RESEARCH SUPPORT FUND & INCREMENTAL PROJECT GRANT SPENDING, OBJECTIVES, INDICATORS AND OUTCOMES

SFU received a RSF grant (excluding IPG) of **$7,842,200.00** and **$783,630.00** in IPG funds in fiscal year 2019-2020.

RESEARCH SUPPORT FUND OUTCOMES:

	OBJECTIVES	INDICATORS	TARGETED OUTCOMES	OUTCOMES STATUS
FACILITIES	Support knowledge and creation exchange	Modern, safe, sustainable, and well-equipped research facilities	- Quantity and quality of research space - Quantity and quality of technical support	• In November 2019, SFU introduced the Core Facilities Program. The Core Facilities such as 4D Labs, Big Data, and ImageTech lab provide access to shared infrastructure across the SFU community, opportunities to acquire and share world-class facilities, and share expertise across multiple disciplines. These facilities are in part possible because of RSF and IPG funding that lowers the overall cost of administrative overhead • RSF funding supports annual maintenance of a wide-variety of research facilities across the university including the High Purity Water Systems and Lab equipment maintenance technical support for laboratories, offices and other facilities such as the Science Technical Centre (Machine Shop, Electrical Shop, Glassblowing shop), NMR staff, Science Stores, Environmental Physiology and Medical Unit technical support, materials and equipment required to complete their research.
RESEARCH RESOURCES	Facilitate research at undergraduate, graduate, and faculty levels	Ubiquitous access to research and tools	- Amount and utilization of shared Library facilities and resources - Improvements to electronic information resources	• In 2019, SFU completed renovations within the Burnaby campus library and opened a new space called Media and Maker Commons. The primary purpose of Media and Maker Commons is to foster cross-disciplinary learning, various collaboration options - including research, and engagement within a creative, "do it yourself" culture. • RSF funding supports the multi-year institutional Research Enterprise Systems project that supports the completion of grant and award applications / research proposals. The Research Enterprise Systems project will improve both the pre and post award phase of the research process saving the researcher time and making the process more efficient. • The Research Computing Group provides access to large-scale computing resources and large-scale storage facilities and is free for all SFU researchers.

				• The Beedie School of Business uses RSF funding to support the purchase of data sets. These data sets are used for research purposes by faculty and graduate students for Security Analysis projects. • RSF funding provides ongoing support for updates and maintenance for the Research Funding and Awards Opportunities Database, which contains the details of over 450 research grant and faculty award opportunities. The database is continuously updated and expanded by SFU's Research Services staff. • The SFU Library is a leader in digitization initiatives, which require specialized tools for describing, discovering, accessing, analyzing and repurposing data sets. The RSF helps to implement and operate these collections and services on an ongoing basis, which are necessary to maintain SFU's momentum as a leading research institution with a strong national and international reputation.
MANAGEMENT & ADMIN	Maintain the effective operation of SFU's research enterprise	Efficient leadership and support, including accurate and timely reporting	- Quantity of funded research - Quality of research support and promotion - Effectiveness of information systems	• SFU's Research Intelligence team provides data analytic support and software development for university research administration to improve workflow efficiencies, create transparency, and support evidenced based decision making. • RSF funding supports improvements to SFU's Information Systems. In SFU's faculties, funding has gone towards the hiring of personnel that have effectively reduced SFU's Principle Investigators (PI's) time dealing with research administration information system related issues (procurement, set up of equipment and triaging technical queries) and allow PI's to concentrate on their research. • RSF supports salaries for SFU's grants facilitation staff that are a valuable resource to support faculty members to produce successful grant applications. The grants facilitator's role is vital to ensure that grant applications are compliant with grant agency requirements. • RSF continues to support the Institutional Strategic Awards (ISA) office to better streamline our support services for faculty on institutional and large, complex projects. • RSF continues to provide support for SFU's Research Services team that assists SFU faculty members in obtaining and administering financial support for their research. Read the Research News story about how the RSF maximizes the benefits of SFU's Research Services.

