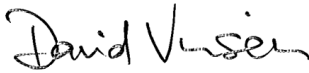
**David Crawford**, Chief Executive Officer  
Motor Industry Association



**Neil Pritchard**, General Manager  
Collision Repair Association



**Craig Pomare**, Chief Executive  
Motor Trade Association



**David Vinsen**, Chief Executive  
VIA



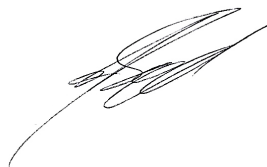
**Keith Wood**, Executive Director  
New Zealand Engine Reconditioners Association



**Peter Hughes**, Chairman  
AADS New Zealand



**Kyle Baxter**, President  
TAMA - Tractor and Machinery Association



**Neville Boyd**, President  
Vehicle Service Federation



**Bill Newson**, National Secretary  
E tū

## INTRODUCTION

For the purposes of this document the automotive sector is defined as vehicle manufacturing, wholesale and retail vehicle sales, collision repair, and maintenance industries (excluding fuel retail). The automotive sector employed 80,330 people in 2020<sup>1</sup>.

The environment that the automotive workforce operates in has seen a number changes over the last five years:

- Reducing carbon emissions by shifting to environmentally friendly low-emission vehicles and fuels is a high priority for the New Zealand Government
- The supply of talent is constrained with ongoing border restrictions and a tight labour market
- Vehicle technology is becoming increasingly complex, requiring responsive employee upskilling
- The automotive workforce profile has low female participation (only 15.5%) and the age profile mirrors New Zealand's ageing workforce. The ethnic diversity is low compared to an increasingly diverse population
- The emergence of the COVID-19 pandemic has resulted in economic disruption and ongoing border closures which has created significant disruption to vehicle and parts supply
- The Reform of Vocational Education will create new opportunities for the automotive sector to engage with the Hanga-Ara-Rau Workforce Development Council and Te Pūkenga<sup>2</sup>, and
- There will be an increased focus on meeting the Crown's obligations to Te Tiriti o Waitangi within the new vocational education sector<sup>3</sup>.

In a competitive economic environment, the automotive industry faces increasing challenges to attract and retain skilled employees. In 2020 there were 80,330 jobs in the automotive sector<sup>1</sup>. This represents 3.1% of the jobs in New Zealand. The top five occupations in the sector make up 38.5% of the total jobs. These are automotive technicians (by far the largest number making up 58.2% of the top five jobs), sales assistants, diesel automotive technicians, panel beaters, chief executives or managing directors. New Zealand's automotive industry comprises the automotive repair, automotive maintenance, automotive electrical, automotive sales, specialist vehicle manufacture (collectively termed the 'automotive sector'), and the collision repair and refinishing sector.

### Occupations - Automotive (top 5)<sup>1</sup>



**17,999**

Motor mechanic



**3,400**

Diesel motor mechanic



**3,339**

Sales assistant



**1,897**

Chief executive or  
managing director



**1,812**

Automotive  
electrician

### Occupations - Collision Repair and Refinishing (top 5)<sup>1</sup>



**3,311**

Panelbeater



**1,376**

Vehicle painter



**655**

Car detailer



**464**

Industrial spray painter



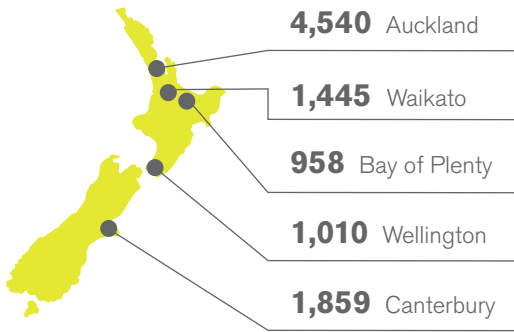
**450**

Motor Mechanic

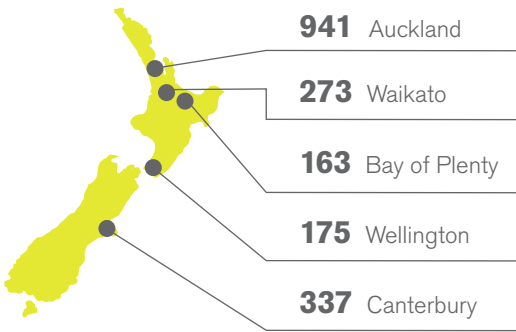
Technology and its adoption are central to the automotive industry's sustainability and future success. Intelligent Transport Systems (vehicular and infrastructural) are becoming commonplace as technology advances. For example, driverless vehicles were used extensively at the Tokyo 2020 Olympics and Paralympic Games in 2021. The New Zealand Government subsidy for electric and hybrid vehicles and the legislative requirements around changing the fleet to lower emissions vehicles has meant that the automotive industry must adapt to the changing requirements for training and support of these vehicles.

In 2020 the automotive sector contributed \$6,782m to New Zealand's Gross Domestic Product (GDP) which represents 2.1% of the total GDP. The sector accounts for 3.1% of the New Zealand workforce. The automotive industry is regionally prominent across New Zealand townships. In 2021 there were 17,746 reported business units which represents 3% of the total in New Zealand. Of the people working in the sector 33.5% work in Auckland, 18.9% work in Waikato and the Bay of Plenty, 13.5% work in Canterbury and 7.4% in Wellington. Of the remaining businesses, 15.4% are in the North Island and 11.2% are in the South Island<sup>1</sup>.

