



Beam time planning
for 2020
in the context of
Five-Year Plan 2020-25

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2020 Beam Schedule Plans

- Cyclotron Schedule
 - April – December
- Meson Hall
 - April – December
- ISAC
 - April – December
 - With only TM2 and TM4 operational, we will leave larger gaps (10-20 days) between targets to be able to react to emerging problems.
 - RIB hours approximately at 2019 level
 - This might be mode of operation until TM3 is back in rotation (~Q3 2021)
 - CANREB beams → discussion needed regarding request for campaigns
 - Stable beam available in gaps between RIB delivery



FEDERAL BUDGET 2019

2014: \$222 M

2019: \$292 M

Secures our future: +32%

International Peer Review

Led by Julia Phillips, Vice President, Sandia National Laboratories (retired)

- Recommendations

- Retain scientific diversity
- Increase visibility, nationally and internationally
- Diversify sources of support
- Seek state-of-the-art facilities and processes
- Strengthen internal communications
- Develop 20-year vision

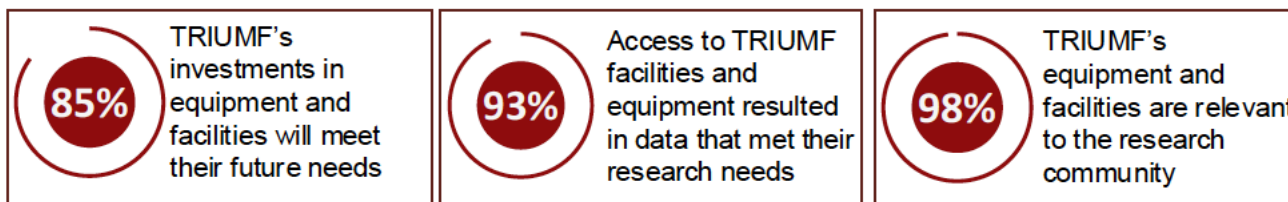


“Money follows vision”

TRIUMF Evaluation

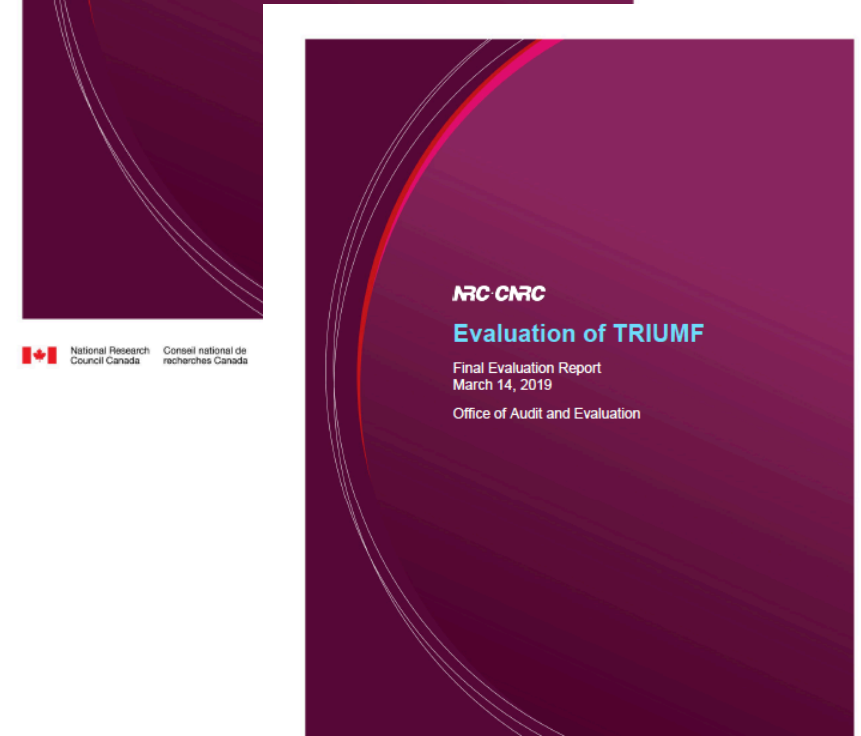
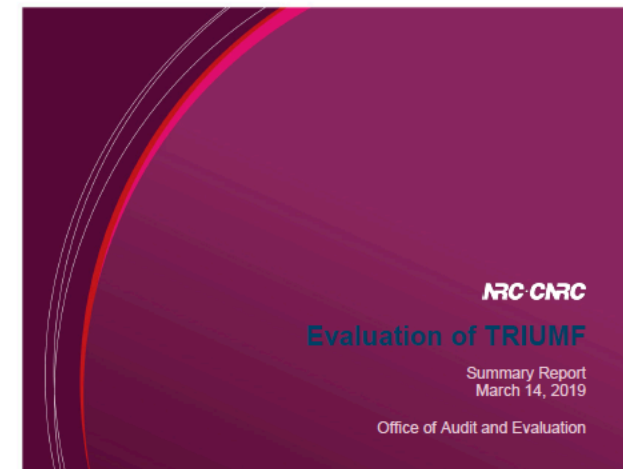
- Carried out by NRC Office of Audit and Evaluation
- Findings:
 - TRIUMF addresses the needs of Canadian scientists, is aligned with federal government priorities, and appropriately administered by the NRC
 - TRIUMF has made important contributions to science and has generated social and economic benefits for Canada
 - TRIUMF is committed to efficient and economic operations