REGULATORY REQUIREMENTS	Maintain the highest level of ethical and safe conduct for research	Compliance with regulatory, financial, and funding agency requirements	- Compliance with CCAC, Tri-Council Policy Statement - Quantity and quality of regulatory and technical support	• RSF supports salaries for Environmental Health and Safety staff. The EHS staff provides research and service units training to minimize and mitigate safety, health and environmental risks. • RSF continues to provide support of regulatory bodies, such as SFU's Research Ethics and technical support for Animal Care. • Without the RSF support, animal research at SFU would be compromised and in many cases could not be performed. Without this support, the facilities and services for the proper and humane treatment of animals in our care would not function properly. Research Ethics educates researchers in the policies and process of research ethics and ethics review and facilitates the review process conducted by the SFU Research Ethics Board and its subcommittees.
INTELLECTUAL PROPERTY & KNOWLEDGE MOBILIZATION	Mobilize research for social and economic benefit	Intellectual property and technology transfer activity	- Quantity and quality of IT/tech transfer activity	• The RSF contributed towards a review of the Industry Engagement Office and transition, including legal fees, and patents to the newly named Technology Licensing Office. This funding contributes to positions that help support faculty, graduate students and university researchers in the strategic management of the intellectual property they generate through their inventions. • RSF funding contributes to salaries for SFU incubation and accelerators such as VentureLabs and Coast Capital Savings Venture Connection. • RSF contributes to salaries to support SFU's Knowledge Mobilization university-wide strategic initiative. This initiative provides sustained resources for researchers in sharing research findings with wider communities in meaningful ways. RSF funding contributes to membership in The Conversation Canada, a platform that enables national dissemination of research expertise and opportunities for SFU researchers to publish articles.
OVERALL IMPACTS	Achieve national and international leadership in research and innovation	Outcomes of SFU's strategic research and innovation initiatives	- Attraction of outstanding faculty and students - Growth of research funding - Number of research collaborations - Recognition of research and innovation excellence - Contributions to economic and social development	• Seven SFU faculty members were named Fellows to the Royal Society of Canada (RSC), and one SFU faculty member was named to the College Members, Artists and Scientists. See SFU News story. • In 2019, SFU researchers produced over 1400 peer-reviewed publications co-authored with international collaborators. • SFU is one of the fastest growing universities in Canada and enjoys the fastest growing research income among research universities in Canada, having surpassed $100-million in 2013 and reached $161-million in 2019.

- In April 2019, SFU celebrated its Surrey campus expansion with the opening of a new $126-million building in Surrey's City Centre. The federal and provincial governments each provided $45 million towards the new facility. The facility is also home to SFU's new Sustainable Energy Engineering (SEE) program, which launched in September 2019. The new facility and program will enable SFU to generate the talent and research that B.C. and Canada requires to be leaders in the development and application of clean technologies and sustainable energy solutions.

- SFU has continued to gain recognition for its commitments to economic and social innovation and its national strength in big data. In September 2019, SFU launched the Data for Good Initiative to solve social and economic challenges in Canada by harnessing big data's power and potential. The Initiative invites mission-driven organizations, advocates and government to partner with SFU and work with the university's big data experts to amplify the collective efforts to effect greater social impact.

- SFU VentureLabs® received $3 million in funding from Western Economic Diversification Canada (WD Canada) to establish a scale-up and soft-landing centre at its Vancouver business accelerator. The funding was announced in September 2019 and will support SFU VentureLabs® in extending and engaging its entrepreneurial community, including investors, executives-in-residence, and industry partners, to deliver intensive scale-up programming for high-growth-potential science- and technology-based SMEs.

- In October 2019, the provincial government announced it will invest $17 million over the next five years to establish a new Quantum Algorithms Institute hosted at Simon Fraser University's Surrey campus, serving as the core of the city's new innovation corridor. This is a major advancement for SFU, already recognized as a global leader in quantum computing—one of the most exciting frontiers in technology. There is tremendous potential of benefits for quantum computing, some already realized in such areas as finance, cryptography, drug development and some waiting to be unlocked in the near future.

- This February, The First Nations Health Authority (FNHA) and SFU signed a ground-breaking agreement that increases Indigenous self-determination for health research. The first agreement of its kind between FNHA and an academic institution, it gives FNHA research affiliate status with SFU. This innovative project is the first in Canada to use community-based research to gather Indigenous perspectives on health and harm reduction.

