



Schweizerische Eidgenossenschaft
Confédération suisse
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Federal Department of Economic Affairs,
Education and Research EAER

Swiss Science Council SSC

Evaluation of the Swiss National Science Foundation

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Annexe IX

Evaluation mandate from the State Secretariat for Education, Research and Innovation



Konzept zur Evaluation des Schweizerischen Nationalfonds zur Förderung der wissenschaftlichen Forschung (SNF)

1. Ausgangslage

Bildung, Forschung und Innovation (das «BFI-System») spielen eine zentrale Rolle für Gesellschaft und Wirtschaft. Wissenschaftliche Erkenntnisse sind nicht bloss für die Weiterentwicklung der Forschung wichtig, sondern können auch der Wirtschaft und Gesellschaft Impulse geben, um den Wandel – wie die digitale Transformation – besser verstehen und Chancen nutzen zu können. Erkenntnisse aus Forschung und Innovation sowie deren Nutzung für gesellschaftliche und wirtschaftliche Innovationen («marktorientierte Innovation») sind entscheidende Faktoren für den Erfolg und die Stärkung des Wissenschafts- und Wirtschaftsstandortes Schweiz.

Vor diesem Hintergrund ist es ein zentrales Anliegen des Bundes, seine Förderpolitik kontinuierlich zu überprüfen und die Rahmenbedingungen weiterzuentwickeln. Seine Förderpolitik basiert in wesentlichen Teilen auf Beiträgen an die beiden Förderorgane, dem Schweizerischen Nationalfonds für die wissenschaftliche Forschung (SNF) und der Innosuisse für die wissenschaftsbasierte Innovation. Deren Aktivitäten sind unter der Perspektive der gesamten Wertschöpfungskette (Grundlagenforschung – angewandte Forschung und Entwicklung – marktorientierte Innovation) angelegt und tragen – abgestützt im Hochschulraum Schweiz – massgeblich zur starken Position der Schweiz und ihrer internationalen Wettbewerbsfähigkeit im Bereich von Forschung und Innovation bei.

Die Grundsätze der Förderpolitik des Bundes werden im Forschungs- und Innovationsförderungsgesetz (FIG) dargelegt¹ und in den jeweiligen Finanzierungsbotschaften (Botschaft für Bildung, Forschung und Innovation, BFI-Botschaft) für eine Förderperiode von vier Jahren präzisiert. Ihre Umsetzung wird in Leistungsvereinbarungen zwischen den Förderorganen und dem Staatssekretariat für Bildung, Forschung und Innovation (SBFI) mit entsprechenden Zielen konkretisiert.² Als Förderorgane des Bundes sind SNF und Innosuisse verpflichtet, Bundesmittel nach Subventionsgesetz effizient und effektiv einzusetzen.

In der kommenden Förderperiode wird eine institutionelle Gesamtevaluation des SNF durchgeführt. Dabei soll die Fördertätigkeit des SNF auf seine Leistungs- und Entwicklungsfähigkeit in Bezug zum nationalen BFI-System sowie hinsichtlich der internationalen Wettbewerbsfähigkeit und Vernetzung überprüft werden. Im Hinblick auf die übernächste BFI-Periode 2025-2028 soll allfälliger Handlungsbedarf identifiziert werden. Der SNF wurde letztmalig im Jahr 2001 einer institutionellen Gesamtevaluation durch den Schweizerischen Wissenschaftsrat (SWR) unterzogen. Teilbereiche seiner Aktivitäten (Entwicklung von Fachbereichen, Forschungsinfrastrukturen) waren Gegenstand einer Evaluation 2014.³

¹ SR 420.1 Bundesgesetz über die Förderung der Forschung und Innovation.

² Im Falle der Innosuisse erfolgt dies de facto durch «Strategische Ziele des Bundes» (Stufe Bundesrat), weil hier der Bund – wie bei der ETH – sogenannter «Eigner» ist. Dies trifft aus rechtlicher Sicht für den SNF nicht zu. Der SNF ist formal eine privatrechtliche Stiftung, welche vom Bund mit Förderaufgaben beauftragt wird.

³ S. Anhang.

2. Gegenstand der Evaluation

Die Evaluation des SNF ist eine systemisch orientierte Gesamtevaluation zur Rolle und Funktion des SNF im nationalen BFI-System vor dem Hintergrund des neu geschaffenen «Hochschulraumes Schweiz» mit neuen Zuständigkeiten und Organen sowie neuen Grundlagen der Finanzierung (s. Hochschulförderungs- und Koordinationsgesetz, HFKG⁴). Hierbei ist insbesondere der gesamtschweizerischen hochschulpolitischen Koordination und der Aufgabenteilung in besonders kostenintensiven Bereichen sowie der Förderung der Profilbildung der Hochschulen Rechnung zu tragen. Unter dem Gesichtspunkt der gesamten Wertschöpfungskette in der Forschungs- und Innovationsförderung kommt sodann der Schnittstelle des SNF zur Innosuisse hohe Bedeutung zu. Dabei ist sowohl der Komplementarität der beiden Förderorgane bzw. deren Aufgaben wie auch der direkten Zusammenarbeit zwischen ihnen Rechnung zu tragen. Zu berücksichtigen ist hier die erfolgte Verselbständigung der Förderagentur Innosuisse materialisiert im Innosuisse-Gesetz SAFIG⁵ und die in der aktuellen Revision des FIFG vorgesehenen Anpassungen bei den Förderinstrumenten von Innosuisse.

Die im FIFG (insb. Art. 9 und Art. 10) dargelegten Aufgaben und Zuständigkeiten des SNF bilden den Rahmen und stehen als solche nicht zur Diskussion. Unter dem Gesichtspunkt künftiger Entwicklungen und Herausforderungen sollen diese gestützt auf die anstehende Evaluation allerdings auch Anpassungen erfahren können. Bei der beauftragten systemisch orientierten Evaluation geht es somit *nicht* um die allgemeine Frage, wie gut der SNF heute seinen gesetzlichen Auftrag bzw. die ihm übertragenen Aufgaben erfüllt. Der Fokus der Evaluation liegt auf

1. dem Gesamtportfolio (= Förderportfolio) des SNF
2. der Funktion und Wirkung seiner «Förderpolitik» im schweizerischen BFI-System
3. seinen zentralen Förderinstrumenten und ihrer Bedeutung mit Blick auf die künftige Entwicklung (übergeordnete Sicht)⁶

Die übergeordneten Leitfragen zu diesen «Dimensionen» werden nachstehend (Kap. 4) dargelegt. Ergänzend dazu sind in der beauftragten Evaluation weitere transversale Themen zu berücksichtigen.

Von der Evaluation explizit ausgenommen sind die *interne* Organisation und Governance des SNF.⁷

⁴ Mit dem neuen HFKG hat sich die Bedeutung der Koordination zwischen der Hochschulpolitik sowie der Forschungs- und Innovationsförderungs politik bedeutend verstärkt.