**Business Regions - Automotive (top 5)<sup>1</sup>**



**Business Regions - Collision Repair and Refinishing (top 5)<sup>1</sup>**



**Average Salary (2019)<sup>1</sup>**



Automotive sector:  
**\$58,100**  
 an annual increase of 3.4%

Collision Repair and Refinishing sector:  
**\$51,400**  
 an annual increase of 3.2%

**Automotive Industry GDP<sup>1</sup>**



**\$6.8 billion**

Accounting for  
**2.1%**  
 of the total NZ GDP

**Industry Training Participation<sup>1</sup>**



**7.5%**  
 of the automotive industry  
 engaged in MITO training.

# FACTORS THAT WILL SHAPE THE INDUSTRY OVER THE NEXT 5-10 YEARS

Changing technological, environmental Government initiatives, vehicle demand, workforce demographics and a society that is increasingly environmentally aware will require an automotive industry that is responsive, adaptive, and innovative to ensure continued success when planning their workforce requirements.

## 1. COVID-19 – Labour Market Impact

COVID-19 is a global challenge. To avoid the chance of widespread outbreak in New Zealand, the Government has implemented border control measures, and an alert system which specifies measures to be taken against COVID-19 at each level<sup>4</sup>. New Zealand entered a Level 4 lockdown on 26 March 2020 and 18 August 2021 requiring businesses to close except for essential services, and people to stay at home other than for essential personal movement.

The pandemic has created a significant amount of uncertainty for New Zealand's economy and labour market. The automotive industry recovered well from the 2020 Level 4 lockdown with passenger car and commercial registrations returning to pre-COVID levels within three months. The supply of vehicles remains constrained with global automotive manufacturing producing fewer vehicles, a shortage of computer chips, international shipping and logistics constraints; resulting in fewer new and used vehicles being imported into New Zealand.

New Zealand's two Level 4 lockdowns have significantly restricted economic activity and Auckland has been more severely implicated with extended periods at Level 4 and Level 3. Employers have adapted their activities to operate at Levels 2 and 3 by implementing new health guidelines that require social distancing, contactless services and mandatory use of face coverings.

To support New Zealand's economic recovery the Government has put in place an economic response package providing financial support to employers and employees. The fiscal stimulus package and New Zealander's willingness to continue with day-to-day spending has resulted in far fewer job losses than most forecasters predicted back in April 2020.

Access to skilled labour from migration is the lowest it has been since the mid 1970's. In the June 2021 quarter<sup>1</sup>:

- A total of 69% of businesses reported that finding skilled labour had become harder
- A total of 59% of businesses reported that finding unskilled labour had become harder.

Demand for skilled labour has remained relatively strong. The changing labour market has led to increasing wage pressures as recruitment and staff retention has become difficult for many industries.

The vehicle manufacturing, wholesale and retail sectors had some job losses after the 2020 lockdown while the maintenance and the repair sectors maintained workforce levels.

To create a resilient workforce, employers will have a vital role in looking after the wellbeing of their employees, and playing their part in keeping New Zealand safe. As labour supply is restricted from migrant opportunities, employers will need to focus on strategies to retain their existing pool of talent and offer training opportunities in their communities.

### Business Size<sup>1</sup>

**80,330**

number of jobs filled

**3.1%**

of total workforce

**17,746**

business units

**15,047**

self-employed

## 2. Environment

Environmental sustainability is becoming increasingly important to New Zealand as it seeks to implement initiatives to meet its global obligations. New Zealanders also have a growing awareness of environmental issues and their effects on our environment and society.

**Environmental sustainability is becoming increasingly important to people when they consider any purchases, when making career choices and choosing tertiary education options.**



Consumers are considering their options when it comes to buying a new or used vehicle. Engines and drivetrains that reduce fuel consumption have been available in vehicles for some time but their uptake to 2020 is not significant. Modern vehicles with advanced exhaust systems are reducing emissions, and will eventually replace older, more heavily polluting vehicles. Electric and hybrid vehicles are more environmentally friendly.

The automotive sector is a large producer of greenhouse gases<sup>5</sup>. They made up 42.6% of all carbon dioxide emissions in 2018. Diesel is the primary fuel used for commercial transport and is strongly linked to the nation's economic performance, whereas petrol is predominately used by private vehicle owners. Both contribute to greenhouse gas emissions. Vehicle manufacturers are constantly developing, trialling, and implementing new ways to reduce carbon emissions. There is a global shift to low/zero emission vehicles such as hybrid and electric vehicles. There is also increasing research into the use of biofuels, as well as implementing new technologies to reduce emissions.

New Zealand's use of biofuels is low by international standards, and we have little to low production capacity<sup>6</sup>. Liquid biofuels make up less than 0.1% of our total liquid fuel sales compared with about 4% globally. At the top end, the share of biofuel in Sweden's transport sector was 18% in 2017.



### 3. Political and Government

There are a number of government initiatives that are shaping the automotive industry. The Government has implemented various mandates to ensure all vehicles entering the fleet are fitted with appropriate safety features and emissions control technology.

The Land Transport Regulations require that all new vehicles must meet safety, emissions and frontal impact standards. The Government's road safety strategy Road to Zero 2020-2030 outlines priority actions for improving road safety primarily relating to road user behaviour and road infrastructure<sup>21</sup>.

These and other Government strategies are shaping the future political landscape for the automotive industry and may present significant challenges to some parts of the sector. There is an increasing compliance burden on all businesses.

#### The Health and Safety at Work Act 2015

The Health and Safety at Work Act 2015 came into effect on 4 April 2016<sup>7</sup>. The Act, and the establishment of WorkSafe in 2013, constituted the most significant reform of New Zealand's health and safety work system for 20 years.

The Health and Safety at Work Act shifts the focus from monitoring and recording health and safety incidents, to proactively identifying and managing risks, so everyone is safe and healthy.

Businesses have the primary responsibility for the health and safety of their employees and others they influence or direct. This places a burden on business owners for their staff and customers. Officers (company directors, partners, board members, chief executives) must do due diligence to make sure the business understands and is meeting its health and safety responsibilities.

Employees must take reasonable care for their own health and safety and ensure that their actions don't adversely affect the health and safety of others. They must also follow any reasonable health and safety instructions given to them by the business and co-operate with any reasonable business policy or procedure relating to health and safety in the workplace. Other people who come into the workplace, such as visitors or customers, also have some health and safety duties to ensure that their actions don't adversely affect the health and safety of others.