INCREMENTAL PROJECT GRANT OUTCOMES:

	OBJECTIVES	INDICATORS	TARGETED OUTCOMES	OUTCOMES STATUS
FACILITIES RENEWAL (FACILITIES)	Increase usage of SFU's ImageTech Lab Facility	Indicator 1: The number of patient scans (by adult/children population groups) Indicator 2: Number of research projects using the facility Indicator 3: Number of researchers that access the facility Indicator 4: Number of external partnerships Indicator 5: Revenue	- Increase the number of active studies - Increase the number of researchers using the facility - Increase the facility revenue - Move closer to self-sustainability - Contribute to community health outcomes and technology development - Increase the number of pediatric studies on both the MEG and the MRI	Image Tech is a world-class imaging research facility and the first of its kind in Western Canada, as it offers multiple services including a high-field magnetic resonance imaging (MRI) uniquely co-located with high-density magnetoencephalography (MEG), an emerging neuroscience tool. The Lab is also one of SFU's first Core Facilities. IPG funds enabled the Lab to be launched (last fiscal year), as well as contributed to its ability to continue and increase operations. IPG has also enabled the lab to get closer to its goal of self-sustainability. Specific outcomes for the 2019-2020 fiscal year include the following: • The number of actively-scanning studies increased 50% between fiscal year-end 2019 and 2020 • The number of MRI and MEG scans tripled when compared with the prior year. • The lab's revenue tripled between fiscal year end 2019 and 2020. • Pediatric studies were launched at ImageTech during the 2019-2020 fiscal year, with one actively-scanning pediatric study utilizing both the MRI and MEG. • One external partnership was under development during the fiscal year.
FACILITIES RENEWAL (FACILITIES)	Support the operations and expansion of the fast-growing services offered by 4D Labs	Indicator 1: Number of active users (by group, e.g. by University and industry) Indicator 2: Number of HQP accessing the facilities	- Expand services to exceed $1 million in revenue - Engage a larger researcher and HQP userbase	Over the course of the year, 4D LABS reached several significant usage milestones. For the first time since its inception, 4D LABS exceeded $1 million in annual invoice totals. It also topped 1,000 cumulative registered users and 700 trained HQP since the formation of the lab. Industrial usage was also strong. The number of companies accessing the facilities and services throughout the course of the year was one-third of the total number of companies that have worked with 4D LABS over its lifespan, and 4D LABS had a significant impact on the success and growth of these companies. Several would not exist without the facilities at 4D LABS, resulting in a significant number of high quality technology jobs in the local economy.

				During the fiscal year, 4D LABS was able to maintain equipment necessary for the overall functionality of the lab. More specifically, IPG funds supported service contracts for two of the lab's electron microscopes. These highly advanced and costly tools need to be maintained and supported by the vendor. The systems are heavily used and critical for much of the research carried out within 4D LABS. Without these contracts, 4D LABS risks extensive down-time on the tools and cost-prohibitive repairs, which would have a significant impact on research in the facility.
		Indicator 3: Number of hours per tool Indicator 4: Total number of invoices Indicator 5: Invoice amounts by facility		
INNOVATION & COMMERCIALIZATION (INTELLECTUAL PROPERTY & KNOWLEDGE MOBILIZATION)	Support SFU's expansion of innovation and commercialization services in the City of Surrey's burgeoning Health and Technology district	Indicator 1: Number of active projects Indicator 2: Number of external collaborators Indicator 3: Number of invention disclosures. Indicator 4: Number of startups supported Indicator 5: Number of student entrepreneurs Indicator 6: Number of registered members Indicator 7: Number of technologies commercialized	- Move Kids Brain Health NCE into their new shared space, thereby fostering productive partnerships that will lead to innovative solutions to improve health outcomes across the lifespan	IPG support was helpful in enabling SFU to further expand its innovation and commercialization services within the City of Surrey's Health and Technology district. More specifically, Kids Brain Health Network moved into a shared space with the Digital Health Circle. The co-location of these organizations contributed to the hub of innovation services located in the heart of Surrey, British Columbia. KBHN's space is also shared with or located adjacent to other innovation service providers, including the Digital Health Circle, Venture Connections, and the National Research Council – Industrial Research Assistance Program. The close proximity of these organizations promotes partnerships and increases the potential for innovative solutions. Collectively, there were over 30 active projects resulting from this innovation and commercialization hub, led by researchers in or affiliated with a number of different SFU departments. There were over a dozen partners, consisting of not-for-profits, hospitals, industry, and other research partners. In addition, several hundred student entrepreneurs were supported with training, which was provided via Mentor Meet, Incubator, and the Embedded Mentors program. SFU was able to provide support for the commercialization of technologies resulting from partnerships and collaborations initiated at the Surrey campus.