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Report to Queenstown Lakes District Council

# Identifying international corporates that could benefit from a Queenstown Lakes base

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## About Sapere Research Group Limited

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Sapere Research Group is one of the largest expert consulting firms in Australasia and a leader in provision of independent economic, forensic accounting and public policy services. Sapere provides independent expert testimony, strategic advisory services, data analytics and other advice to Australasia's private sector corporate clients, major law firms, government agencies, and regulatory bodies.

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# 1. About this report

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## 1.1 Purpose and scope of the research

Queenstown Lakes District Council (QLDC) is looking to diversify its economy away from the traditional growth sectors of tourism and construction. Relatedly, it is seeking to expand employment growth in higher value professional roles. This is highlighted in QLDC's Economic Development Strategy:

*“The pool of specialist occupations and functions (such as ICT, marketing, finance, management, R&D, design, branding, consultancy, engineering and science) within a locality is recognised as an important driver of economic growth. Businesses that provide this expertise primarily capture value from intellectual property and can generate value from relatively limited resources. They can also apply their knowledge to other businesses and individuals, helping to grow the capability in and productivity of additional industries (e.g., online booking software applied to accommodation providers; training to improve customer service in restaurants; specialist medical care that improves the health and wellness of workers). This knowledge is also essentially ‘weightless’ and can be more readily exported from distant locations than physical goods.*

*As such, knowledge-based businesses and related industries can potentially be an important contributor to economic growth in Queenstown Lakes.”<sup>1</sup>*

We were engaged by QLDC to undertake initial research to identify international corporates who might benefit from having a permanent physical presence in Queenstown, and who could be attracted to the district. We were asked to focus on firms who are most likely to benefit from the district's features and characteristics, including its climate, atmospheric conditions, mountainous topography and opposite season and time zone to the northern hemisphere.

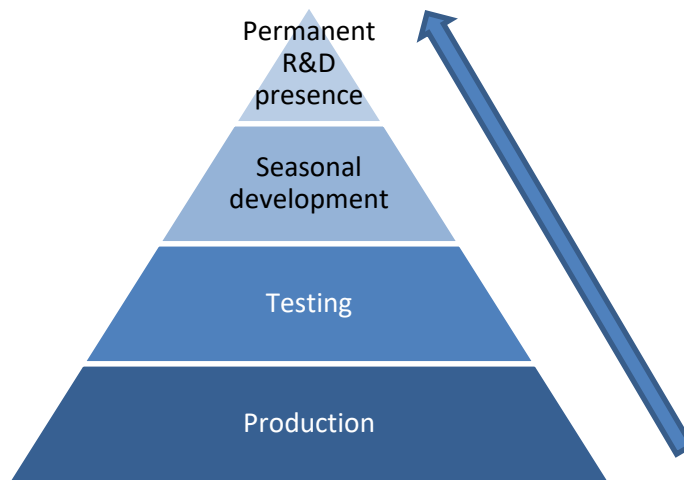
The work was inspired by the success of the Southern Hemisphere Proving Grounds which hosts up to 500 staff from car and auto component manufacturers who come to the Cardrona valley for winter testing.<sup>2</sup> QLDC is keen to identify any other opportunities that would help continue to move the local economy up the R&D ‘value chain’ – with more high value R&D and design occurring in the District (see Figure 1, below).

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<sup>1</sup> QLDC Economic Development Strategy, p25.

<sup>2</sup> <https://www.shpg.co.nz/>

**Figure 1 Moving up the development chain in the Queenstown Lakes District**



*Source: pers. comm. P Harris (QLDC)*

We note that our scope was restricted to *international* businesses who may choose to locate an office, or regularly use facilities in Queenstown, as opposed to considering whether there are *domestic* firms who may make the same choice<sup>3</sup>. There is also a third category (mentioned to us frequently by interviewees) of domestic or international *entrepreneurs*, who may choose to live in the Queenstown Lakes District for lifestyle reasons, and then establish a business in the District. This may be a product or service which does not, in any material way, leverage the District's geography, brand or distinct economic features, other than it is an enormously appealing place to live for high net-worth individuals. It is extremely difficult (and almost non-sensical) to "predict" what business opportunities these individuals may give rise to. As was fed back to us through the interviews, the main thing QLDC can do to maximise these opportunities is to maintain the appeal of the District, in terms of environmental, recreational and liveability appeal.

## 1.2 Approach

We conducted interviews with 13 key individuals/organisations who were identified by QLDC as having sector knowledge about potential opportunities and/or contacts that QLDC could follow up on. We did these face-to-face in Queenstown and Wanaka, and over the phone. Our interview questions are contained in Appendix 1.

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<sup>3</sup> Callaghan Innovation reinforced that their focus is helping domestic firms grow, rather than attracting international businesses.



## 1.3 Criteria

There are a number of reasons why businesses may choose to locate (or not) in any given location. Cohen (2000)<sup>4</sup> comments on key factors as follows:

- i. skill level and suitability of the labour market
- ii. availability and cost of housing
- iii. adequacy of transportation systems
- iv. access to suppliers and contractors
- v. proximity to natural resources
- vi. presence of competitors
- vii. positioning within the market for the company's product
- viii. general taxation levels and tax policies of the state

Cohen's analysis is possibly focused on the location of large offices of a business, whereas our brief presupposes (correctly, in our view), that a town the size of Queenstown is more likely to be attractive for a smaller ("weightless") business function such as product testing or R&D. In applying an R&D lens to (i) – (viii) above, Cohen reports that businesses making location decisions for R&D functions will often seek localities which are proximate to universities, which provide appropriately skilled people and laboratory facilities. We received some feedback on this point, which we cover below.