⁵ SR 420.2 Bundesgesetz über die Schweizerische Agentur für Innovationsförderung.

⁶ Diese «übergeordnete Sicht» besagt, dass keine Evaluation von einzelnen «Förderinstrumenten» erwartet wird; deren Prüfung, falls im Rahmen der systemisch orientierten Evaluation erforderlich, stützt sich auf vorhandene Konzepte und Evaluationsunterlagen (s. Anhang).

⁷ Diese waren in den letzten Monaten bereits Gegenstand einer internen Evaluation des SNF.

3. Förderportfolio SNF

Das Förderportfolio des SNF wird in folgende drei Kategorien zusammengefasst und mit den jeweiligen Kernelementen nachfolgend präzisiert (als Hintergrundinformation für die Evaluation):

- a) Projektförderung (Projekte und Programme),
- b) Nachwuchsförderung (Karriereförderung) und
- c) Infrastrukturförderung (Forschungsinfrastrukturen, Dateninfrastrukturen, R'equip/Apparaturen).

Bei dieser Gliederung wird *nicht* die Instrumenten-Klassifikation des SNF vorausgesetzt. Vielmehr geht es um das Gesamtportfolio des SNF unter dem Gesichtspunkt von drei *Hauptbereichen und -funktionen* der SNF-Förderung.

3.1 Projektförderung

Verteilung

rund drei Viertel der Gesamtmittel fliessen in diesen Bereich
(53% für Projektförderung, 20% für Programme, Zahlen 2019)

Beschreibung

Die Projektförderung dient der sogenannten «freien» Forschung, steht gemäss den gesetzlichen Vorgaben allen Forschenden und allen an schweizerischen Hochschulen vertretenen Fachbereichen und Disziplinen ohne thematische Vorgaben offen.

Mit 53 Prozent der Gesamtmittel beansprucht die im engeren Sinne verstandene, d.h. die thematisch «offene» Projektförderung den wichtigsten Platz in der Förderung des SNF. Ergänzend zur themenoffenen Projektförderung wurden neue Förderlinien, Pilotversuche oder zeitlich begrenzte Massnahmen mit spezifischem Fokus, sog. «targeted calls»,⁸ geschaffen.

Die Förderung im Rahmen von eigentlichen Programmen ist ein weiterer wichtiger Teil der Projektförderung. Sie beansprucht rund einen Fünftel (20%) der Fördermittel des SNF. Dabei handelt es sich um die Förderung von in bestimmter Weise «koordinierter» Forschungsvorhaben - Programme mit unterschiedlicher Zielsetzung, mit oder ohne thematische Vorgaben. Die wichtigsten zwei Instrumente des Bundes sind

- die in der Regel auf fünf Jahre ausgelegten *Nationalen Forschungsprogramme (NFP)* zwecks Untersuchung dringender gesellschaftlicher und wirtschaftlicher Fragen und
- die über maximal drei Perioden (12 Jahre) laufenden *Nationalen Forschungsschwerpunkte (NFS)* zwecks *Stärkung und/oder Etablierung neuer Forschungsgebiete und der nachhaltigen Schwerpunktbildung/Arbeitsteilung an den Hochschulen.*

Weitere hier wichtige Förderlinien des SNF sind das Programm *Sinergia* (Verbundprojekte unter Beteiligung mehrerer Forschergruppen zwecks Förderung interdisziplinärer Ansätze)

⁸ Dazu gehören etwa: *SPIRIT* (zwecks Stärkung Forschungszusammenarbeit mit Entwicklungsländern), *Spark* (niederschwellige Förderung neuer wissenschaftlicher Ideen mit Seed Money) oder die jüngst lancierten Initiativen des SNF wie der Sondercall zu Covid-19. Zudem gibt es auch innerhalb von Fachbereichen «targeted calls» wie z.B. die industrieunabhängigen Studien (IICT) im Bereich der medizinischen / klinischen Forschung.

sowie auch die Programme, die der besseren Vernetzung Schweizer Forschender auf europäischer und internationaler Ebene dienen (z.B. ERA-Net, COST oder die Bilateralen Programme und die Joint Programming Initiatives (JPR/JPI). Hinzu kommt die neue Förderlinie *Bridge* (Projektfinanzierung im präkompetitiven Bereich), die der SNF gemeinsam mit Innosuisse anbietet.

Um dem Forschungsauftrag der Fachhochschulen bei der Förderung vermehrt Rechnung zu tragen, hat der SNF mit der Kategorie «*anwendungsorientierte Grundlagenforschung*» die Möglichkeit geschaffen, dass Forschende (seit 2011) ihre Projekte unter der Kategorie «anwendungsorientiert» einreichen können und ihnen damit auch eine angemessene Evaluation zugesichert wird.

3.2 Nachwuchsförderung

Verteilung

rund ein Viertel der Gesamtmittel fliessen in diesen Bereich
(23%, Zahlen 2019)

Beschreibung

Die Nachwuchsförderung ist ein zentrales Anliegen des SNF. Sie erfolgt direkt mit spezifischen Instrumenten, bei welchen die Forschenden mit ihren eigenen Forschungsprojekten im Zentrum stehen, oder indirekt im Rahmen von Projekten / Programmen (namentlich NFS und NFP). Die in der direkten Nachwuchsförderung (= Karriereförderung) etablierten oder neu eingeführten Förderlinien bzw. Fördermassnahmen verfolgen namentlich das Ziel, den Forschenden die Möglichkeit zu geben, sich mit einem eigenen Projekt zu profilieren und damit eine möglichst frühe Unabhängigkeit erreichen zu können.

Der SNF setzt gezielt Mittel zur Karriereförderung ein, um den exzellenten wissenschaftlichen Nachwuchs zu unterstützen. Dazu zählen die Förderlinien *Eccellenza* mit den *Professorial Fellowship* (Salär und Projektmittel) und *Grants* für neu ernannte Tenure Track Assistenzprofessorinnen und -professoren (Projektmittel für Forschende mit Assistenzprofessur)⁹, *Ambizione* (Projektmittel mit oder ohne Salär für junge Forschende) und PRIMA (Förderprogramm für hervorragend qualifizierte Forscherinnen mit hohem Potential für eine Professur; Salär und Projektmittel). Um junge Talente für eine Forschungskarriere zu motivieren, hat der SNF weitere Massnahmen ergriffen, so etwa flexibel gestaltete Mobilitätsstipendien (Postdoc.Mobility), unterstützende Massnahmen für Projektmitarbeitende sowie Doktorierendenförderung in den Geistes- und Sozialwissenschaften.

3.3 Infrastrukturförderung

Verteilung

3% der Gesamtmittel SNF fliessen in diesen Bereich
(Zahlen 2019)

Beschreibung

Die Infrastrukturförderung des SNF umfasst ein relativ heterogenes Portfolio. Dazu zählen die Programme *R'Equip* (Beitrag an Beschaffungskosten für Apparaturen in Projekten),

⁹ Wird ab 2021 nicht mehr weitergeführt.