**The Health and Safety at Work Act has prompted an improvement in safety procedures in the automotive sectors such as the use of personal protective equipment. However, electric vehicles pose further safety challenges to employers.**

Voltages present in electric and hybrid vehicles are significantly higher than those used in internal combustion engine vehicles. This has the potential to put employees at risk of electric shock resulting in serious injury or death. Electric vehicle battery systems may contain chemicals, gases or liquids that can be harmful if released; the larger batteries within these vehicles store significant amounts of energy that can give rise to explosion if not dealt with correctly; and the electric motors or the vehicle itself may move unexpectedly (and silently) due to magnetic forces within the motors. As new technologies emerge, any new risks must be assessed, and training arranged to ensure that employees can work safely with those technologies.

### Government Initiatives

There are a number of government initiatives relating to the automotive industry, including congestion pricing, vehicle safety, workplace safety and employment relations. From 2022 under the Emissions Trading Scheme, consumers will pay more for their fuel.

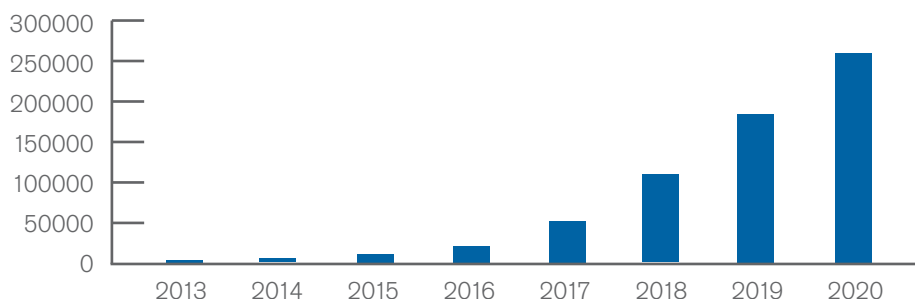
Congestion Pricing is being considered by Central Government, Auckland Transport and Auckland Council<sup>8</sup>. The Transport and Infrastructure Select Committee inquiry supported the case for a congestion pricing scheme in Auckland. Key recommendations from the inquiry included progressing legislation to enable New Zealand cities to use congestion pricing as a tool in transport planning; implementing the scheme in Auckland; using automatic number plate recognition (ANPR) technology to identify vehicles that would incur a charge; and undertaking broad public engagement to help people understand the cost and benefits. In the future, satellite tracking could be used to identify vehicles for charging purposes. This will require technicians to be skilled in the servicing and installation of those technologies.

In December 2019, the Government published the Road to Zero strategy for 2020 – 2030 and the initial three-year action plan started on 1 January 2020<sup>9</sup>. Actions in the plan that directly relate to the automotive sector are:

- Raise safety standards for vehicles entering the fleet. Automotive technicians will have to be skilled on the service and repair of these safety features including autonomous emergency braking (AEB), 3-point seat belts for the centre rear seats, side airbags, seatbelt reminders, rear vision cameras and lane departure technology. Warrant of fitness requirements will be reviewed.
- Increase understanding of vehicle safety. Consumers will be encouraged to consider the vehicle safety rating when buying a vehicle. This has implications for sales staff as they will need to be at least as knowledgeable as their consumers who may have done extensive research before entering the showroom.
- Implement mandatory anti-lock braking systems (ABS) for motorcycles from April 2020. This requires all new-model motorcycles entering the fleet to be fitted with ABS or combined braking systems (CBS) by 1 April 2020 and all existing model new motorcycles and all used motorcycles entering the fleet to be fitted with ABS or CBS by 1 November 2021. Motorcycle technicians will need to adjust their skill sets to deal with this technology.

The Road to Zero strategy was designed to raise the safety standards of the vehicle fleet. **This will require more highly skilled technicians to support the highly complex and sophisticated technology within the vehicle fleet.**

### EV Fleet size 2013-2020<sup>1</sup>



### The Clean Car Discount

The Government's Clean Car Discount, introduced on 1 July 2021, is a subsidy for low emissions vehicles designed to close the gap between the purchase price of electric vehicles and plug-in hybrid electric vehicles, with internal combustion engine vehicles<sup>10</sup>.



From 1 April 2022 there will be a sliding scale of emissions levels eligible for the Clear Car Discount, and the introduction of variable penalties applying to vehicle with emissions over certain limits.

### Right to Repair

In the European Union and Australia, legislation has been introduced to compel vehicle manufacturers to share product guides, manuals, diagnostic information and other technical specifications to allow independent service and repair firms to work on those vehicles<sup>11</sup>.

Manufacturers have resisted such moves, questioning the ability of non-authorised service technicians and repairers and vehicle owners to carry out repairs competently and safely. Under New Zealand law the importer of the vehicle is deemed to be the manufacturer, which may create challenges for sourcing technical information for used imports. Restricting technical information is considered in the European Union and Australia to be anti-competitive behaviour. An underlying principle is that the owner of a product has the right to repair or modify, and this has seen legislation implemented to support the consumer rights.

### Reform of Vocational Education (RoVE)

The tertiary sector, including MITO, is currently undergoing considerable transformation. Detail on the operating model and the Unified Funding System are still to be finalised. Relationships between key agencies, Te Pūkenga, the Regional Skills Leadership Groups and the Workforce Development Councils are key opportunities for industry to ensure their skill needs are being supported.

MITO's standard setting, qualification development and review functions for the automotive sector transferred to the Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council (WDC) on 4 October 2021.

The arranging training function will transfer to the Te Pūkenga Work Based Learning Limited subsidiary; on 1 January 2022. A stakeholder engagement strategy is under development to facilitate engagement between Te Pūkenga, Hanga-Aro-Rau WDC, and across the wider network of vocational educational provision.