Most TRIUMF users agree that:



Source: Survey of TRIUMF Users

Overall, evidence collected for the evaluation shows that researchers and students need TRIUMF to facilitate their work and that their use of TRIUMF is increasing.



Thank you for your vote of confidence during the evaluation!

Proposed Budget

$$\text{\$320M} = \text{\$222M} + \text{\$45M} + \text{\$3M} + \text{\$25M} + \text{\$25M}$$

\\$270M

Inflation

Infrastructure

- Meson Hall / BL1A prep
- Cyclotron
- Quantum Materials Infrastr.

Awarded Budget

$$\text{\$292M} = \text{\$222M} + \text{\$45M} + \text{\$25M}$$

\$292M allows us to move forward with our Plan

- Science and Technology
- People and Skills
- Innovation and Collaboration

BUT: We cannot do everything



Priorities for 2020-2025

- **ARIEL** – complete CFI project ~2026 (~2.5 years delay) with phased science delivery
 - Exploit CANREB/Phase 3 for science with ISAC beams
 - Complete Phase 1, enabling first science from e-linac in 2023
 - Complete Phase 4, enabling 3 parallel RIB beams in ~ 2026
- **IAMI** – complete construction and ramp up isotope production
- **TRIUMF Innovations** – advance key commercial opportunities (^{225}Ac , IAMI, Data Science, Detectors, etc.)
- Utilize \$25M supplement to enhance **reliability**, safety, and efficiency, addressing key risks
- **Deliver world-class on-site science** (ISAC, CMMS (M9H, POLARIS), UCN, Life Sciences, Theory, Data Science)
- **Support selected off-site particle physics activities** (ATLAS / HL-LHC, Hyper-K, ALPHA, nEXO, SuperCDMS)
- Continue site and process improvements
- Invest into People and Skills (student program [RBC Foundation], career development)

Summary of Beam Time Planning

- No reduced operation for 520 MeV cyclotron or ISAC foreseen
- ISAC/ARIEL
 - Exploit Science from CANREB with ISAC beam from 2020
 - RIB from e-linac coming online 2023 (2 parallel RIBs)
 - Deliver RIBs for ~ 3-4 months per year from e-linac (b/c of installation work in target hall)
 - Ramp up of betaNMR running time proportional to more RIB time available
 - Once Target Hall installation work is complete (~2026)
 - Start of extended RIB delivery from e-linac
 - Ramp up of RIB delivery from ARIEL proton target
 - Delivery of medical isotopes from Symbiotic Target in proton beam dump
- Meson Hall
 - Regular delivery to MuSR, UCN, PIF/NIF, IPF
 - M9 being reconnected and new M9H channel under construction
 - BL1A replacement plans being developed
 - Future beam delivery could be impacted by M9H and BL1A work



Thank You!
Merci!

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