Editionen und Dateninfrastrukturen (Geistes- und Sozialwissenschaften), *Kohorten* (medizinischer Bereich) sowie *Infrastrukturnutzung* (Anrechnung von direkten Kosten zur Nutzung von Infrastrukturen). Bei der direkten Unterstützung von Infrastrukturen geht es in der Regel um eine subsidiäre, zeitlich befristete Anschubfinanzierung (maximal zehn Jahre) von Forschungsinfrastrukturen, die fachspezifisch sind und eine nationale Bedeutung haben. Eine Unterstützung erfolgt unter der Bedingung, dass die Nachfolgefinanzierung durch die Trägerorganisation / Hochschule(n) gesichert ist.¹⁰ Die aktuelle Förderpraxis des SNF soll auf Dateninfrastrukturen von nationaler Bedeutung (sog. DIS) erweitert werden. Gestützt auf die ersten Erfahrungen erarbeitet der SNF derzeit ein Konzept zur langfristigen Finanzierung von solchen Dateninfrastrukturen.

Neben der finanziellen Förderung von Forschungsinfrastrukturen nimmt der SNF auch Evaluationsaufgaben im Auftrag des Bundes wahr. Die Forschungsinfrastrukturen spielen bei der Förderpolitik des Bundes eine wichtige Rolle, da sie für die Forschung eine hohe Bedeutung zur (Weiter-)Entwicklung von Fachgebieten und Forschungsbereichen haben. Das Gesetz sieht vor, dass der Bund bei besonders kostenintensiven Forschungsinfrastrukturen eine Koordinationsrolle übernehmen muss; diese sieht vor, dass eine kohärente Abstimmung zwischen der internationalen F&I-Förderung mit der ETH-Planung und der Hochschulplanung in kostenintensiven Bereichen erfolgt. In diesem Zusammenhang erarbeitet das SBFI periodisch im Hinblick auf die BFI-Botschaft eine Auslegeordnung neu geplanter nationaler und internationaler Forschungsinfrastrukturen. Der SNF übernimmt dabei im Auftrag des Bund / SBFI die Evaluation der von den Hochschulen angemeldeten Vorhaben.¹¹

¹⁰ Artikel 10 Absatz 3 Buchstabe c FIG: Der SNF entscheidet im Rahmen der ihm zugewiesenen Aufgaben und Zuständigkeiten über die geeigneten Instrumente und die Form der Förderung. Er konzentriert sich dabei auf die Förderung [...] von Forschungsinfrastrukturen, die der Entwicklung von Fachgebieten in der Schweiz dienen und nicht in die Zuständigkeit der Hochschulforschungsstätten oder des Bundes fallen.

¹¹ Artikel 41 Absatz 4 FIG.

4. Leitfragen

4.1 Übergeordnete Leitfragen [A]

<p>Leitfragen zum</p> <p>SNF-Portfolio (Gesamtsicht)</p>	<ol style="list-style-type: none"> 1. Wie wird die Prioritätensetzung der Aufgaben und die Verteilung der Mittel im Förderportfolio des SNF beurteilt? 2. Inwiefern erlaubt es das aktuelle Aufgaben- und Förderportfolio dem SNF, flexibel und vorausschauend auf Veränderungen im BFI-System zu reagieren und dieses mitzugestalten? 3. Welches sind die wesentlichen mittel- und längerfristigen Herausforderungen für ein entwicklungsfähiges und in sich kohärentes Förderportfolio?
<p>Leitfragen zur</p> <p>Wirkung und Funktion der SNF-Förderung im nationalen BFI-System</p>	<ol style="list-style-type: none"> 1. Hat sich die Stellung des SNF im BFI-System aufgrund des neuen HFKG verändert? 2. Welche Auswirkungen haben die Fördermassnahmen der Projektförderung auf die unterschiedlichen Profile der drei Hochschultypen? 3. Wie werden die Auswirkungen der SNF-Förderpolitik auf den «Hochschulraum Schweiz», auf die Hochschulorgane sowie auf die strategische Ausrichtung der Hochschulen (UH, FH, PH) beurteilt? 4. Welche Rolle kommt der SNF-Förderung im Rahmen des neuen Hochschulraums HFKG zu verstärkenden Koordination unter den Hochschulen hinsichtlich Schwerpunktbildung und Aufgabenteilung zu? Welche systemgestaltende Funktion soll die SNF-Förderung in diesem Kontext haben?
<p>Leitfragen zur</p> <p>SNF-Förderung in der internationalen Zusammenarbeit</p>	<ol style="list-style-type: none"> 1. Welche Bedeutung haben die zentralen Förderinstrumente des SNF im Hinblick auf die künftige Positionierung und Wettbewerbsfähigkeit der Schweizer Forschenden bzgl. internationaler Entwicklungen? 2. Welche Instrumente oder Möglichkeiten bei der europäischen und weltweiten Zusammenarbeit wären stärker zu nutzen?

4.2 Leitfragen zur Projektförderung [B]

<p>Leitfragen zum</p> <p>Förderansatz (reaktiv vs proaktiv) des SNF</p> <p>(I)</p>	<ol style="list-style-type: none"> 1. Wie wirkungsvoll und zukunftsfähig ist der vom SNF konsequent verfolgte bottom-up basierte Förderansatz in der Projektförderung? 2. Bedarf es seitens des SNF vermehrter Anstrengungen in Richtung einer durch den Forschungsrat geführten proaktiven Förderpolitik, welche zur Entwicklung und Stärkung von neuen «bahnbrechenden» (interdisziplinär vernetzten) Forschungsgebieten aktive Impulse an die Forschungsgemeinschaft gibt?
<p>Leitfrage zur</p>	<ol style="list-style-type: none"> 1. Wie wird der Vorrang der «Einzelprojektförderung» <i>innerhalb</i> der SNF-Projektförderung unter dem Gesichtspunkt der wachsenden Bedeutung der kollaborativen und interdisziplinären Forschung in