### Te Tiriti o Waitangi

The Tertiary Education Commission (TEC) as the principal funder of vocational training recognises and affirms its responsibility to give effect to Te Tiriti o Waitangi. TEC is committed to the principles of Te Tiriti o Waitangi, partnership, participation and protection. TEC will give effect to this through its work across the tertiary education system.

Hanga-Aro-Rau WDC also has an obligation under its Order in Council to contribute to an education system that honours Te Tiriti o Waitangi and supports Māori–Crown relations<sup>12</sup>.

Te Pūkenga has a statutory requirement to achieve equity for Māori learners through its provision. Te Pae Tawhiti is the framework that will support the focus towards achieving their commitment to Te Tiriti o Waitangi.

## 4. Technology

Technology and its adoption are central to the automotive industry's sustainability and future success.

Technology will continue to evolve and grow as is demonstrated by the major changes since 2016 when the Automotive Workforce Development Strategy was first released. Predictive technologies are increasing, smarter technology-based transport infrastructures are becoming an integral part of transportation strategies, and the emergence of self-driving vehicles will have an influence on the future shape of our vehicle fleet.

**Given the rapid rate of technological advancement, education and training needs to ensure it is agile, adaptive, and responsive.** Training needs to be a key strategy for the industry to ensure it is well positioned to support intelligent transport systems and ongoing technological advances.

## Assisted Driving Technology

Current connected technology includes telematics which sends information about where a vehicle is, how fast it is going, how much fuel it is using and driver behaviour to a central database. Fleet management companies use this technology. There are five levels of driver assisted technology; from Level one, single automated systems such as cruise control; Level two, advanced driver assistance systems (ADAS); to Level five fully autonomous vehicles requiring no human intervention<sup>13</sup>. Each level of technology requires different skill sets to manufacture, service and repair. Technicians will have to be aware of the technology, how it interacts with the rest of the vehicle and how to carry out repairs and maintenance. Widespread availability of 5G networks is a necessity for 5G-enabled autonomous vehicle deployment. As 5G mobile networks are still in the early stages of deployment, 5G-connected driverless cars are still several years away.

## Electric/Hybrid Vehicles

Electric vehicles are wholly powered by chargeable batteries. Hybrid electric vehicles are powered by battery and an internal combustion engine. Fuel cell electric vehicles (FCEV) use hydrogen to power the electric vehicle.

**The New Zealand Climate Change Commission assumes that on average the total cost of electric vehicle ownership (purchase and running costs) will reach parity with internal combustion engine vehicles by 2025 assuming a five year ownership period<sup>14</sup>.**

Under the Commission's "demonstration path" electric vehicles will make up at least half of total light vehicle imports by 2029. By 2035, 36% of light vehicles on our roads will be electric. The Government is committed to encouraging the uptake of electric and hybrid vehicles because of their fuel efficiency, reduced reliance on fossil fuels, and commitment to reducing transport greenhouse gas emissions.

Globally the automotive industry plans to produce an estimated 600 new models of battery-electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) before 2025. Governments around the world are planning to ban sales of new internal combustion engine vehicles by 2030.

Electric vehicles and internal combustion engine vehicles are similar in their servicing requirements (tyres, suspension, steering, and lights). Therefore, the skill sets required to service and repair these parts of the vehicles are the same. However, electric vehicles and internal combustion engine vehicles have very different propulsion and braking systems.

Most new vehicles have an onboard diagnostic system (ODS), however the ODS in an electric vehicle is different from an internal combustion engine vehicle. Electric vehicles will require a skill set focused on electronics whereas internal combustion engines require a skill set more focused on mechanical skills. With the electrical system in an electric vehicle carrying a charge in excess of 230V, the health and safety of technicians will be paramount.

Hybrid vehicles are expected to play a key part in the transition to fully electric vehicles. Servicing and maintaining these vehicles, requires an understanding of both electric and internal combustion systems.

## Biofuels

Many vehicle manufacturers have invested in emissions control technology to improve air quality, while ensuring vehicles can operate on a diverse range of alternative fuels. Biofuels are fuels produced by renewable material, such as plant or animal waste, and are partial or complete substitutes for fossil fuels<sup>14</sup>. They are cleaner for vehicle engines and the environment, and most modern vehicle engines are compatible. The automotive workforce will increasingly need an understanding of alternative fuels and their implications for all vehicles.

As part of its efforts to meet its carbon reduction commitments under the 2015 Paris Climate Agreement, the New Zealand Government is currently consulting on a proposed Sustainable Biofuels Mandate<sup>15</sup>. This would require fuel suppliers to reduce the greenhouse gas emissions of their fuels by a set percentage every year.

A key benefit for the automotive sector is that advanced biofuels do not require engine modifications. There are several reasons why biofuels have not had a high uptake in New Zealand. Much of our feedstock is exported; supply chains that link feedstock producers with biofuel producers do not currently exist; and government policy has been inconsistent in the past. Other barriers include their high production costs; advanced biofuel production technologies have yet to be proven to operate reliably at scale; and conventional biofuels can only be blended with fossil fuels in small quantities. Older vehicles such as classic cars are not compatible with conventional biofuels and if used, the vehicles will suffer fuel system failures. Ammonia is increasingly being seen as a potential green fuel. However, its combustion characteristics are drawbacks that have so far limited its use<sup>16</sup>.

## Heavy and Agricultural Vehicles

Electrification of trucks and agricultural vehicles is expected to be slower to begin with due to higher costs and technology barriers, such as current battery technology, not allowing for the greater daily distances many trucks need to travel or the hours worked by agricultural machinery. In addition, the batteries would have to be considerably heavier to retain enough charge to make the vehicle viable and this would lead to problems such as tractors and commercial vehicles becoming bogged down in paddocks and therefore unable to work.