We also note that Cohen's list contains some aspects we would describe as "critical success factors" that would have some minimum viability for the business. While it may appear a semantic distinction, this is somewhat different from *unique* features of a location which may provide the business with a distinct competitive advantage of other other locations which perform well in terms of the critical success factors. The closest of Cohen's list would be "proximity to natural resources". Our interpretation of the QLDC brief is that its outstanding environment and geography, and/or brand, is a key part of this equation for businesses. However, Cohen's broader list is a useful reminder that international business location decisions, especially to a location as remote as New Zealand, is a multi-faceted decision that will have to satisfy some underlying economic criteria.

Our brief asked us to apply the following set of criteria to assess the likely strength of interest in any possibilities suggested by interviewees.

- a. the equipment/technology is pushed to its limits 'in the field' here (e.g. because of harsh climate or other factors)

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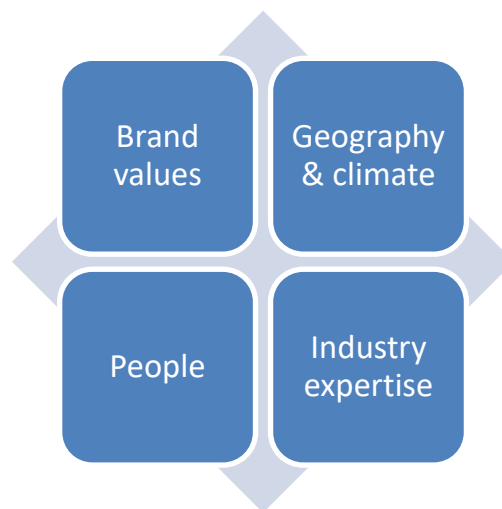
<sup>4</sup> Cohen, N (2000), *Business location decision-making and the cities: bringing companies back*, Working Paper, Brookings Institution Center on Urban and Metropolitan Policy.

- b. there is already a strong relationship between industry and suppliers (e.g. suppliers demo new models here already)
- c. the current R&D facilities are northern hemisphere dominated (therefore our opposite seasons and time zones could have an advantage)
- d. there is technical expertise in New Zealand (ideally South Island) businesses or universities etc that could add value to R&D
- e. there other reasons why the business could be attracted to the district (e.g. marketing advantages of being able to promote 'designed in NZ' to their market)
- f. expat New Zealanders are in positions of influence within the supplier business (or the key managers have visited NZ).

These criteria were based on the perceived comparative advantages of the District, as illustrated in Figure 2, below.

In the next section, we discuss other pre-requisite conditions and success factors that were commonly raised by people we spoke with, and how we have used these to prioritise the opportunities where we think QLDC's efforts would be best focused.

**Figure 2 Queenstown Lakes District's comparative advantages**



*Source: pers. comm. P Harris (QLDC)*

In addition to the qualitative interviews, we conducted a scoping search in Kompass, an international database of companies. Our search parameters are set out in Appendix 2. We triaged the search results according to a subjective application of the criteria. Profiles of the resulting companies are in Appendix 3. An international database such as Kompass could be used in future to conduct more tightly focused searches.

## 2. Feedback and suggestions from interviewees

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### 2.1 Common themes: constraints and success factors

There were a number of consistent themes expressed by interviewees, relating to the features of the District's economy and the pre-requisites for future economic development.

- **The natural environment features are not unique from an *equipment testing* perspective, but are more likely attractive from a *lifestyle* perspective** – there are numerous global locations where the specific challenges (from an equipment perspective) can be sourced. But people are more likely to be attracted to locate here because it is a beautiful place to live, well supported by recreational activities, hospitality etc. Also, something the District (and New Zealand more broadly) can offer over some potential competitor locations is a high quality regulatory environment.
- **It's expensive to live here, and it is a globally competitive market for re-location** – This was the most consistent message. While this will come as no surprise to locals, we were told it does surprise foreign nationals who move here. Even for high net worth individuals, the cost of living in Queenstown Lakes (especially housing) does not compare favourably to other international destinations where they could locate themselves.
- **Opportunities are likely to arise as a somewhat “random” result of high net-worth entrepreneurs visiting the District**, than a “search” process per se. There was general scepticism as to whether companies could be attracted through any means other than (a) existing networks or (b) chance (e.g., as a result of vacation).
- **If R&D is sought, there are advantages in having local access to university facilities<sup>5</sup>**. Some respondents noted that the closest research facilities are Otago University (3.5 hours drive) or Canterbury University (6 hours drive), which is a moderate barrier and would more likely motivate the business to locate in either of those two cities (rather than Queenstown). But if Queenstown was able to host a satellite campus, this could be a significant enabler.
- **Employment opportunities for spouses are scarce** – viable employment for spouses are critical to retaining high value, high skill individuals who often bring with them highly qualified partners. However the District's small size means that they are often unable to find employment commensurate with their skills. We were told that some may turn to self-employment as ‘reluctant entrepreneurs’.
- **Accommodation space is also scarce** – this relates not just to housing, but to office and other commercial space. Some suggested this lends itself to temporary activities that

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<sup>5</sup> Supporting this feedback is academic research such as Cohen (2000).

extend for two or three months a year, and do not require permanent accommodation facilities.