<p>Verteilung der Mittel und zur Förderung von Forschungsverbänden</p> <p>(II)</p>	<p>grösseren Konsortien bewertet? Kommt dieser im SNF-Portfolio eine ausreichend angemessene Bedeutung zu? Entstehen diesbezüglich neue Herausforderungen, denen im Förderformat verbessert Rechnung zu tragen ist?</p>
<p>Leitfragen zur</p> <p>SNF-Förderung unter dem Aspekt der Wertschöpfungskette</p> <p>(III)</p>	<ol style="list-style-type: none"> 1. Wie werden die verschiedenen Massnahmen des SNF mit Blick auf die Förderung in der ganzen Wertschöpfungskette beurteilt? Bestehen Förderlücken diesbezüglich? Wie werden im Speziellen die Massnahmen zur Förderung von High Risk-Projekten beurteilt? 2. Wie werden unter dem Gesichtspunkt der Komplementarität die Aufgaben und Zuständigkeiten und die Zusammenarbeit der Förderorgane SNF und Innosuisse insgesamt beurteilt? Sind Klärungen bei Schnittstellen oder bei der Förderzuständigkeit erforderlich? Wie ist die Förderung im präkompetitiven Bereich zu beurteilen, die in Zusammenarbeit mit der Innosuisse läuft? Deckt das neu geschaffene Instrument «Bridge» den Bedarf ausreichend ab oder sind weitere Massnahmen erforderlich? 3. Wie sind die Zusammensetzung der Expertenpanel und die Evaluationskriterien zu beurteilen in Berücksichtigung der für die unterschiedlichen Förderinstrumente erforderlichen Expertise? Bedarf es hier beim SNF einer Praxisanpassung? 4. Braucht auch die Schweiz unter dem Aspekt der wachsenden Komplexität der Sachzusammenhänge zwischen Grundlagenforschung, angewandter Forschung und Innovation übergreifende, an Themen (wie z.B. Energie) gebundene bzw. «missionsorientierte» Fördermassnahmen, die zwischen SNF und Innosuisse koordiniert «angeboten» werden?

4.3 Leitfragen zur Nachwuchsförderung /Karriereförderung [C]

<p>Leitfragen zum</p> <p>SNF-Portfolio Nachwuchsförderung (im Kontext Hochschulraum Schweiz)</p> <p>(I)</p>	<ol style="list-style-type: none"> 1. Wie ist die Abstimmung der SNF-Fördermassnahmen zur Karriereförderung mit jenen der Hochschulen zu beurteilen: Berücksichtigen die vom SNF eingesetzten Instrumente zur Nachwuchsförderung in adäquatem Mass die Aufgaben und unterschiedlichen Profile der verschiedenen Hochschultypen (UH; FH; PH)? 2. Wie sind die Fördermöglichkeiten durch den SNF <i>nach der Phase der Promotion</i> zu beurteilen (in der Annahme, dass hier die Hauptförderfähigkeit des SNF liegt)? Welche Wirkung entfalten diese Instrumente im Gesamtsystem (in der Annahme, dass es eine Rollenverteilung zwischen SNF und Hochschulen gibt und die Doktorandenförderung primär in die Zuständigkeit der Hochschulen fällt)? 3. Bestehen für die (mit nationalen wie mit internationalen Instrumenten) vom SNF unterstützten wissenschaftlichen Nachwuchskräfte ausreichend klare Perspektiven an den Hochschulen («Verankerung» von strukturierten Karriereverläufen der Nachwuchskräfte)? Oder braucht es hier zusätzliche Unterstützungsmassnahmen seitens des SNF?
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Leitfragen zur Exzellenz und frühe Unabhängigkeit (II)	<ol style="list-style-type: none"> 1. Wie ist die Wirkung der neu profilierten Instrumente zur Förderung exzellenter Nachwuchskräfte (z.B. Eccellenza) im SNF-Förderportfolio im Kontext der europäischen Förderung zu beurteilen? 2. Wie effektiv ist die Umsetzung des Ziels, exzellente Nachwuchskräfte möglichst früh und als unabhängige Forschende zu fördern? Welche belegbaren Effekte sind erkennbar?
Leitfragen zur Frauenförderung (III)	<ol style="list-style-type: none"> 1. Wie werden die Wirksamkeit der spezifischen Instrumente und Massnahmen zur Frauenförderung beurteilt? 2. Sind weitere Massnahmen oder andere Förderansätze notwendig?

4.4 Leitfragen und spezifische Fragen zur Infrastrukturförderung [D]

Leitfragen zur Bedeutung der Infrastrukturförderung im SNF-Portfolio (I)	<ol style="list-style-type: none"> 1. Kommt der Infrastrukturförderung im Portfolio des SNF ausreichend Bedeutung zu? 2. Wie wird die Kohärenz des SNF-Förderportfolios im Bereich Infrastrukturen und seiner Kriterien (auf dem Hintergrund internationaler Entwicklungen) beurteilt? 3. Wie werden die vorhandenen Instrumente der Forschungsinfrastrukturförderung bezüglich Schwerpunkte und Abstimmung mit der gesamtschweizerischen hochschulpolitischen Koordination und der Aufgabenteilung nach HFKG beurteilt?
Leitfrage zur Rolle des SNF im Roadmap-Prozess (II)	<ol style="list-style-type: none"> 1. Wie wird die Rolle des SNF im Roadmap-Prozess als «wissenschaftliche Evaluationsinstanz mit strategischem Gewicht» beurteilt (auf dem Hintergrund der erfolgten Anpassungen im Prozess)?

4.5 Übergeordnetes Thema

Bei der Beantwortung der übergeordneten Leitfragen (Kap. 4.1) sollen in dieser systemisch orientierten Gesamtevaluation auch die Rolle und Beiträge des SNF zu folgendem transversalen Thema berücksichtigt werden:

- Kontinuierliche Weiterentwicklung einer wertschöpfenden und nachhaltigen Forschungskultur (handlungsleitende Grundsätze und ihre Umsetzung; z. B. Open Access to publications und Open Science Data; good practice in research and evaluation – DORA-Deklaration)

5. Verfahren und Rahmenbedingungen

Die Evaluation soll in zwei Stufen erfolgen:

- 1) Selbstevaluation durch den SNF (Präsidium des Forschungsrates und Direktion)
 - ⇒ erwartet wird ein entsprechender Bericht (fortan: Basisbericht), der auch dem internationalen Expertenpanel zur Verfügung gestellt werden kann.
- 2) externe Evaluation durch den SWR mit folgenden Teilen:
 - Einsetzung eines internationalen Expertenpanels
 - ⇒ erwartet wird ein entsprechender Bericht (fortan: Panelbericht), der auch dem SNF zum gegebenen Zeitpunkt zur Verfügung gestellt werden kann.
 - Ein Schlussbericht des SWR mit Darstellung der Hauptbefunde, der Beantwortung der Leitfragen und Handlungsempfehlungen (fortan: SWR-Bericht) zuhanden SBFI.
 - ⇒ Der Basisbericht und der Panelbericht sind integrale, aber klar abgegrenzte Bestandteile des SWR-Schlussberichts.

Der SWR ist für die Gesamtorganisation der Evaluation zuständig. In seiner Verantwortung liegt gemäss Mandat insbesondere die Ausarbeitung eines Umsetzungsplanes, einschliesslich:

- Konkretisierung der Vorgaben an den SNF zur Erarbeitung des *Basisberichtes*;
- die Ernennung internationaler Experten/innen und die Organisation des Panels
- Konkretisierung der Vorgaben zur Erarbeitung des *Panelberichtes*
- den Einbezug der Innosuisse, soweit sinnvoll und erforderlich
- das Verfassen des Schlussberichts mit Empfehlungen (*SWR-Bericht*).

Der SWR informiert das SBFI sowie den SNF über seine Umsetzungsplanung.