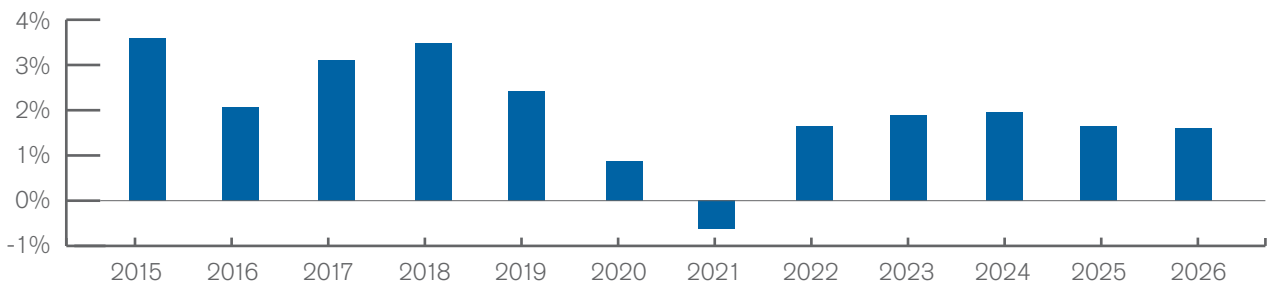
For heavy duty vehicles, the extent to which batteries or hydrogen fuel cells will provide a more viable and cost effective solution is uncertain. Battery electric trucks are a more efficient use of energy, requiring roughly one third as much input of electricity as a fuel cell truck running on green hydrogen. However, hydrogen fuel cell vehicles offer other advantages such as being faster to refuel, travelling longer distances or working longer hours before needing to refuel, and not having heavy batteries that would take the place of freight. Currently there is no hydrogen refuelling infrastructure across New Zealand to meet both heavy vehicle and agricultural needs, but a nationwide refuelling network is being rolled out from 2022.

Of truck import forecasts to 2030, the Climate Change Commission assumes 42% of medium trucks and 18% of heavy trucks would be electric. By 2035, these would increase to 95% and 73% respectively.

## 5. Changing Workforce

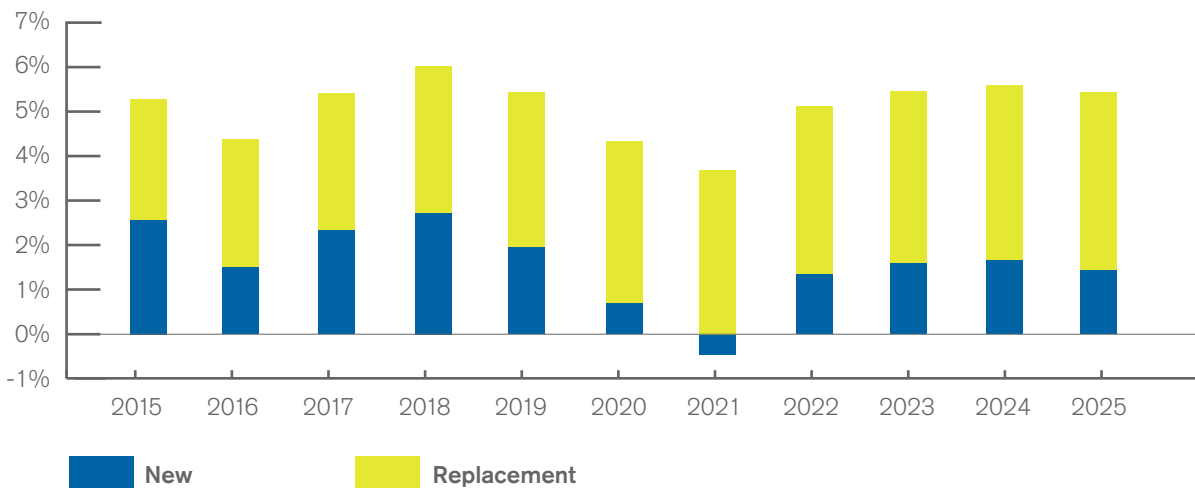
The automotive sector is expected to create approximately 7,600 new jobs between 2021 and 2026. Around one third of these new jobs will be in technician roles. Sector-wide, there is weaker employment growth compared with the growth experienced in the years leading up to COVID-19. Pre-COVID-19, employment growth was driven by strong growth in vehicle registrations along with strong migration growth. Looking forward, migration is not expected to be as strong due to tighter immigration policy and the lingering effects of COVID-19 on global migration.

### Automotive employment growth 2015 - 2026<sup>1</sup>



### Job opportunities as the workforce ages<sup>1</sup>

Automotive job openings, 2015 - 2025



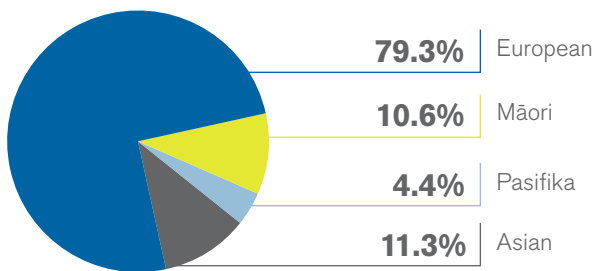
For every job opening created by sector growth over the next five years, 2.5 full-time equivalent (FTE) jobs will be created by the sector needing to replace employees who leave the workforce. That's 27,000 job openings in total between 2021 and 2026<sup>1</sup>.

New Zealand's population is ageing and becoming increasingly culturally diverse. Continued investment in people will ensure a workforce that is valued and responsive to change. Males make up 85% of the automotive workforce. This is significantly greater than the general workforce population (53% male).

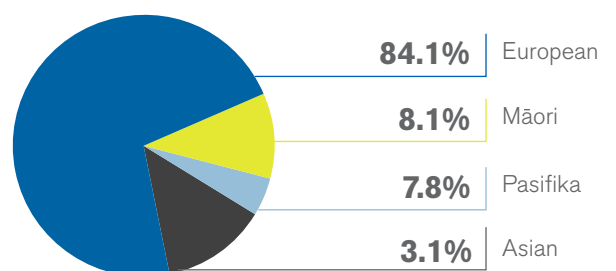
By 2031, the New Zealand workforce is anticipated to more closely reflect society's expected composition of 56% European, 18% Asian, 17% Māori and 9% Pasifika. New Zealand's Asian population is shaped by migration and forecasted to account for 60% of its growth over the next decade. This, however, will be affected by the current lockdown and limited migration.