- **Connectivity is essential** – roll-out of Ultra-Fast Broadband has been underway in central Queenstown since 2012, and connectivity was not identified as a constraint by stakeholders within the District. However, we were told that the available bandwidth and speed in some other (smaller and remote) areas is insufficient for data-intensive activities.
- **Generally, there is a role for Council** – most interviewees acknowledged that Council could play a role; this role varied from simply championing the cause of economic development, maintaining networks of entrepreneurs, providing a connection through to Central Government programs (eg., Innovation Partnerships), as well as providing high quality infrastructure, liveability and affordability.
- **Lack of supporting talent** – if the District was to attract a high-tech business, they would require the highly specialist skills base to staff it up. We were told that this does not exist domestically, which is why some of the high profile innovative enterprises (such as research and commercial activity in the space arena) are employing expats, who then face the problems noted above regarding cost of living, employment for their spouses and a shortage of accommodation.

While our brief did not extend to advising QLDC on how it might look to follow up on these opportunities, we note the above list suggest the following possible approaches:

- **“Build it and they will come”** – the implication of some of the suggestions above is that investors need to construct a (presumably) multi-purpose facility with testing equipment and supporting infrastructure. Without a clear user in mind this could be a complex and expensive undertaking, and would require investors with a relatively high appetite for risk.
- **Be ready to seize and support opportunities** – the District should be ‘ready for business’, so that spontaneously-arising opportunities such as the SHPG can be seized and converted. This could even extend to maintaining an active network of motivated individuals to meet with notable entrepreneurs when they visit (or potentially locate within) the District. QLDC could play an ‘ambassadorial’ role in helping identify and support new opportunities – but this would need further development and preparation. Companies and individuals considering relocating here are looking for the whole package – housing, supporting infrastructure, education (for their children) and so on – and for the process to be made easy for them.
- **Factor accommodation in to any plans** – residential and commercial/office accommodation should be factored in to economic development plans; and/or any future development needs to be low footprint (so industrial activity is unrealistic). A firm that wishes to relocate 10-15 R&D staff for 6-12 months would find the job of accommodation difficult and expensive in the current environment.

## 2.2 Specific ideas

The following table summarises the specific suggestions that were raised by interviewees, along with our high-level assessment/comment. We note that most of these suggestions are purely speculative. We also note that many of these ideas were canvassed in some form in the 2015 *Economic Development Strategy* for the District.

- Hydrogen economy – test bed for a renewable-generated hydrogen-based transport system (including production, distribution, pumping stations, vehicles).
- Private hospital – potentially including international customers (health tourism) and appearance medicine (e.g. plastic surgery) with a beautiful place to recover
- Private/exclusive/secret testing facility for new mountain bikes<sup>6</sup>
- Off-season agriculture (counter-season growing means new varieties can be developed more quickly)
- Specialised aviation training (alpine training for fixed wing pilots)
- Satellite campus of a university, with niche research programme (e.g. Otago or potentially an overseas university such as Stanford or NYU)
- Destination for ‘working holidays’ for major international corporates
- New, purpose-built testing facility
- Campus for off-season high performance sports training
- Testing consumer-facing tourism IT platforms (with large visitor population)
- Intelligent Transport Systems testing ground<sup>7</sup>, including supporting ecosystems e.g., algorithm/AI developers, sensor testing, communications networks (5G), signage, autonomous vehicles<sup>8</sup>.

Below we assess each of these options against the QLDC criteria. For the purposes of simplistic ranking, each opportunity scores a “1” for each criteria it satisfies, and, on occasion, ½ for any criteria which we reason that it *might* satisfy, but were weren’t able to ascertain. On the following page, we comment on any option which ranked 2 or higher.

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<sup>6</sup> We queried whether other sports equipment (off-road motorbikes, kayaks) would also feature here but our interviewee was adamant that Queenstown’s environment was not sufficiently unique, and the market heavily competitive, for these sports.

<sup>7</sup> A recent report for BusinessNZ has identified that “New Zealand has a multibillion dollar opportunity to develop new, high- technology businesses in Intelligent Transport Systems. While there are already some areas of comparative advantage and emerging solutions, these can be accelerated and enhanced through focussed initiatives in key areas.”

<sup>8</sup> For example, the City of Edmonton, Canada, is currently testing autonomous vehicles and control systems. See [https://www.edmonton.ca/city\\_government/initiatives\\_innovation/automated-vehicles.aspx](https://www.edmonton.ca/city_government/initiatives_innovation/automated-vehicles.aspx). New Zealand has the advantage of having a relatively permissive regulatory environment for autonomous vehicles.