Im Weiteren sind folgende Vorgaben zu beachten:

- Bei der Ernennung der Expertinnen und Experten des internationalen Panels achtet der SWR auf eine ausgewogene Vertretung der Fachbereiche und Geschlechter. Dabei gibt er dem SNF vorgängig die Möglichkeit, zur Zusammensetzung des internationalen Panels Stellung zu nehmen (begründete Einwände sind zu berücksichtigen; Vetorecht SNF)
- Der SWR sorgt für die erforderliche Abstimmung zwischen Basisbericht (Selbstevaluation) und Panelbericht (internationale Expertinnen und Experten) als integrale, aber klar abgegrenzte Bestandteile des SWR-Schlussberichts. Sie werden dem SNF und ergänzend auch der Innosuisse zur Stellungnahme unterbreitet. Der SWR-Schlussbericht beinhaltet im Publikationsformat auch die erwähnten Stellungnahmen sowie eine Stellungnahme zu den Empfehlungen des SWR zuhanden des SBFI.
- Vom SNF (Präsidium des Forschungsrates und Direktion) wird erwartet, dass er zum vorliegenden Evaluationskonzept in geeigneter Form zuhanden des SBFI Stellung nimmt. Im Rahmen der Gesamtevaluation unter der Leitung des SWR wird vom SNF das zur Verfügung stellen aller für die Evaluation erforderlichen Informationen. (unter Wahrung der in der Fördertätigkeit des SNF etablierten Datenschutzbestimmungen) erwartet.
- Die Innosuisse stellt dem SWR auf Nachfrage Dokumente und Daten zur Verfügung, die für die Evaluation der Schnittstelle «Innosuisse – SNF» notwendig sind.

6. Zeitplan

Die Aktivitäten des SWR (Umsetzungsplan gemäss Mandat): Die Bestellung des internationalen Panels und der Start der Evaluation erfolgen bis spätestens 30.4.2021.

Die Evaluation wird abgeschlossen mit der Abgabe des Schlussberichtes des SWR zu Händen des SBFI bis spätestens Ende 3. Quartal 2022.

Die wichtigsten Meilensteine sind im Mandat an den SWR präzisiert. Die detaillierte Zeitplanung ist Sache des SWR.

Anhang

Gesetzliche Grundlagen

Botschaften und gesetzliche Grundlagen:

- **BFI-Botschaften** (bezüglich SNF-Kapitel): 2004-2007, 2008-2011, 2012, 2013-2016, 2017-2020, 2021-2024.
- **Bundesgesetz über die Förderung der Forschung und der Innovation**, FIGG (SR 420.1.) und die entsprechenden FIGG-Verordnungen
- Verordnung zum Bundesgesetz über die Förderung der Forschung und der Innovation (Forschungs- und Innovationsförderungsverordnung, V-FIGG; SR 420.11)
- Verordnung des WBF zur Forschungs- und Innovationsförderungsverordnung (V-FIGG-WBF; SR 420.111)
- **Bundesgesetz über die Förderung der Hochschulen und die Koordination im schweizerischen Hochschulbereich** (Hochschulförderungs- und Koordinationsgesetz, HFKG; SR 414.20)

Grundlegendokumente

- Evaluation des Schweizerischen Nationalfonds (SNF) und der Kommission für Technologie und Innovation (KTI); Schlussbericht des Schweizerischen Wissenschafts- und Technologierates (SWTR) an den Bundesrat: Bern 30.5.2002.
- «An Evaluation of the Transparency and Overall Quality of Evaluation at the Swiss National Science Foundation, Final Report, Kalamazoo, MI: Western Michigan University, The Evaluation Center., 2013
- [Evaluation des Schweizerischen Nationalfonds in Bezug auf die strategische Förderung von Forschungsinfrastrukturen und Fachgebieten, SWIR Schrift 5/2015, Oktober 2015](#)
- [Wirkungsprüfung Nationale Forschungsprogramme, SBFI 2007.](#)
- Impact evaluation of National Research Programmes 59, 60 and 61»_Technopolis inkl. Stn SNF, 2018. <https://www.technopolis-group.com/de/report/impact-evaluation-of-national-research-programmes-59-60-and-61/>
- [Systematische Wirkungsprüfung der Nationalen Forschungsschwerpunkte NFS \(Erste Serie, 2001–2013\), SWIR Schrift 7/2015, Dezember 2015.](#)
- Konzeptbericht mit Optionen für eine Neupositionierung der NCCR, Konzeptpapier des SNF zuhanden des SBFI.
- [Swiss National Centres of Competence in Research \(NCCR\), Evaluation of the selection process, SNF 2016](#)
- SNF-Förderung an Fachhochschulen, pädagogischen Hochschulen und an vom Bund unterstützten Technologiekompetenzzentren, Bericht SNF im Auftrag des SBFI, 2019.
- [Bericht zur Analyse der Kategorie anwendungsorientierte Grundlagenforschung](#) (2017) inkl. Bericht Technopolis, Use-inspired Basic Research at SNSF, May 2017



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Economic Affairs,
Education and Research EAER

Swiss Science Council SSC

Annexe X

Evaluation procedure of the SSC



Evaluation des Schweizerischen Nationalfonds zur Förderung der wissenschaftlichen Forschung (SNF)

Vorgehen des Schweizerischen Wissenschaftsrats (SWR)

1 Evaluationsmandat

Das Staatssekretariat für Bildung, Forschung und Innovation (SBFI) hat den Schweizerischen Wissenschaftsrats (SWR) am 30. November 2020 mandatiert, den Schweizerischen Nationalfonds zur Förderung der wissenschaftlichen Forschung (SNF) einer institutionellen Gesamtevaluation zu unterziehen. Die Evaluation soll im Hinblick auf die BFI-Periode 2025–2028 allfälligen Handlungsbedarf identifizieren. Das SBFI hat im Mandat folgende drei Evaluationsschwerpunkte definiert:

1. Das Förderportfolio des SNF
2. Die zentralen Förderinstrumente des SNF (d.h. Projektförderung, Nachwuchsförderung und Infrastrukturförderung)
3. Die Funktion und Wirkung des SNF im schweizerischen BFI-System

Zu diesen drei Schwerpunkten hat das SBFI insgesamt 28 Evaluationsfragen formuliert und diese Fragen dem SWR sowohl in Deutsch als auch in Englisch vorgelegt. Weitere Angaben zum Mandat des SBFI können dem «Annexe IX: Evaluation mandate from the State Secretariat for Education, Research and Innovation» entnommen werden.