**Ethnic Groups<sup>20</sup>**

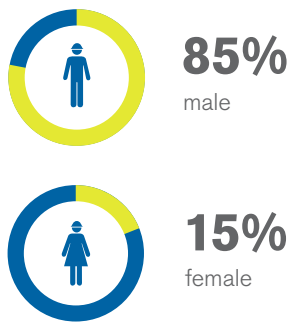
Automotive sector



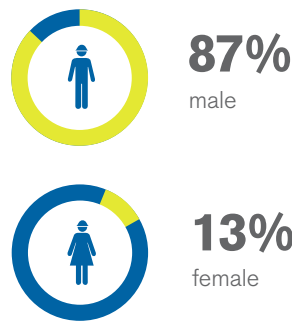
Collision Repair and Refinishing sector



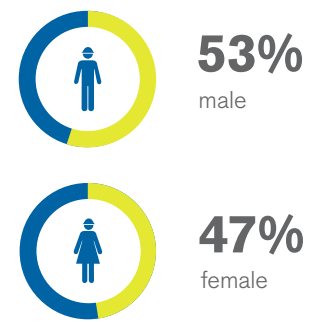
**Gender<sup>1</sup>**



in the **Automotive sector**



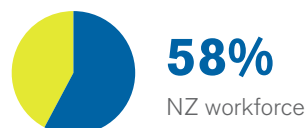
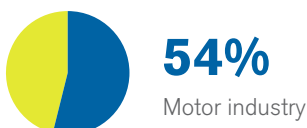
in the **Collision Repair and Refinishing sector**



in the **NZ workforce**

**Age<sup>1</sup>**

**>40 years old**



**2018 Average age:**  
**42.1 years**  
 Motor industry

**42.4 years**  
 NZ workforce

**The changing makeup of the New Zealand workforce and the assumption that the automotive industries' customers will reflect the diversity of society is a signal to the automotive industry that changes such as gender and ethnic diversification are required.**

The New Zealand workforce is ageing and the proportion of young people entering the workforce is declining. Statistics New Zealand indicate that by 2061 there will be less than 3.3 million people in the workforce; 13% will be aged 15-24 years; 37% aged 25-44 years; 36% aged 45-64 years and 14% aged 65 and over.

In 2018, the average age of those employed in the automotive industry was 42.1 years, an increase of 3.25 years from 2006. However, the industry is slightly younger, on average, than the broader New Zealand workforce (42.4 years in 2018, and 40.9 years in 2006). The ageing population is due to a number of factors, such as increased longevity, fewer births, and lower net migration.

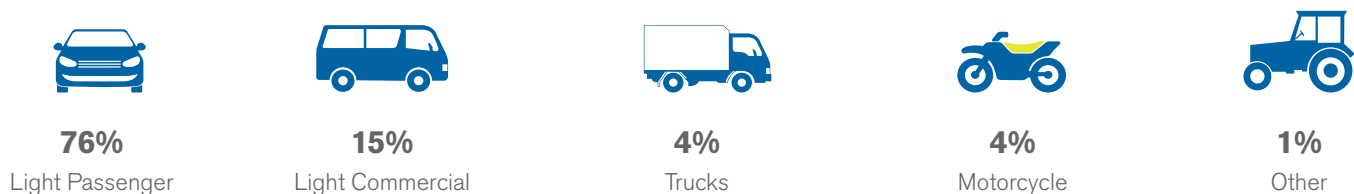
## 6. Vehicle Demand

Demand is strong for private and commercial vehicles. This is balanced with the continued promotion of non-automotive transport such as bicycles and e-scooters, increased urbanisation and fewer young people obtaining driver licences as soon as they are eligible. Globally, the number of vehicles manufactured is growing and New Zealand has been experiencing record numbers of vehicle registrations<sup>1</sup>. This will sustain the demand for the services supplied by the automotive industry for the foreseeable future.

The average age of light (i.e. private) vehicles is 14.5 years, heavy trucks is 17.8 years and buses is 17.4 years<sup>1</sup>.

There are considerable consequences to having an older/ageing vehicle fleet. For example, older vehicles tend to be more polluting and not equipped with the latest safety features, making them more environmentally harmful and less safe. The New Zealand Government and broader automotive industry has a series of initiatives to help address these issues, for example: Road to Zero 2020-2030; the Land Transport Rule; Vehicle Exhaust Emissions; Light Vehicle Brake rule; and Electronic Stability Control (ESC) provisions.

### New Zealand's licensed vehicle fleet (top 5)<sup>17</sup>



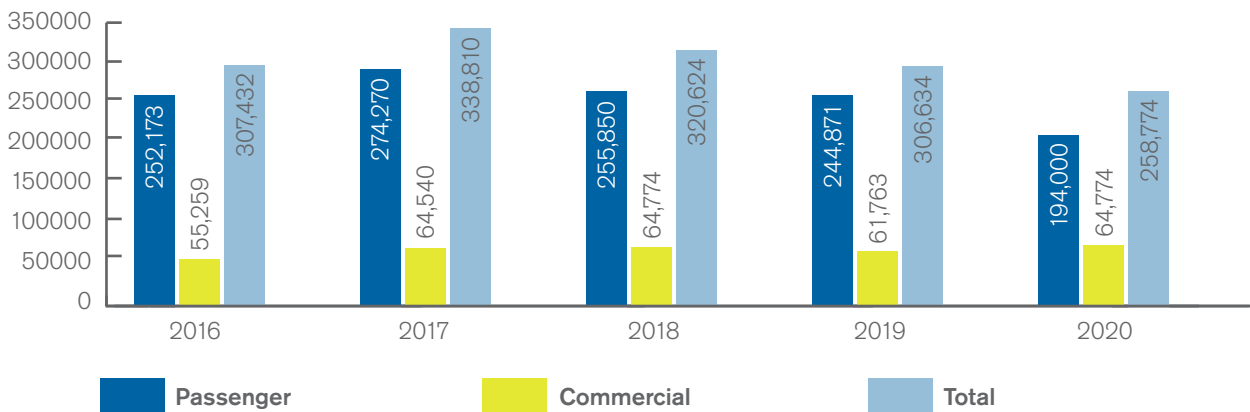
### Vehicle fleet age<sup>1</sup>



### Vehicle Sales

The number of new vehicles sold in New Zealand has been increasing since 2010. In 2019 there were 154,763 new vehicles registered and 151,871 used vehicles registered for the first time<sup>19</sup>. The number of motor vehicle sales declined by approximately 21% in the 2020 calendar year, primarily due to the fallout from the COVID-19 pandemic.

## New and used vehicle sales<sup>18</sup>



## Vehicle Imports

As of March 2021, there were more than 4.4 million currently licensed vehicles in New Zealand. This is up from 2010 when there were 3.4 million vehicles. May 2021 had the largest all-time value in car imports for any month, with passenger car imports of \$567 million, largely due to a recovery from the COVID-19 pandemic. Vehicle imports make up a significant part of the fleet size.

In 1996 there was a Frontal Impact Standard set in New Zealand. This had the effect of restricting used imports to vehicles manufactured during or after 1996. Following this in 2012, there was a Vehicle Exhaust Emissions Rule to meet the Japanese 05 Emission Standard. This meant that from 2012, most vehicles built before 2005 could no longer be registered in New Zealand. From 2016-2020 the government phased in the requirement for imported vehicles to have Electronic Stability Control (ESC)<sup>19</sup>. The combined effect of these is expected to significantly reduce the age of used vehicles entering the fleet, however, it may take some time before the effects of this can be seen in the vehicle fleet age range.

## Road Freight

The movement of freight is fundamental for supporting the movement of New Zealand's exports and international imports. The amount of freight transported by road is forecast to grow by 58% (compared to 51% for rail and 81% for sea) over the next thirty years<sup>1</sup>. This is likely to increase the demand for vehicles required to move freight and will ensure the medium-term sustainability of automotive businesses that support the commercial road transport industry and provide opportunities for others to service that market.

## 7. Skills and Career Pathways

The complex environment, including advances in technology within which the automotive industry operates, has considerable implications for future workforce numbers and its skill and knowledge development.

The skill needs of the automotive workforce are mostly determined by the makeup of the vehicle fleet. This will be affected by the rise in electric vehicles and the Government support for buyers of these vehicles. The development of new technologies across all vehicle types such as Advanced Driver Assistance Systems and connected vehicles are also changing sector skill needs. Automotive and collision repair technicians are increasingly required to run and interpret computer diagnostics, recalibrate sensors, and understand how new technology affects the running of the vehicle and assist owners to upgrade vehicle software wirelessly from the manufacturers' websites.

New Zealand has an ageing vehicle fleet. This is attributed to improved mechanical reliability, leading to fewer vehicles being scrapped. This suggests the country's fleet is likely to continue to age over the next few years. While this has negative social (i.e. safety) and environmental (i.e. emissions and higher fuel consumption) implications, it maintains the demand for the existing skill sets in the automotive industry.

More new vehicles are starting to enter the fleet, and the Government has implemented various mandates to ensure all vehicles entering the fleet are fitted with appropriate safety features and emissions control technology.



This will require the industry to develop the skills, knowledge, and expertise to appropriately sell, repair and service vehicles with new and emerging technologies. The industry will need to be agile and adaptive, evolving its skill and knowledge requirements accordingly.

The automotive industry requires highly skilled and trained technicians with the skills to repair and maintain the wide variety of vehicles in today's fleet as well as the future fleet. The sector would benefit from attracting a wide diversity of people to ensure gender, ethnic and age diversity. This would have the added benefit of mirroring their customer base.

To ensure their customers receive the highest level of service, the sector will need to train and upskill their existing workforce and then work to retain these people. One step in the retention process is achieved by manufacturers mandating training for their new models.

**The internal combustion engine vehicles sold today will require servicing and repairs for several years. There will be a significant period of time when technicians will be required to be skilled in repairing and maintaining the internal combustion fleet in its many forms and also have the skills to repair and maintain the electric and hybrid fleets.**

The sector has become accustomed to having a considerable number of immigrants replacing any gaps due to attrition. This has largely stopped as the borders have been closed to immigration and repatriation due to COVID-19. Automotive and collision repair technicians appear on the national and regional skills shortage lists.

The Apprenticeship Boost scheme provides incentives to employers to train. The Government has committed the incentive through to 31 August 2022<sup>3</sup>.

Integral to future training and development are qualifications that equip the workforce with the skills needed to succeed. In collaboration with industry, MITO has developed a new suite of qualifications for the automotive industry, registered on the New Zealand Qualifications Framework.

These qualifications provide clearly defined career pathways. These are crucial to encouraging participation and retention in the industry. **With a diminishing pool of young people entering the New Zealand workforce in general, it will be important to have a focus on vocational pathways and school-to-work transitions.**

## 8. Planning Ahead

### Workforce Wellbeing and Planning

So why is it important for industry to plan ahead?

The automotive industry is largely shaped by small to medium sized enterprises (80%). It is male dominated. In 2020 15% of people employed in the sector were female compared with 47% across the total workforce. This proportion has remained stable for 20 years<sup>1</sup>. The majority of females in the industry are employed in sales and clerical roles with just 4% employed as automotive technicians. The pace of technology is changing rapidly and is increasingly influencing customer engagement and behaviour. Industry will need to consider how customer engagement strategies embrace technology solutions.