Option	Pushed to its limits	Existing relationships	Opposite season advantage	Local R&D expertise/facilities	Branding advantage/attraction	Score
Hydrogen test bed	✓	✓	✓	½	✓	4.5
Private hospital		½		½	✓	2
Mountain bike testing	✓	½	½		✓	3
Off season agriculture			✓			1
Manufacturing					✓	1
Specialised aviation training	✓	✓				2
Satellite university campus					✓	1
Corporate working holidays			✓		✓	2
Purpose built testing facility	✓		½	½	?	2.5
Campus for off season sports	✓		✓	½	✓	3.5
Testing of tourism apps	✓					1
Smart city test bed	✓	✓	✓	✓	½	4.5

Opportunity	Score	Our comment
1. Hydrogen economy	4.5	Builds off competitive advantages (renewable electricity), consistent with the District’s brand; already corporate interest and alliances formed, worth exploring how Council can support further.
2. Smart Cities/Intelligent Transport Systems	4.5	QLDC itself is embarking on an ambitious 10-year transport program, which includes smart cities technology. Smart city technology (intelligent transport systems, sensors, artificial intelligence) seems to be evolving as an “ecosystem” of small technology providers, so smaller, geographically limited destinations may be attractive from a testing perspective.
3. Campus for off-season high performance sports training	3.5	Would build on natural advantages and brand, but needs a business model, facilities built to meet a specific or generic need, and accommodation facilities.
4 Mountain Bike Testing	3	Worth exploring further for alignment with global supply chain management. Would require a testing area and facility with similar anonymity as SHPG. Our source suggested privacy was a key requirement for vendors.
5. Purpose-built testing facility	2.5	While defined as “purpose built”, no one offered any concrete suggestions as to what this purpose might be. Would need concept design, demand testing and investor interest, and a purpose. Similar requirements to
6. Private hospital	2	Would diversify the economy, interest from locally-based (or even Australian) specialists who want to live here; worth exploring further. However international growth potential limited by high-quality international alternatives (e.g., tier 1 facilities in SE Asia).
7. Specialised aviation training	2	Already underway
8. Corporate working holidays	2	Would need a business model, and campus with accommodation, offices, lecture theatres etc

## 3. Our suggestions for the way forward

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In our view, 2-3 of the suggestions from interviewees is worth exploring in more detail as it is consistent with several of the pre-requisite conditions discussed above. These options are:

- Hydrogen test bed
- Smart City/ITS test bed
- Mountain bike testing

While they attained modest scores on our simplified scoring mechanism, options 3, 5 and 8 – all requiring a “campus” of sorts, and potentially sizeable accommodation - would be challenged by the high cost of land and building in Queenstown. This is not an insurmountable barrier; indeed some of the options we expand on below may require land and accommodation. However, in our view, at this point in time the “testing campus” idea lacks a sufficiently detailed purpose or likely customer. If this could be targeted at a specific sport, product<sup>9</sup>, or business, it would obtain a stronger potential.

### 3.1 Hydrogen Test Bed

The potential for the District to become a test bed for hydrogen as a transport fuel was raised by three of the organisations we spoke to.

Globally, hydrogen has been proposed for well over a decade as a potential fuel for combustion, but also to create electricity (eg., in electric vehicles) via fuel cells. Hydrogen has the advantage of being storable and transportable, but has always been challenged by the need for it to be created by “reformation” from natural gas (thus generating CO<sub>2</sub> emissions) or from water via electrolysis, a very electricity intensive process.

The imperative to decarbonise the global energy supply chain, as well as strong interest in some large vehicle manufacturers (notably Hyundai and Toyota) to pursue hydrogen as a potential transport fuel (while others are backing battery electric vehicles or hybrids), has led to increasing development and commercialisation of hydrogen production, distribution, storage, and usage technologies.

We felt the potential for the District to be used as a test bed for hydrogen economy technologies was high as a result of many of the criteria raised in Section 1.3:

- **The District’s unique geography:** During June – August, vehicle manufacturers can, in a matter of hours, test vehicles on snow, dusty roads, windy roads and straight roads. The existence of the Southern Hemisphere Proving Grounds locally,

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<sup>9</sup> Indeed, as outlined below, either the hydrogen or ITS proposition may benefit from a testing facility.



which has a global reputation for providing world-class testing facilities for next-generation vehicles, is evidence of this.

- **Local expertise and business support:** A Queenstown local has been instrumental in establishing a Southern consortium of significant businesses who wish to investigate hydrogen as a transport fuel of the future;
- **Global emissions advantage:** With the third most renewable electricity system in the OECD, New Zealand has the rare opportunity to produce genuinely low-emissions hydrogen<sup>10</sup>; for many times of the year, a hydrogen production facility could genuinely claim to be using 100% renewable electricity<sup>11</sup>;
- **Globally recognised branding:** Queenstown's reputation as a globally attractive destination makes it an ideal branding exercise for participating global companies;
- **High local direct benefit:** The dominance of tourism means there is a presence of heavy transport vehicles (tourist buses, travelling significant distances), where hydrogen may prove to (ultimately) be a superior fuel compared to battery electric, hybrid or biofuels<sup>12</sup>;
- A relatively compact geographic footprint, which makes, for example, distribution and the location of filling stations less complex.

There is some national inertia around hydrogen as a potential fuel for decarbonisation (and thus meeting the country's Nationally Determined Contribution under the Paris Agreement). Recently, the NZ government signed an MOU with Japan relating to hydrogen. The NZ Hydrogen Association<sup>13</sup> has been established, which is a partnership of interested national and global businesses – Real Journeys, Southern Hemisphere Proving Grounds, Venture Southland, Green Cabs, Contact Energy, Hyundai NZ, and Siemens. Also, Hiringa Energy in Taranaki has received funding from the Provincial Growth Fund to develop hydrogen as a transport fuel<sup>14</sup>, although, as noted above, we believe that Queenstown offers a more attractive proposition for a hydrogen test bed.

Further, if hydrogen distribution facilities were to be established, these could be factored into QLDC's transport plans already underway in the District.

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<sup>10</sup> As noted above, producing hydrogen via electrolysis from water, rather than being reformed from natural gas (which emits CO<sub>2</sub>) is an electricity-intensive process. Hence countries that generate power using a large component of fossil fuels still end up with hydrogen having a large emissions footprint. Renewable electricity, which NZ has plentiful amounts of, is a significant advantage here.

<sup>11</sup> This would be true any time that power is travelling from the South Island to the North Island over the inter-island HVDC transmission system

<sup>12</sup> Hydrogen could potentially become a clean fuel for marine vessels, such as those operating on Lakes Wakatipu, Te Anau and Manapouri, and Doubtful and Milford Sounds.

<sup>13</sup> See <https://www.autocar.co.nz/commercial-news-app/major-transport-industry-players-backing-nz-hydrogen-association>

<sup>14</sup> <https://fuelcellworks.com/news/hiringa-energy-receives-funding-to-bring-zero-emission-hydrogen-fuel-to-new-zealand>

If the Queenstown District was to host such an initiative, we would expect a strong R&D presence from international equipment providers (supply – e.g., electrolysis equipment - and demand, e.g., fuel cells, hydrogen vehicles) for part or all of the year.

## 3.2 Intelligent Transport Systems

The hydrogen test bed concept has peripheral connections to intelligent transport systems technology as well, including the links back to autonomous vehicle testing. Here supporting infrastructure would be a critical enabler. This infrastructure could include a technology park where different parts of the hydrogen and ITS “ecosystem” could co-locate, with supporting facilities (including access to researchers and laboratory facilities).

Indeed, the potential for the District to provide a test bed for intelligent transport systems, or the broader “smart cities” approach, could exist irrespective of the hydrogen opportunity. However, QLDs competitive advantage over other locations is possibly strongest when the two are combined, as argued above.

In terms of moving this option forward, we note that QLDC is researching smart cities as part of the latter phases of its Town Centre Masterplan<sup>15</sup>. This is an ideal avenue to speak to smart cities infrastructure providers and invite them to see the District as a test bed.

## 3.3 Mountain Bike Testing

One interviewee raised the possibility that next generation mountain bikes could be tested in the District, in the same way that SHPG tests cars. Queenstown is a globally recognised mountain bike destination. The key feature here is secrecy – hence existing mountain bike trails would not suffice as they are too populated by the public.

The corollary in Europe is typically remote, low profile and unremarkable facilities with workshops, off-season storage and accommodation facilities. The period of testing may be short, and a wider set of services (e.g., photo shoots for magazines) could be supported. Given NZ’s remoteness from MTB production facilities, cost would likely be a key issue.

The extent to which the “opposite hemisphere” is an advantage should be investigated further, as a prerequisite to advancing on this option. Those we spoke to suggested that by the time NZ’s spring/summer mountain biking season begins, production runs for the northern hemisphere have possibly begun – meaning NZ’s opposite hemisphere may, in fact, be a disadvantage. However, we were unable to verify this with anyone in the mountain bike manufacturing industry.

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<sup>15</sup> <https://www.qldc.govt.nz/your-council/major-projects/queenstown-town-centre/masterplan-document-hub/>

## 4. What can the District do?

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The purpose of this project has been to inform local thinking about what could be done to maximise the chance that international opportunities which provide low-impact and diversified economic growth for the District, are seized. While this is not within scope, we suggest the following insights from our interviews:

- For those opportunities that arise randomly as a result of high net-worth individuals/entrepreneurs visiting, the District has to **continue to be attractive as a lifestyle as well as business choice**. A large part of this is maintaining and enhancing the “liveability” of the district (environmental standards, recreational opportunities, transport infrastructure etc), the ease of setting up and doing business, regular networking events which would allow new entrepreneurs to tap into business skills and supporting functions (accountants, lawyers, data scientists) and so forth.
- Having a local Council which is obviously supportive of business would be important here. Many interviewees commented on various ways in which the District could do a better job of **marketing itself as a business location** (rather than just a tourist destination).
- Where the intention is to attract existing businesses to specifically attract R&D/testing functions to the District, the broad issue of **links with Universities** – which could even extend to satellite campuses – would provide a reliable source of local expertise and technological facilities. We suggest this is a fruitful avenue for investigation.
- In a similar vein, Cohen (2000) goes so far as to say that **incorporating education and training into local economic development**, including investing in the development of higher education, is one of four activities cities should consider to improve their attraction to businesses.
- **Tapping into Central Government support** is often difficult for small business or people new to the District (for example, funding from the Provincial Growth Fund, or support via MBIE’s Innovative Partnerships<sup>16</sup>). Central Government advocacy by QLDC that the District is well suited to some opportunities (for example, our hydrogen opportunity raised above) would be of significant benefit.

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<sup>16</sup> <https://www.mbie.govt.nz/info-services/science-innovation/international-opportunities/new-zealand-r-d/innovative-partnerships>

# Appendix 1: Interview questions

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## Introduction

Sapere Research Group has been commissioned by Peter Harris at Queenstown Lakes District Council to do some exploratory work around attracting international corporates to establish a physical presence in Queenstown Lakes.

We are looking to identify firms who might benefit from having a Queenstown base and who could potentially be attracted to the district. We are focusing on firms who are most likely to benefit from the District's features and characteristics, including its climate, atmospheric conditions, mountainous topography and opposite season and time zone to the northern hemisphere.

We anticipate that the potential may be stronger where the firm is already linked into local R&D, technical expertise, or business supply chain, or where key people in the company have personal connections to the District.

We are seeking to speak with key individuals such as yourself to help identify potential opportunities and specific companies/contacts that the Council could follow up on. (Please note that relevant permissions would be gained before any approach is made).

## Questions

1. Do you have any suggestions on what sorts of international businesses might consider locating a testing, research and/or development function in the Queenstown District?
2. What are the characteristics of the Queenstown District which would make it attractive to these businesses?
3. What are the things that might currently be preventing these businesses from basing a testing, research and/or development function in the Queenstown District? What would it take to attract them?
4. Are any of these businesses currently active in the Queenstown District e.g., for sales, photography for marketing, sponsorship of events?

## Appendix 2: Kompass search criteria

### Criteria

- **Location:** Selected Europe (Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Spain, Sweden, Switzerland, United Kingdom)
- **Type:** Headquarter location
- **Turnover:** €5 million +

**Table 1 Kompass search parameters**

Search	Count
6680018 - Aircraft/drones, remote piloted 6685002 - Radio control systems for remote controlled aircraft/drones	7
4077019 - Satellite receivers, global positioning (GPS) 5754011 - Software for global positioning systems (GPS) to customer specification 6659044 - GPS speed camera warning systems for drivers	94
13260 - Clothes and articles, weatherproof and waterproof	91
1321025 - Sportswear, weatherproof and waterproof 1321026 - Outerwear, weatherproof and waterproof, breathable 13250 - Clothing, weatherproof and waterproof, by fabric and use	229
2252033 - Varnishes for skis 2281009 - Waxes, ski 2808033 - Cables, metal, for ropeways, cableways, chairlifts and ski lifts 46010 - Skiing equipment 4604001 - Ski-bobs 3258023 - Hydraulic equipment for ropeways, cableways and ski lifts 3259023 - Hydraulic controls for ropeways, cableways and ski lifts	146
8510109 - Research and development, renewable energies	13
7292011 - Renewable energy resources, research and development	37
8515005 - Building materials research and development	17

## Appendix 3: Kompass search results – company profiles

<b>Company name</b>	Masternaut
<b>Country</b>	France
<b>Website</b>	<a href="http://www.masternaut.com">http://www.masternaut.com</a>
<b>Industry classification (NACE code)</b>	Computer programming activities

### Company profile

Masternaut is a telematics (the long-distance transmission of computerized information) company specialising in fleet and asset management.

Masternaut has launched a new strategy to focus on software rather than hardware, as the fleet industry becomes increasingly data focused. The company believes that the future of telematics is about transforming fleet operations by harnessing the power of data.

Masternaut's solutions use Global Positioning System (GPS) technology to track a vehicle, employee or asset's location and transmit performance data in real time to Masternaut's data centre. Customers can view the data on their own vehicles' location, speed, and other parameters in near real-time.

Masternaut remains the largest telematics provider in the UK, and as part of the FleetCor family, is one of the largest fleet suppliers in the UK covering a fleet's total cost of ownership needs.

The launch of new fuel and maintenance modules in 2016 witnessed Masternaut's efforts to regain market share in Europe and drive sales growth through technical innovation whilst leveraging its Fleetcor relationship.

In 2017 to date, Masternaut has launched:

- An OEM partnership with Vauxhall and Opel
- A fuel card in partnership with Allstar
- A self-install telematics device that enables customers to monitor short term hires and grey fleets without the need for a professional installation.

In August 2017, Masternaut partnered with Telefleet to come with a telematics based fleet insurance product.

“Our telematics devices are robust and rigorously tested so you can receive reliable information from your vehicles.”

<b>Company name</b>	<b>Rockwell Collins</b>
<b>Country</b>	France
<b>Website</b>	<a href="http://www.rockwellcollins.fr">http://www.rockwellcollins.fr</a>
<b>Industry classification (NACE code)</b>	Manufacture of instruments and appliances for measuring, testing and navigation

### Company profile

Listed NYSE

Rockwell Collins is an American multinational company headquartered in Cedar Rapids, Iowa providing avionics and information technology systems and services to government agencies and aircraft manufacturers.

Rockwell Collins is a leader in aviation and high-integrity solutions for commercial and military customers around the world.

As experts in flight deck avionics, cabin electronics, cabin interiors, information management, mission communications, and simulation and training, we offer a comprehensive portfolio of products and services that can transform our customers' futures.

30,000 employees and a network of operations spanning 150 countries.

Has a base in France to leverage the aviation sector in Toulouse.

Rockwell Collins has been operating in Australia since the early 1960s, supporting our customer base through locations in the states of New South Wales, Victoria and Queensland, as well as in Auckland, New Zealand. We manufacture and support a wide array of avionics, navigation and communications equipment for defence and commercial applications. A facility in Lane Cove, Sydney manufactures optical assemblies for F35s.

<b>Company name</b>	<b>Zodiac Data Systems</b>
<b>Country</b>	France
<b>Website</b>	<a href="http://www.zodiacaerospace.com">http://www.zodiacaerospace.com</a>
<b>Industry classification (NACE code)</b>	Manufacture of instruments and appliances for measuring, testing and navigation

### Company profile

Zodiac Data Systems, Inc. provides data acquisition and recording systems to the Department of Defense, avionics and aerospace companies, defense prime contractors, and automotive manufacturers, as well as the research and development community in military, industrial, utility, educational, and research establishments.

The company offers ground based telemetry recorders, airborne flight test recorders, and general industrial data acquisition systems and recorders; and mission recorders that target signal types, data rates, and volumes and data accessibility requirements, as well as withstand the rigors of operational missions in various kinds of ground fixed, portable, mobile, airborne, and naval military and commercial platforms. It also markets satellite and communications receivers. In addition, the company provides technical, engineering, and service support, as well as repair and maintenance services.

99 locations internationally, 35,000 employees.

World leader in aerospace equipment and systems on-board commercial, regional and business aircraft as well as helicopters, Zodiac Aerospace is also a key player in air safety and teletransmission.

It develops and manufactures state-of-the-art solutions to improve on-board comfort and living conditions, as well as high-technology systems that boost aircraft performance and enhance flight safety.

Zodiac Aerospace aims to anticipate and support the needs of its clients by responding to the new challenges of the market. For example, the Group is increasingly involved as a full systems integrator to certification, enhancing its products and services in various areas, such as:

- Reducing the weight and bulk of on-board equipment and systems to improve aircraft performance;
- Developing ergonomic, modular concepts to improve maintenance and productivity;
- Expanding its range of after-sales services for airline companies;
- Introducing new functions and designs, as well as comprehensive and integrated cabin solutions that make a real difference in the marketplace for airlines and improve passengers comfort;
- Developing new safety systems that contribute to improving the safety of air travel.

Clients include Air New Zealand.

<b>Company name</b>	<b>Thales Alenia Space</b>
<b>Country</b>	France
<b>Website</b>	<a href="http://www.thalesgroup.com">http://www.thalesgroup.com</a> <a href="http://www.thalesonline.com/space">http://www.thalesonline.com/space</a>
<b>Industry classification (NACE code)</b>	Manufacture of air and spacecraft and related machinery

### Company profile

**Thales Alenia Space** has more than 40 years of experience in the design, integration, testing, operation and commissioning of innovative space systems. Featuring cutting-edge



technologies, these systems meet the needs of commercial, government, scientific, defense and security customers from around the world.

Thales Alenia Space is a joint subsidiary of Thales (67%) and Finmeccanica (33%), and a partner in the Space Alliance along with Telespazio.

The Company has 7,500 employees, with 12 industrial sites in 7 countries (France, Italy, Spain, Belgium, Germany, England and Poland).

Has done vibration tests at the ESTEC test center in the Netherlands

Thales Alenia Space's engineers in the UK led the design, construction and testing of the broadband radiometer (BBR), a scientific instrument for the European Space Agency's Earth Cloud Aerosol and Radiation Explorer (EarthCARE) satellite mission.

Over the last 30 years, Thales Alenia Space has delivered a wide range of Satellite payload/platform management units and various GPS-based navigation hardware for LEO, MEO and GEO satellites and launchers for :

- Communications and military satellites
- Observation and Science satellites

Hardware Solutions [incl:]

- Single or dual GPS / GPS tensor / ATV GPSA / Lagrange / Proteus Receivers
- ROSA Instrument to sound the earth atmosphere with radio occultation technique

Egnos is Europe's satellite navigation system, designed to improve the positioning messages from the GPS system, and Thales Alenia Space is its prime contractor.

*June 9, 2017, GPS World Staff:*

The European Space Agency (ESA) has signed a contract with Thales Alenia Space for an upgrade to Europe's EGNOS satellite navigation augmentation system, which underpins the safety-critical use of satnav across Europe, according to ESA.

Designed by ESA and being exploited by Europe's GNSS Agency (GSA), the European Geostationary Navigation Overlay Service (EGNOS) improves the precision of GPS signals over most European territory, while also providing continuous and reliable updates on the "integrity" of these GPS signals.

<http://gpsworld.com/thales-signs-contract-to-upgrade-europes-egnosc/>

### **Thales Group (parent company)**

Our expertise in signalling, communications and security gives people and goods the connected journey they deserve to move safely and efficiently.

- Ground Transportation Solutions Broch
- Main Line Rail
- Urban Mobility Broch
- Services For Transport Broch
- Ground Transportation - Transforming mobility

#### Thales Ground Transportations Systems

##### Signalling systems

- Train control systems
- Route control systems
- Field equipment
- Traffic management systems

##### Supervision and communications systems

- Backbone, wifi and GSM-R communication solutions
- Passenger information and connectivity solutions
- Security and video surveillance solutions
- Turnkey solutions for Operation Control Centres

##### Revenue collection systems

- Interoperable and multimodal fare collection systems
- Ticketing inspection and validation equipment
- Integrated road tolls and car park payment
- Payment via contactless cards or smart phones

##### Services

- Assistance and support across the lifetime of your systems
- Mid-life upgrades
- Network & operations management

<https://www.thalesgroup.com/en/ground-transportation>

#### Thales Land Navigation System – TLNS

##### Key features include:

- Navigation processor
- Commander's control panel
- Driver's display
- GPS
- Turret position sensor
- Gun elevation sensor
- Odometer

##### Profile:

[https://www.thalesgroup.com/sites/default/files/database/d7/asset/document/thales\\_gts\\_transforming\\_mobility.pdf](https://www.thalesgroup.com/sites/default/files/database/d7/asset/document/thales_gts_transforming_mobility.pdf)

The MILTRAK Alert and Tracking System (MATS) is a new smaller and lighter version of the deployed MILTRAK soldier system. It has been specifically designed to enable users to

rapidly identify and locate friendly distress alerts in hostile and combat environments. The system provides real time situational awareness and navigation tools that significantly enhance

operational effectiveness and the security of end users. Primarily designed for use in dismounted close combat the system has a multitude of applications and can be easily adapted for use in urban environments or challenging remote locations where there is a high threat risk. MATS uses GPS to mark each individual's location on an easy to read map and in the event of an emergency, activation of the alert enables quick and accurate tracking, helping to save lives.

<https://www.thalesgroup.com/en/miltrak-alert-and-tracking-system>

TopStar M is a range of GNSS receivers with high-performance accuracy, integrity, anti-jamming, anti-spoofing and SAASM functionalities, for demanding platforms such as helicopters, UAVs, radar, missiles, fighters and surface ships.

<https://www.thalesgroup.com/en/global/activities/aerospace/topstar-m-military-gpsgnss-receivers-mission-success>

<b>Company name</b>	Sidercem
<b>Country</b>	Italy
<b>Website</b>	<a href="http://www.sidercem.it">http://www.sidercem.it</a>
<b>Industry classification (NACE code)</b>	Engineering activities and related technical consultancy

### Company profile

Sidercem Sr .l., Has been a leader in research and experimentation, quality certification building materials and chemical analysis for over thirty years. It represents a valid support, in the laboratory and in the field, for the design of restoration and consolidation, the analysis of degradation phenomena, the verification of the performance conditions of the artifacts, the testing and monitoring of large works of art, the planning and execution of environmental, geognostic, geotechnical, geophysical, diagnostic and structural investigations in the field of civil, industrial, monumental and chemical construction.

Among the most significant activities are the inspection and surveillance projects of bridges, viaducts and tunnels, which provided for the cataloguing of the works and, where necessary, the diagnosis of degradation phenomena and the control of the residual capacity of the manufactured products by means of appropriate experimental activities.

Sidercem also operates in the geological sector and applied geomorphology, through the execution of geognostic surveys and geotechnical tests in the laboratory and in situ.

<b>Company name</b>	SGS Intron BV
<b>Country</b>	Netherlands

<b>Company name</b>	<b>SGS Intron BV</b>
<b>Website</b>	<a href="http://www.sgs.com/intron">http://www.sgs.com/intron</a>
<b>Industry classification (NACE code)</b>	Other research and experimental development on natural sciences and engineering

### Company profile

SGS is the world's leading inspection, verification, testing and certification company. We are recognized as the global benchmark for quality and integrity. With more than 95,000 employees, we operate a network of more than 2,400 offices and laboratories around the world.

Our core services can be divided into four categories:

- **Inspection:** our comprehensive range of world-leading inspection and verification services, such as checking the condition and weight of traded goods at transshipment, help you to control quantity and quality, and meet all relevant regulatory requirements across different regions and markets
- **Testing:** our global network of testing facilities, staffed by knowledgeable and experienced personnel, enable you to reduce risks, shorten time to market and test the quality, safety and performance of your products against relevant health, safety and regulatory standards
- **Certification:** we enable you to demonstrate that your products, processes, systems or services are compliant with either national or international standards and regulations or customer defined standards, through certification
- **Verification:** we ensure that products and services comply with global standards and local regulations. Combining global coverage with local knowledge, unrivalled experience and expertise in virtually every industry, SGS covers the entire supply chain from raw materials to final consumption.

Search SGS's directories of certified clients and products to verify the status of management system, process or product certificates we have issued, as well as finding key data on audited suppliers.

<https://www.sgs.nl/en/our-company/about-sgs/sgs-in-brief>

Has offices and/or labs in Auckland, Christchurch, Dunedin, Greymouth, Hamilton, Invercargill, Motueka, Mt Maunganui, Napier, Nelson, New Plymouth, Picton, Rotorua, Ruakaka, Tauranga, Timaru, Tokoroa, Waihi, Wellington and Westport.

<https://www.sgs.nl/en/office-directory?country=94&page=1>

<https://www.sgs.nl/en/searchresults?s=testing&dc=http&d=4294967093>