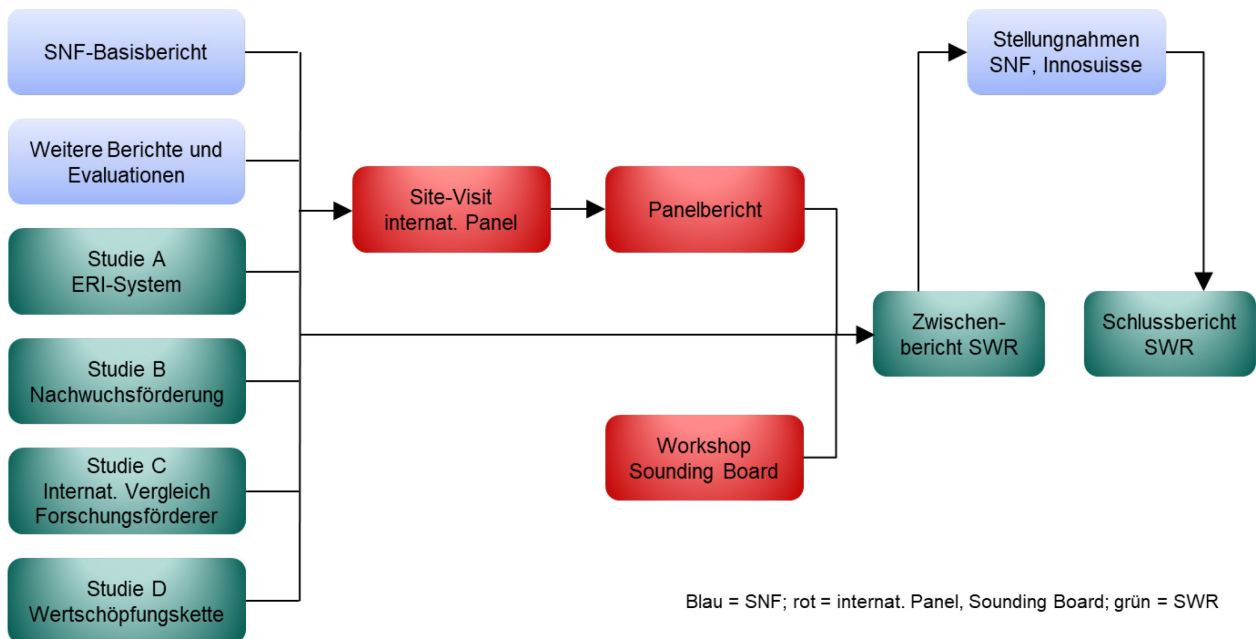
2 Evaluationsverfahren

2.1 Überblick

Die evaluativen Tätigkeiten setzten sich zusammen aus einer *Selbstevaluation* durch den SNF und einer *Fremdevaluation*, die durch ein internationales Expertenpanel und den SWR geleistet wurden. Die Hauptelemente des Evaluationsverfahrens und deren Zusammenhang sind in Abbildung 1 dargestellt. Die Selbstevaluation des SNF erfolgte im sog. «Basisbericht». Neben dem Basisbericht stellte der SNF dem SWR zahlreiche weitere Berichte und bereits vorhandene Evaluationen zur Verfügung. Der SWR gab vier Studien in Auftrag, um ausgewählte Themen zu vertiefen. Zur Vorbereitung der Site-Visit erhielt das internationale Expertenpanel den Basisbericht des SNF sowie eine Zusammenfassung der vorbereitenden Arbeiten des SWR (Studien, Analysen). Nach der Site-Visit verfasste das Expertenpanel einen Bericht, der wie der Basisbericht des SNF im Originalwortlaut in den Zwischenbericht des SWR aufgenommen wurde. Der SWR stellte ein *Sounding Board* mit Führungskräften aus der Schweiz zusammen, um mit ihnen im Rahmen von Workshops die gegenwärtige und zukünftige Rolle des SNF im BFI-System zu diskutieren. Auf der Grundlage aller vorhandenen Berichte, Dokumente und Erkenntnisse arbeitete der SWR einen

Zwischenbericht mit Empfehlungen aus, der dem SNF und Innosuisse zur Stellungnahme unterbreitet wurde. Der Zwischenbericht und die Stellungnahmen bilden den Schlussbericht des SWR. In den folgenden Abschnitten werden die wichtigsten Elemente des Evaluationsverfahrens ausführlicher beschrieben.

Abbildung 1. Hauptelemente des Evaluationsverfahrens



2.2 Basisbericht des SNF

Die Selbstevaluation des SNF (sog. «Basisbericht») bildete die Grundlage für die vom SWR durchgeführte Evaluation und diente dem internationalen Expertenpanel zur Vorbereitung der Site-Visit. Der Basisbericht des SNF beantwortet sowohl die 28 Evaluationsfragen des SBFI als auch die weiteren Fragen des SWR (sog. «key questions of the SSC»). Der SWR hat dem SNF eine «Wegleitung zur Erstellung des Basisberichts» zur Verfügung gestellt. Der Basisbericht ist im «Annexe II: SNSF Self-Evaluation» im Originalwortlaut wiedergegeben.

2.3 Weitere Berichte und Evaluationen des SNF

Neben dem Basisbericht hat der SNF im Verlaufe der Evaluation dem SWR über 70 weitere Dokumente zur Verfügung gestellt, die den vier Bereichen «Evaluationen», «interne Berichte und Monitorings», «wissenschaftliche Publikationen» und «Strategie» zugeordnet werden können. Darüber hinaus hat der SNF Daten bereitgestellt und Auswertungen angefertigt, die vom SWR im Verlaufe der Evaluation nachgefragt wurden. Neben dem SNF hat auch Innosuisse Daten, Berichte und Auswertungen zur Evaluation beigesteuert.

2.4 Studie A – Wirkung und Funktion des SNF im BFI-System

Die Wirkung und Funktion des SNF im BFI-System ist eines der zentralen Evaluationsthemen im Mandat des SBFI. Da zu diesem Thema nur wenige Dokumente und Daten vorliegen, hat der SWR

eine externe Studie in Auftrag geben, in welchem Interviews mit einem breiten Spektrum an Personen zu den entsprechenden Evaluationsfragen geführt wurden (Leitungspersonen von universitären Hochschulen, Fachhochschulen und pädagogischen Hochschulen; Expertinnen und Experten; Vertreterinnen und Vertreter des politisch-administrativen Sektors). Im Rahmen der Interviews wurden zudem weitere Fragen gestellt, die für Leitungspersonen von Hochschulinstitutionen besonders relevant sind (z.B. zum Förderportfolio des SNF und zur künftigen Entwicklung des SNF). Eine detaillierte Beschreibung der Methodik der Studie findet sich im «Annexe III: Study A – Impact and function of SNSF funding within the Swiss ERI system».

2.5 Studie B – Nachwuchsförderung

Da die Fragen des SBFi zur Nachwuchsförderung im Kontext des Hochschulraums Schweiz (A.I.1., A.I.2., A.I.3.) aufgrund der bereits vorhandenen Dokumente nicht abschliessend beantwortbar waren, hat der SWR eine externe Studie in Auftrag geben. Die Studie bestand aus einer Analyse der wissenschaftlichen Literatur, einer Sekundäranalyse von Daten des SNF und des Bundesamts für Statistik sowie aus Fallstudien an acht ausgewählten Hochschulen. Eine detaillierte Beschreibung der Methodik der Studie findet sich im «Annexe IV: Study B – Impact of SNSF career funding on the Swiss higher education and research system».