A lack of workplace flexibility may be the cause of the disproportionately fewer females in the automotive industry. Working from home is probably not an option for most people in automotive roles, although the majority of clerical roles are filled by females and these are generally roles that can have the flexibility of working from home.

Millennials and Generation Z are more technologically mobile and have greater investment in social connectivity. They are more environmentally conscious and will require potentially different ways of responding to their educational and training needs and career aspirations.

Industry will need to devise systems that are agile and responsive to those needs. The existing workforce will require ongoing upskilling opportunities to keep their skills current and relevant to industry. Industry must plan ahead to ensure it is well positioned to attract new talent from an increasingly well informed and diverse population, especially those leaving school who will be the future of the sector. This will also ensure a greater 'buy in' from the workforce as career paths become easily visible, therefore leading to greater retention of the workforce and the increased skills they have gained.

## Business Size<sup>1</sup>



Micro-businesses  
(5 or fewer employees):

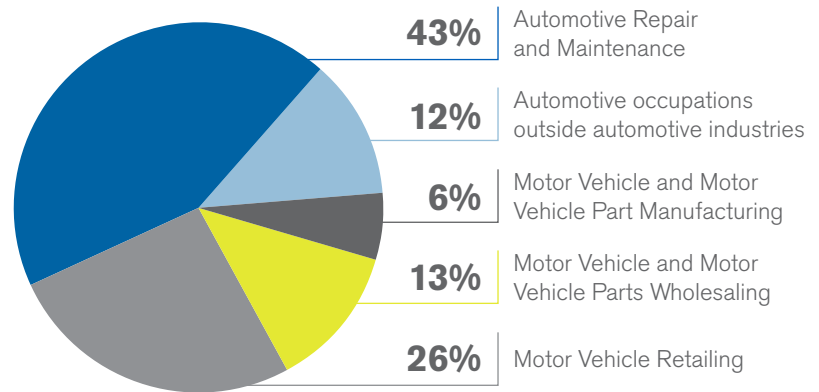
**80.5%**

**4.7**



is the average number of employees

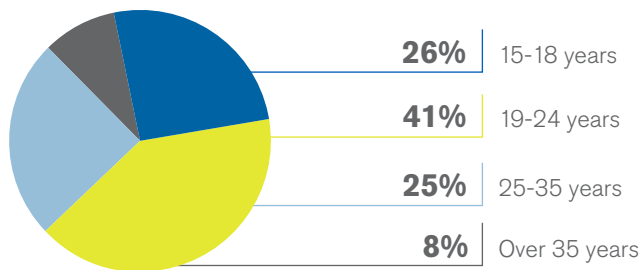
## Automotive industry employment, 2020<sup>1</sup>



To achieve this, industry will need to actively raise their levels of participation in industry training and increase retention rates. MITO, with its national coverage can support industry to develop productive and profitable enterprises and grow their workforce skills through skill and qualification achievement. School programmes that allow a smooth transition from school into vocationally based career pathways will become increasingly more important. The challenge for industry will be to continue to offer sufficient training opportunities to future proof both current and future needs. Many other industries are currently noting similar concerns when planning their workforce requirements.

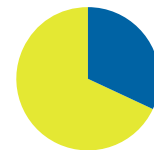
## MITO Apprentice profile<sup>22</sup>

Age on enrolment



Average age  
on enrolment:  
**24 years**

Pre-trade training



**32%** of learners had completed a pre-trade course prior to enrolment.

The automotive industry will need to grow the levels of those participating in formalised industry training from 7.5% currently to at least 10% (and for technician roles increasing current participation levels to 15%). This increase needs to occur to fill gaps created through the natural attrition expected with an ageing workforce and to attract an increased share of the younger generation. This will also help fill the gap left by the decrease in skilled migration. In addition, it will ensure the industry has a sufficient pool of talent to avoid current and future skill shortages. A higher skilled workforce will be more resilient and adaptable, brought about by the increasing influence on new technologies.

# PRIORITIES FOR THE AUTOMOTIVE INDUSTRY (2022-2026)

## GOAL 1

### Recruiting Employees

#### Strategy (Find)

- Promote industry and career opportunities to school students, women, Māori, Pasifika, and other under-represented groups to create pipelines of talent
- Strengthen the transition pathways from secondary school into vocationally-based industry training to support skill development of new employees
- Strengthen relationships with iwi, hapu, and Pasifika groups to increase the diversity of the workforce.

## GOAL 2

### Retaining Employees

#### Strategy (Retain)

- Co-ordinate efforts between Te Pūkenga, industry associations, and employers to support human resource development, career pathways, and succession planning
- Improve employer people management capability and skills to meet regulatory requirements and improve retention
- Support employers to implement best practice employee wellness strategies to encourage the retention of people and skills within industry
- Increase employee retention by developing career pathways that support career development and progression.

## GOAL 3

### Training and Development

#### Strategy (Train)

- Increase employer participation in formal industry training to reduce skill shortages
- Provide flexible training systems that enable employees to keep up with technology advancements and changing workplace practices
- Increase the number of women, Māori, Pasifika, and other under-represented groups participating and completing their training
- Continue to research and utilise technology opportunities to support development of qualifications, programmes and training delivery.

## GOAL 4

### Skills Utilisation

#### Strategy (Utilise)

- Grow employers' capability to better develop and utilise employee skills
- Promote continuous professional development of employees to meet changing technology requirements and ensure skills remain current, relevant, and utilised
- Improve skills utilisation through information sharing and collaboration
- Engage in and support the successful implementation of the Reform of Vocational Education.

## GOAL 5

### Productivity Gains

#### Strategy (Inspire)

- Promote best practice leadership and management practices to support a high performing and innovative workforce
- Improve productivity through best-practice sharing and collaboration
- Benchmark best practice to optimise the training return on investment (ROI)
- Encourage investment in productivity-improving technologies.

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