

New Zealand's future in the hands of Generation Z



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Introduction

Our workforce is undergoing a rapid and significant shift. Based on the current rate of change, it is highly probable that the composition of our workforce will be unrecognisable in less than a decade. This whitepaper delves into the changing landscape of our workforce and provides insights drawn from surveys and interviews conducted within Downer.

We examine the effects of the increasing number of Generation Z (Gen Z) employees entering the New Zealand engineering workforce and how companies can close the “generational gap” by adopting and adapting to the expectations of different generations. Additionally, we discuss how we can attract and retain talent and what the future of the sector may look like.

In 2020, Gen Z constituted 12.6% of New Zealand's workforce, and their influence in the workplace is set to rise. As baby boomers retire, the direction of the engineering industry will be influenced by Gen X and Millennials. For companies navigating this change, knowledge transfer and experience-sharing between generations will be pivotal to success.



How we did our research

We feel that the American perspective of Gen Z has been widely discussed in international whitepapers and portrayed on our screens, leading to a universally simplistic understanding of this demographic. This paper aims to take a fresh perspective of the generations with a focus on the construction and engineering sector within New Zealand. To do this, we have invested in New Zealand relevant data, gathering primary research insights through interviews with interns and graduates across Downer and interviews with our leaders and managers spanning across the differing generational perspectives. These conversations were also supported by a structured survey of 55 Downer interns from our summer 2023 intake which offers statistical insights alongside those perspectives shared through the qualitative discussions.

Intergenerational infrastructure

GENERATIONS

Boomers
1946 - 1964

Gen X
1965 - 1980

Millennial
1981 - 1996

Gen Z
1997 - 2010

1935



Origins of the Milford Sound/Homer tunnel Started in 1935, completed 1954

This 1.2km one-way tunnel was built to withstand the harsh weather conditions in the region, thus reducing the travel time and improving the safety for people visiting the Milford Sound Area.



1954

Lyttelton Road Tunnel built between (1954-1964)

The 2.5km tunnel connects Christchurch city with port town of Lyttelton and remains as the main transportation link between the two cities.

1969



Kaimai Rail Tunnel Construction between (1969-1978).

The tunnel runs for a distance of 8.9 kilometers and has a single track. It was built using a tunnel-boring machine

*Image - 125467: Kaimai Tunnel East Portal Weston Langford | www.westonlangford.com/license



1960

Aswan High Dam in Egypt built between (1960-1970)

Built on Nile River, this dam was largest handmade lake in the world at that time. This construction provided hydroelectric power and irrigation for the surrounding area.



1955

Auckland Harbour Bridge (built between 1954 and 1959)

The bridge spans 1,020 meters across Waitemata Harbour and stands 67 meters above the water at its highest point. The steel was fabricated in England and shipped to New Zealand.

1974



TAPS: The Trans-Alaska Pipeline System built between (1974-1977)

The 800 miles (1287 km) long pipeline system was the first successful link to transport crude oil between Alaska and the ice-free port of Valdez in harsh weather conditions since 1977 and is currently responsible for the transportation of 13% of America's domestic oil production.

1988

The Channel Tunnel built between (1988-1994)

this 50.5 km long undersea tunnel allows passengers and freight to travel between England and France without a ferry; being considered one of the largest infrastructure projects of the 20th century



2004

Burj Khalifa
Tallest Engineered structure in the world at the time of completion in 2010 – 828 meters tall (2,722 feet)



1997

Otira Viaduct constructed between (1997-1999).

A high-level viaduct located in the Southern Alps of New Zealand's South Island. It spans the Otira Gorge and was built to replace the old Otira Tunnel, which was prone to rockfalls and avalanches.

What defines a generation?

Generations are usually defined as a group of people born within a specific date range, typically between 15 to 20 years. But it's not just about their age or birth years that make them unique. What really sets each generation apart is their shared cultural and technological experiences, influenced by the events and social issues of their time. To really get a grasp of who Gen Z is, we need to look at their formative experiences rather than just their age range. This approach will give us a better understanding of their outlook on life, behaviours, and expectations of the workplace both now and into the future.

“My entry into this industry wasn't through the traditional engineering pathway. There was no element, from memory, that you would call structured support. The graduate programme was non-existent, and it was a sink-or-swim environment.”

Jonathan Doggett



Defining Gen Z:

Gen Z refers to individuals born between 1997 and 2012, who are currently between the ages of 10 and 25 years old. Their unique relationship with technology sets them apart from previous generations, as they have grown up with digital technology as a norm. As a result, they have different expectations for the workforce, which are more pragmatic and realistic. This perspective may have been influenced by global issues such as climate change, social injustice, and economic instability, including the 2008 recession.

The 2008 recession is a significant example of how Gen Z has been impacted by financial instability in their formative years. The economic downturn and its aftermath created high unemployment rates and a tightening of hiring practices, leading to job insecurity and financial instability for many young people. While some might conclude that this experience would make this generation more risk-averse and inclined to favour practical career decisions, the opposite is true.

Experiences like 2008 and the COVID 19 pandemic have only solidified for Gen Z that career stability is an extinct mindset. Gen Z are much more transient in their approach to work, with many having side hustles or multiple revenue streams throughout their formative years to gain stability without reliability on a single income source. Other factors such as purpose and a balanced lifestyle are key aspirations of this generation. While these drivers may be more commonly adapted today, they are fundamental in the way Gen Z engages with the workplace and in turn seek out career opportunities.



Statistics



More than 60% Gen Z will work for a company that pays less in the industry if it has a good brand and culture.



Around 67% of Zoomers would not work for a company that doesn't have diversity and inclusion programmes



55% of Gen Z would work for a company that values well-being over profit, even if they get paid less



More than 50% of Gen Z would not work for a company that does not have a sustainability strategy and vision

2021 NZAGE Graduate Survey (findings):



80%

of graduates would stay with their employer longer if their salary / remuneration was higher.

By understanding the unique challenges faced by Gen Z, organisations can better attract and retain this emerging talent pool.

From the research conducted for this paper, we sought out similarities shared by different generations, as well as the differences uncovered. We found that regardless of the generation, safety, diversity, and strong work ethics are all expectations they hold of the engineering industry. However, when we analysed the differences between generations, we found that Gen Z possesses a unique set of skills that can enhance the way we work. For example, Gen Z has grown up with social media and has a deep understanding of how to use it effectively for business purposes. This knowledge can be leveraged by companies to improve their social media presence and engage with customers in a more meaningful way. Understanding the drivers of our Gen Z workforce can help us grow as a business and industry.

With the increasing influence of Gen Z, who are the first generation to have unfiltered access to digital technology and the internet, all industries should start preparing to attract

and retain emerging talent. Embracing their unique mindsets and skill sets for diverse thinking and problem-solving can lead to better outcomes for both the company and the planet. By embracing change and rethinking the way we work, any company can stay relevant in the labour market, leading to reduced turnover costs and greater employee loyalty.

Gen Zs: disruptors of the engineering workforce

Gen Z is a cohort that characterise their career aspirations as “seeking purpose, not just employment” and is motivated by a desire to affect change. Diversity, sustainability, mental health, and well-being are among the key principles that resonate with Gen Z.

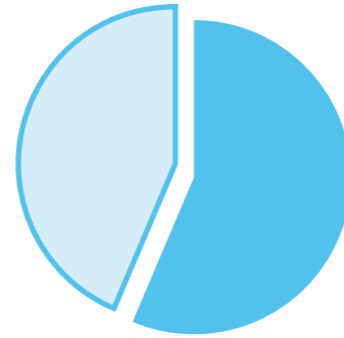
Studies indicate that a substantial proportion of Gen Z employees value diversity in the workplace, with 67% indicating that they would not work for an organisation that lacks diversity and inclusion programmes. This is especially critical in the engineering sector, where a diverse workforce has been demonstrated to foster productivity, innovation, and growth (3).



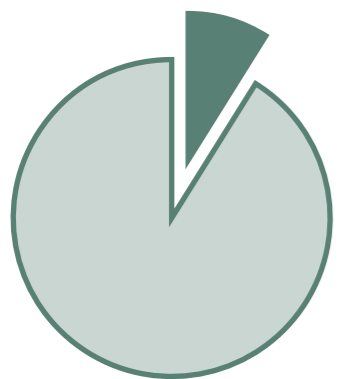
61.8% of Gen Zs find overall mental health and well-being important when working at an engineering firm



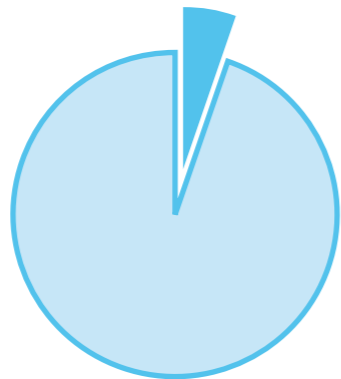
56.4% of Gen Zs find salary/wage or promotional opportunities important when working at an engineering firm



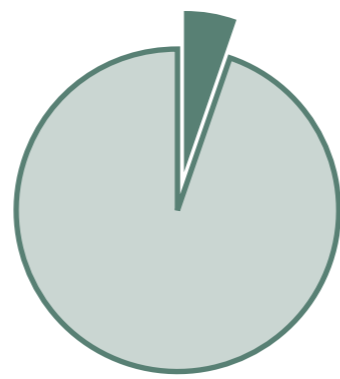
56.4% of Gen Zs find exciting projects and contracts important when working at an engineering firm



9.1% of Gen Zs find opportunities for overseas travel important when working at an engineering firm



5.5% of Gen Zs find brand recognition of the company important when working at an engineering firm



5.4% of Gen Zs find tools and technology important when working at an engineering firm

*These are the overall results of the first three choices indicated by the interns and graduates of Downer.

Despite the passage of time, the stigma surrounding mental health and well-being persists, particularly in the construction industry, which has been identified as having the “highest incidence rates for mental health issues” (4). Greater awareness of this issue is reducing the stigma, but more needs to be done. Gen Z, which has the highest rate of diagnosed depression and anxiety among generations, places significant emphasis on mental health and well-being, with approximately 42% of Gen Z members ranking it as their top priority when considering employment at an engineering firm. Embedding employee well-being into the culture of an organisation can decrease the likelihood of burnout, enhance employee performance and job satisfaction, and increase employee retention rates within the industry.

The degree of importance that Gen Z places on sustainability is still uncertain, as over half of the cohort surveyed asserts that they would not work for a company that lacks a sustainability strategy and vision. However, 84% of Gen Z graduates intend to work and explore overseas in the future, which some may argue contradicts their stance on sustainability with air travel. Upon further investigation through interviews, the Gen Z population indicated that they would consider working abroad if presented with exciting projects and opportunities.

When we talked to people who joined the workforce over 20 years ago, they spoke of the prevailing “sink or swim” environment. Interns and graduates were often placed in roles that exceeded their level of experience, and amidst rigid hierarchies. This situation made it difficult for newcomers to receive guidance and support, despite the high level of risk and accountability that came with the role. Today, there are more support systems in place through intern and graduate programmes that give new entrants more scope to fail fast and learn from mistakes.

Although “exciting” was not explicitly defined in the interviews, it is highly subjective to the individual who would sight the project purpose and impact, not the size or value. They further stated that these “exciting projects” should not be excessively detrimental to the environment, such as mining initiatives, and should make a positive impact on the community. This suggests that although Zoomers value sustainability highly, it does not necessarily constrain their career aspirations and personal interests.

The importance of mental health and sustainability for Gen Z will likely manifest in the implementation of mental health breaks, an increase in remote work options, the adoption of advanced technology, and the creation of collaborative workspaces to foster creativity, innovation, and efficiency in the work environment.

However, it is not all about fresh perspectives and technology adoption. With limited experience in the labour market, Gen Zs lack of experience poses additional challenges. Unlike previous generations, only 34% of teens held jobs in 2015, a 26% decline in teens with work experience (5). This trend is likely to continue due to the generation’s statistical likelihood of growing up in affluent households with higher median incomes compared to prior generations. There is also a lack of practical skills possessed by Zoomers due to the emphasis on theoretical learning in universities. This also raises safety concerns on project sites for this generation due to the absence of entry-level training programs, creating obstacles that prior generations did not encounter.

I would describe Gen Z as being purpose driven, hardworking, and outspoken, but in a positive way. I think Gen Z are disruptors of the workforce - this generation wants a purpose, not a job.”

Ryan Jacobs

Understanding the intergenerational knowledge gap

To understand some of the context as to why we find ourselves with a gap of knowledge between Boomers and Zoomers, we can look to policy changes in apprenticeship education in the early 90s. The focus shifted to higher education, with the funding burden moving from individual companies to educational providers, such as universities. The emphasis on textbook learning over hands-on training led to a shortage of practical skills in the industry.

Murray Robertson
CEO Downer
New Zealand



What change have you experienced or seen in your work journey?

In my 15 years at Downer I have seen a significant transition to normalise cultural identity. This was cemented in 2022 when Downer NZ set our values (Tikanga) through a te reo Māori lens. This is something we can all be very proud of, regardless of your heritage. If you’re here working in Downer NZ then you are part of the whanau.

I have also seen an important breakdown of barriers, both cultural and hierarchical. When I was a Contract Engineer there, I wouldn’t dare even walk past the Exec offices, let alone say giddyay. These days the Exec barely even have a dedicated desk and the workplace is open and inviting. This openness is reflected throughout the business.

How would you describe Gen Z?

The Gen Zs, or Zoomers, have a far more informed and passionate position on well-being than the generations that preceded them. I believe they are also more inclusive. As the world settles back into a post-Covid dynamic we will only advance with leaders who embrace such characteristics.

What do you think Gen Z has to offer in the workplace now and in the future?

The Zoomers have an important role to play, in challenging the status quo and bringing a more complete mindset to the workplace.

What do you think is the difference between the way you approach work in comparison to Gen Z?

I am Gen X so one could argue I have the mindset that we were the first to grasp tech but grew up with the hard line mantra of working hard for every cent, often at the expense of a decent work-life balance. I think the key difference is that I will labour away on a task longer than a Gen Z who will stop, think and consider smarter ways of getting it done. I’m always impressed by the Gen Z thinking and I try to challenge myself to “ask why” and think as they do.

Eva Hall Graduate Engineer



What attracted you to construction?

When I was leaving uni, I recognised that there was a bit of a hole in my knowledge with how things were actually built. And I've done some time and internship at Kiwi Rail where I've done a bit of the construction site plan. And from there I really liked learning about the smaller parts of the job, like how the civil side interacted practically on site with the electrical side. So I like that relationship and how intimate it was and then also how you can draw on information quite easily from field staff who have a huge wealth of practical knowledge and getting to see how things actually happen.

Why Downer?

Downer offered the biggest range of opportunities, especially with the rotations and the grad programme

What do you enjoy about the grad programme?

So I have enjoyed the opportunity to rotate. I think that's a really nice touch because I think it kind of gives you scope of what other opportunities are around the business. So that really is good for broadening your horizons and what you could be doing next rotation, um, so it's building those opportunities within your community of grads as well.

What is your career plan?

So I've really enjoyed my time based on site. So I'd like to move forward in that area. So that natural progression from engineer, project engineer, project director. So I suppose that's a road map for how I would see myself progressing.

What is one challenge you face as a young person in construction?

A bit of changing of the guard, the way we frame social issues on a construction site. I think that's quite a challenge, that change of mindset that you need a "tough skin" to work in construction. These changes in turn, change the perception of people on site and will include more people that didn't traditionally think they could be on site but actually would be great members of a site-based team.

Gen Z is the first generation to grow up with the internet, with greater reliance on digital learning. During the COVID pandemic, this reliance increased, resulting in a wider knowledge gap in the workforce, making it harder to transfer knowledge across generations. Older generations absorbed knowledge through hands-on-experience and mentorship from seniors - termed tacit knowledge. The shift towards digital learning by the younger generation creates knowledge gaps, as the codified information only includes knowledge that can be written down and is easily transferrable to others (6). On the other hand, learning from experience and guidance from seniors can help Gen Zs acquire complex tacit knowledge, which is difficult to grasp otherwise.

Graduate programs in the engineering industry have become more prevalent in recent years, offering a pathway for individuals to pursue a career in engineering. However, these programs can have unintended consequences, such as limiting the diversity of backgrounds and degrees represented in the engineering workforce. In today's landscape, graduate programs often require an engineering qualification as a prerequisite for entry, which can exclude potential employees from other fields of study. While this approach has its benefits, it has resulted in a shortage of diversity in knowledge and perspectives within the industry. Moreover, students from other disciplines may not be aware of the many opportunities available within the engineering industry, leading to a narrow talent pool and unfilled job positions.

At Downer, we recognise the importance of striking a balance between attracting individuals with a strong engineering background and welcoming those from other fields of study to ensure that the industry benefits from a range of perspectives and experiences. This understanding has led to creating accessible development opportunities to those with diverse backgrounds and reviewing our current programmes to find opportunities to expand the cohorts to other disciplines.

The Solutions

Downer young professional programmes offer a range of opportunities and serve as an incubator and accelerator for future leaders throughout the business.

Alongside a continued focus on nurturing engineering talent, we are expanding development opportunities to other disciplines and providing growth, support, and community to Gen Zs entering from divergent pathways.

We understand that technical exposure and experience is an important element of development. However, there is an opportunity to provide universal development to enable Gen Z to thrive in the modern working environment. By cross pollinating our talent communities, we can create a rich landscape for diverse perspectives to collaborate and create purposeful initiatives. Examples include our Young Professionals Sustainability Community and Wāhine Kotahitanga, which have stemmed from other programmes and grown to become nationally endorsed initiatives.

Downer's talent programmes offer rotations across all departments, mentorship for business leaders, and numerous opportunities to engage with a rich community of future leaders across the business. Examples include brand ambassadorship, The Wonder Project (Engineering NZ), monthly technical engineering forums, professional mentoring, conferences, and regional networking events.

We are not stopping here. We recognise the need to attract and retain a diverse range of employees for the future of our industry. With the changing expectations of upcoming generations, it is becoming more challenging to retain and attract employees into the engineering field. To meet the expectations of Gen Z and retain employees, Downer is aligning industry expectations of pay with student expectations. We are also working to understand and respond to Gen Z drivers such as sustainability, diversity, and mental health and well-being. This has led to several initiatives in development as we seek to enhance the capabilities within our own organisation and the wider industry.

At Downer, we are committed to creating an inclusive and exciting work environment that attracts and retains the brightest talent, and we believe that these initiatives will help us achieve this goal.

Custodians of the future

The future of the engineering sector in New Zealand lies in our hands and it is our collective responsibility to act. To thrive, we must embrace change and take steps to attract and retain talent in the industry. Additionally, we must facilitate the transfer of knowledge between generations, ensuring that the skills and expertise of our experienced professionals are passed down to the next generation of engineers. By fostering careers that support sustainability and nurture the industry's future, we can help create a brighter future for engineering in New Zealand.

Let's work together to build a thriving, sustainable engineering industry that benefits our communities for years to come.

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About the author



Ryan Jacobs

Ryan is an experienced people leader and communicator and brings a unique skillset to Downer working across recruitment, learning and development and event management. Ryan has been in his current role as the Programme Manager of Talent & Wellbeing for the past 4 years, in which he is passionate about creating programmes which inspire emerging leaders to reach their full potential. Ryan also looks after the Wellbeing portfolio at Downer and is able to integrate many of the programmes and initiatives that stem from this space into the development of our incoming talent. Prior to working at Downer, Ryan spent 10 years working as a professional storyteller engaging with audiences around the globe from a variety of sectors.