Um sicherzustellen, dass diejenigen Hochschulen, die nicht teil der Fallstudien waren, ihre Einschätzungen zu drei Nachwuchsfragen (A.I.1., A.I.2., A.I.3.) in die Evaluation einbringen konnten, hat der SWR drei digitale Diskussionsrunden organisiert. Die Teilnehmenden waren Dekaninnen und Dekane (universitäre Hochschulen), Leitende von Departementen und Schulen (Fachhochschulen) und Leitende im Bereich Forschung (Pädagogische Hochschulen). Vertretende von folgenden Hochschulen haben an den Diskussionsrunden teilgenommen:

Diskussionsrunde Pädagogische Hochschulen (25. Oktober 2021)

- Eidgenössischen Hochschule für Berufsbildung
- Haute Ecole Pédagogique des cantons de Berne, du Jura et de Neuchâtel
- Haute Ecole Pédagogique du Valais
- Haute Ecole Pédagogique Fribourg
- Interkantonalen Hochschule für Heilpädagogik
- Pädagogische Hochschule Bern
- Pädagogische Hochschule Schaffhausen
- Pädagogische Hochschule St. Gallen

Diskussionsrunde Fachhochschulen (27. Oktober 2021)

- Berner Fachhochschule
- Careum Hochschule Gesundheit
- Fachhochschule Graubünden
- Fachhochschule Nordwestschweiz
- Hochschule Luzern
- Kalaidos Fachhochschule
- Ostschweizer Fachhochschule
- Zürcher Hochschule der Künste

Diskussionsrunde Universitäre Hochschulen (28. Oktober 2021)

- Universität Basel

- Universität Bern
- Universität Freiburg
- Universität Luzern
- Universität St. Gallen
- Université de Genève
- Université de Neuchâtel

Die Autorinnen der Studie B nahmen in einer Beobachterrolle an den Diskussionsrunden teil.

2.6 Studie C – Internationaler Vergleich von neuen Forschungsförderungsorganisationen

Um den SNF einem internationalen Vergleich zu unterziehen, hat der SWR eine externe Studie in Auftrag gegeben, in welcher der SNF mit acht Forschungsförderungsorganisationen aus dem Ausland verglichen wurde. Die Studie fokussierte auf die strategisch wichtige Projektförderung. Zudem wurde für jede Organisation der jeweilige nationale Kontext charakterisiert und die Organisation anhand zentraler Dimensionen beschrieben (z.B. Mission, Evaluations- und Entscheidungsmechanismen, Förderportfolio, wichtige Entwicklungen und Veränderungen). Methodisch war die Studie als Dokumentenanalyse angelegt, wobei die Resultate der Dokumentenanalyse mit der jeweiligen Forschungsförderungsorganisation validiert wurden. Eine detaillierte Beschreibung der Methodik der Studie findet sich im «Annexe V: Study C – International comparison of nine research funding agencies».

2.7 Studie D – Wertschöpfungskette

Da das SBFi im Evaluationsmandat der Förderung der Wertschöpfungskette und der Schnittstelle zwischen dem SNF und Innosuisse eine grosse Bedeutung beigemessen hatte, hat der SNF eine externe Studie in Auftrag gegeben. Die thematischen Schwerpunkte der Studie lagen auf allgemeinen Fragen zur Wertschöpfungskette, dem Förderinstrument BRIDGE als Schnittstelle zwischen SNF und Innosuisse sowie auf der Relevanz von themengebundenen und missionsorientierten Fördermassnahmen. Im Rahmen der Studie wurden zwei grossangelegte Befragungen durchgeführt: Zum einen wurden Personen befragt, die in den Jahren 2017 bis 2020 einen Antrag bei wertschöpfungskettenorientierten Fördergefässen des SNF gestellt hatten. Zum anderen wurden Forschende befragt, die mit denjenigen aus der ersten Befragung vergleichbar waren, aber keinen Förderantrag beim SNF eingereicht hatten. Eine detaillierte Beschreibung der Methodik der Studie findet sich im «Annexe VI: Study D – SNSF funding under the aspect of the value chain».

2.8 Internationales Expertenpanel

Für die Auswahl der Mitglieder des Expertenpanels hat der SWR die folgenden Auswahlkriterien festgelegt:

- Internationalität
- Diversität
- Personen mit ausgeprägten Kompetenzen in Bezug auf die drei Hauptdimensionen der Evaluation (Förderportfolio des SNF, Funktion und Wirkung der Förderpolitik des SNF im BFI-System, zentrale Förderinstrumente des SNF)
- Erfahrung in Bezug auf Strategie und Führung
- Personen aus Ländern mit Förderorganisationen, die mit dem SNF vergleichbar sind

- Personen sowohl aus Förderorganisationen mit einem proaktiven Fokus als auch aus Förderorganisationen mit einem Bottom-Up-Ansatz.
- Unabhängigkeit, Unparteilichkeit

Zudem sollte das Expertenpanel die durch die SNF-Abteilungen vorgegebene Disziplinenstruktur repräsentieren können (Geistes- und Sozialwissenschaften; Mathematik, Natur- und Ingenieurwissenschaften; Biologie und Medizin). Um die Schnittstellen und die Zusammenarbeit mit Innosuisse evaluieren zu können, sollte das Expertenpanel Expertise im Bereich «Innovation» aufweisen.

Basierend auf diesen Kriterien hat der SWR eine Liste mit Vorschlägen ausgearbeitet und zur Kommentierung dem SNF übermittelt. Basierend auf den Rückmeldungen des SNF hat der SWR die Liste überarbeitet und, mit der Zustimmung des SNF, folgende sieben Expertinnen des SNF eingeladen:

Geistes- und Sozialwissenschaften

- Marina Münkler
Professorin
Institut für Germanistik, TU Dresden, Deutschland
Mitglied des Deutschen Wissenschaftsrats
- Reinhilde Veugelers
Professorin
Department of Management, Strategy and Innovation, KU Leuven, Belgium

Mathematik, Natur- und Ingenieurwissenschaften

- Jean-Pierre Bourguignon
Honorary Professor
Institut des Hautes Études Scientifiques, Bures-sur-Yvette, France
- Matthias Kleiner
Präsident der Leibniz Gemeinschaft
Professor am Institut für Umformtechnik und Leichtbau, TU Dortmund, Deutschland

Biologie und Medizin

- Geneviève Almouzni
Directeur de recherche at CNRS
Institut Curie, Paris
- Ashok Venkitaraman
Distinguished Professor of Medicine, National University of Singapore
Director, The Cancer Science Institute of Singapore

Innovation

- Terrence Brown
Professor
The Department of Industrial Economics and Management, Royal Institute of Technology, Stockholm, Sweden

Das Expertenpanel wurde von Jean-Pierre Bourguignon präsiert.

2.9 Site-Visit

Zur Vorbereitung der Site-Visit hat der SWR dem Expertenpanel eine umfangreiche Dokumentation zugeschickt (inkl. Basisbericht des SNF). Zudem hat der SWR vor der Site-Visit mit dem Expertenpanel ein Briefing zur Evaluation durchgeführt (13. Dezember 2021) und offene Fragen geklärt (7. Januar 2022). Aufgrund der pandemischen Lage wurden sowohl die Vorbereitung der Site-Visit als auch die Site-Visit digital durchgeführt.

Das Programm der Site-Visit für das internationale Expertenpanel wird im Folgenden auf Englisch wiedergegeben. Die Arbeitsgruppe des SWR und das Sekretariat des SWR nahmen in einer Beobachterrolle an allen Gesprächen teil, nicht aber an den panel-internen Diskussionen. Die Gespräche wurden von den Mitgliedern des Expertenpanels geleitet.

Tuesday, 11 January

Time	Activities	Participants
10:00-12:00	Exchanging first impressions on SNSF Panel discussion	SSC Working Group
12:00-13:00	Lunch break	
13:00-13:30	Discussion (panel only)	
13:30-16:30	Meeting – Role and impact of the SNSF within the ERI system – Funding portfolio – Main funding instruments	SNSF Leadership
17:00-18:00	Discussion (panel only)	

SNSF Leadership

- Jürg Stahl, President of the Foundation Council
- Matthias Egger, President of the National Research Council
- Angelika Kalt, Director of the SNSF

SSC Working Group

- Susanna Burghartz (Department of History, University of Basel)
- Dominique Foray (Management of Technology and Entrepreneurship Institute, EPF Lausanne)
- Susan Gasser (Swiss Institute for Experimental Cancer Research, Lausanne)
- Sabine Süsstrunk (President of the SSC; Institute of Computer and Communication Sciences, EPF Lausanne)
- Anna Valente (Laboratory for Automation, Robots and Machines, SUPSI, Lugano)
- Secretariat of the SSC

Wednesday, 12 January

Time	Activities	Participants
8:30-11:00	Meeting	Presidents of the SNSF divisions

	<ul style="list-style-type: none"> – Funding portfolio – Main funding instruments 	(I-IV) and specialized committees (International Co-operation, Careers, Interdisciplinary Research)
11:15-12:15	Discussion (panel only)	
12:15-13:30	Lunch break	
13:30-16:00	Meeting <ul style="list-style-type: none"> – Role and impact of the SNSF within the ERI system – Funding portfolio 	Executive Committee of the SNSF Foundation Council
16:30-18:00	Discussion (panel only)	

Presidents of the SNSF divisions and specialized committees

- Laura Bernardi, President of the division Humanities and Social Sciences
- Bernd Gotsmann, President of the division Mathematics, Natural and Engineering Sciences
- Matthias Peter, President of the division Biology and Medicine
- Dimos Poulidakos, President of the division Programmes
- Anna Fontcuberta i Morral, President of the specialised committee International Co-operation
- Gabriele Rippl, President of the specialised committee Careers
- Andreas Mayer, President of the specialised committee Interdisciplinary Research

Executive Committee of the SNSF Foundation Council¹

Representatives of the universities and federal institutes of technology

- Daniel Candinas, University of Berne
- Katharina M. Fromm, University of Fribourg
- Franciska Krings, University of Lausanne
- Torsten Schwede, University of Basel
- Dominique Soldati-Favre, University of Geneva
- Harald Brune, EPF Lausanne
- Stefanie Walter, University of Zurich
- Sabine Werner, ETH Zurich

Cooptations (at the invitation of the Executive Committee of the Foundation Council)

- Denis Duboule, EPF Lausanne, University of Geneva

Members elected by the Federal Council

- Jürg Stahl, President of the Foundation Council, President of Swiss Olympic
- Anja König, Global Head Novartis Venture Fund

Thursday, 13 January

Time	Activities	Participants
8:30-10:00	Meeting <ul style="list-style-type: none"> – Career funding 	actionuni Swiss Young Academy
10:15-12:00	Meeting	Innosuisse

¹ Der SWR hat alle Mitglieder des Ausschusses des Stiftungsrats zur Site-Visit eingeladen, aber nicht alle konnten teilnehmen oder eine Stellvertretung organisieren.

	– Funding along the value chain	Swiss Academy of Engineering Sciences
12:00-13:15	Lunch break	
13:15-14:15	Discussion (panel only)	
14:30-17:00	Meeting – Role and impact of the SNSF within the ERI system – Funding portfolio	swissuniversities Swiss Academies of Arts and Sciences
17:15-18:15	Discussion (panel only)	

actionuni

- Martina von Arx, Co-president of actionuni, delegate to the Swiss Higher Education Conference
- Prabhita Urwyler, Delegate to the SNSF
- Sophie Girardin, Delegate to Swiss Government Excellence Scholarships for Foreign Scholars and Artists

Swiss Young Academy

- Lucas Müller, Speaker of the Young Academy
- Karin Spycher, Administrative head of the Young Academy

Innosuisse

- André Kudelski, Chairman of the Innosuisse board
- Luciana Vaccaro, Vice-president of the Innosuisse board
- Trudi Haemmerli, Member of the Innosuisse board
- Edouard Bugnion, Member of the Innosuisse board
- Annalise Eggimann, CEO Innosuisse

Swiss Academy of Engineering Sciences

- Peter Seitz, President of the Swiss Academy of Engineering Sciences

swissuniversities²

- Yves Flückiger, President of the Board of swissuniversities
- Christian Leumann, Member of the Chamber of Universities; President Research Delegation
- Luciana Vaccaro, President of the Chamber of Universities of Applied Sciences and Arts

Swiss Academies of Arts and Science

- Marcel Tanner, President of the Swiss Academies of Arts and Sciences
- Henri Bounameaux, President of the Swiss Academy of Medical Sciences
- Jean-Jacques Aubert, President of the Swiss Academy of Humanities and Social Sciences
- Philippe Moreillon, President of the Swiss Academy of Sciences
- Peter Seitz, President of the Swiss Academy of Engineering Sciences

² Der SWR hatte auch eine Vertreterin/einen Vertreter der Kammer der Pädagogischen Hochschulen zur Site-Visit eingeladen. Die angefragten Personen waren verhindert und konnten keine Stellvertretung organisieren.

Friday, 14 January

Time	Activities	Participants
8:30-10:00	Meeting <ul style="list-style-type: none">– Role and impact of the SNSF within the ERI system– Funding portfolio	State Secretariat for Education, Research and Innovation
10:15-11:00	Discussion (panel only)	
11:00-12:00	Wrap-up	SNSF Leadership
12:00-13:15	Lunch break	
13:15-15:30	Drafting report (panel only)	
16:00-17:00	Debriefing <ul style="list-style-type: none">– