Quantum Technologies

The Quantum Technology Market

Interest in quantum technologies including quantum computing, quantum sensors and quantum encryption has spurred a significant amount of R&D and investment in recent years. A recent report projects that the global quantum computing market is estimated to reach $411.4M by 2026. Another report projects that the quantum cryptography market is estimated to reach $214M by 2025. Capital markets have not been left behind: in 2020, the total invested capital announced worldwide reached almost $1.56B, with over $500M being directed to North America.

Protecting Your Investment in Quantum Technology

Bereskin & Parr helps companies who are developing quantum-based technology protect, license and enforce their intellectual property. Our quantum practice group provides legal, as well as patent and trademark agency services to companies who are developing quantum computers, quantum sensors, and other related quantum technologies as well as those who are using quantum technology to improve existing and create new products.

There are many developing aspects of patent, trade secret, and copyright law specific to quantum technology, a very exciting new frontier. The quantum practice group team includes lawyers and patent agents with applied mathematical, computer and electrical engineering educational backgrounds and industry experience particularly suited to quantum technologies. Our team has the educational backgrounds and interest to stay on top of and leverage these developments for our clients.

While the legal issues associated with quantum technology are complex and will continually evolve, it is important for companies who are building and selling products and services based on quantum technologies to put in place a comprehensive and proactive strategy for IP protection and risk evaluation. Such a strategy should include not only measures to secure patent, trade secret, copyright and design protection where available but also measures to monitor third party IP rights and assess associated risks.

PATENTS:

Patents protect the functionality of inventions which are new, non-obvious, useful and which consist of patent eligible subject matter. Patents can be used strategically to achieve or maintain position in the marketplace, increase share value and/or secure investment depending on business needs. Patentable subject matter in the U.S., Canada and elsewhere includes quantum related innovations that are "sufficiently technological", that is, necessarily rooted in computer technology and seen to provide a "technical solution" to a "technical problem" in the realm of computing.

TRADE SECRETS:

Trade secrets can provide another avenue of protection for various aspects of quantum technology. Trade secrets include any valuable business information that derives its value from the secrecy. Unlike patents, no application or registration is required to obtain trade secret protection, however an innovator must take reasonable steps to establish and maintain secrecy. In turn, the covered information may be protected for an unlimited period of time as long as it is kept secret and...
has commercial value. Trade secret law may be particularly applicable to various aspects of quantum technology, including: formulae, compilations of information, programs, commercial methods, techniques, processes, designs, patterns, and codes which are not generally known or reasonably ascertainable by others.

COPYRIGHT:
Copyright may attach to those aspects of quantum technology that are recognized as “literary works” within the meaning of the Canadian Copyright Act and corresponding legislation elsewhere. Copyright arises automatically when an original work is created and protects original expressions embodied in software including: computer source code, visual user interface elements, API structure, user documentation and product guides. Copyright however does not extend to the functional aspects of software.

INDUSTRIAL DESIGNS:
Industrial designs protect novel and non-functional, esthetic aspects of products. Industrial design protection is evolving in Canada, the U.S. and elsewhere to more comprehensively protect the appearance of quantum-based technology products, from the novel shape of physical devices (e.g. household robotic devices) to the unique and dynamic visual effects of computer-generated animated graphical designs.

TRADEMARKS:
Branding is another important factor for the market success of new quantum based products and services. Our trademark specialists can provide opinions on the availability and registrability of marks in Canada, the U.S. and elsewhere. They can also provide assistance in the event of contention providing trademark infringement and counterfeiting litigation and settlement services. They can also advise on other trademark, confidentiality and unfair competition issues that arise in cyberspace and e-commerce such as linking, framing, metatagging and cyberstuffing.

REGULATORY, ADVERTISING & MARKETING:
Regulation of quantum-based products and services will evolve as the technology becomes a larger part of the marketplace and consumer’s lives. Our team is committed to keeping clients abreast of regulatory changes that affect the way innovators build, market and advertise their products and services in Canada.

LICENSING & TRANSACTIONS:
Securing and commercialization of intellectual property rights involves dealings with collaborators, business partners, employees, independent contractors, suppliers, investors, buyers and seller. Well-drafted agreements protect intellectual property assets, ensure a successful business relationship, and can avoid costly litigation. Our team has deep experience and specialized technical backgrounds to handle licensing and transaction matters for various players in various fields including computer science, electronics, entertainment and new media.

[i] Global Quantum Computing Market to Reach $411.4 Million by 2026 (yahoo.com)
[ii] Quantum Cryptography Market by Solutions & Services - 2025 | MarketsandMarkets
[iii] The second quantum revolution – an investor perspective on the technologies that will reshape our world – Industrifonden
Innovative Solutions Canada Funding for Quantum-related Technologies – Proposal Deadline: July 6, 2022
June 23, 2022

Quantum Advantage – Are We There Yet? (Part 3)
March 15, 2022

Quantum Advantage – Are We There Yet? (Part 2)
March 3, 2022

Quantum Advantage – Are We There Yet? (Part 1)
February 24, 2022

Canada Lags Behind in Quantum Computing Patent Filings
February 17, 2022
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree(s)</th>
<th>Position</th>
<th>Email</th>
<th>Phone</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alain Alphonse</td>
<td>B.A.Sc. (Elec Eng.), J.D.</td>
<td>Associate</td>
<td><a href="mailto:aalphonse@bereskinparr.com">aalphonse@bereskinparr.com</a></td>
<td>514.871.2912</td>
<td>Montréal</td>
</tr>
<tr>
<td>Paul Blizzard</td>
<td>B.Sc. (Comp. Eng.), P. Eng., J.D.</td>
<td>Associate</td>
<td><a href="mailto:pblizzard@bereskinparr.com">pblizzard@bereskinparr.com</a></td>
<td>416.957.1185</td>
<td>Toronto</td>
</tr>
<tr>
<td>Isi Caulder</td>
<td>B.A.Sc. (Eng. Sci.), M.A.Sc. (Elec. Eng.), J.D.</td>
<td>Partner</td>
<td><a href="mailto:icaulder@bereskinparr.com">icaulder@bereskinparr.com</a></td>
<td>416.957.1680</td>
<td>Toronto</td>
</tr>
<tr>
<td>Ryan De Vries</td>
<td>B.Sc. (Phys.), J.D.</td>
<td>Associate</td>
<td><a href="mailto:rdevries@bereskinparr.com">rdevries@bereskinparr.com</a></td>
<td>519.783.3215</td>
<td>Waterloo Region</td>
</tr>
<tr>
<td>Reshika Dhir</td>
<td>B.Sc. (Elec. Eng.), J.D.</td>
<td>Partner</td>
<td><a href="mailto:rdhir@bereskinparr.com">rdhir@bereskinparr.com</a></td>
<td>416.957.1646</td>
<td>Toronto</td>
</tr>
<tr>
<td>Patricia Folkins</td>
<td>B.Sc. (Honours Chem.), Ph.D. (Org. Chem.)</td>
<td>Partner</td>
<td><a href="mailto:pfolkins@bereskinparr.com">pfolkins@bereskinparr.com</a></td>
<td>905.817.6101</td>
<td>Mississauga</td>
</tr>
</tbody>
</table>
Sunil Rao  
Associate  
srao@bereskinparr.com  
416.957.6570  
Toronto

Maria Wei  
Associate  
mwei@bereskinparr.com  
519.783.3213  
Waterloo Region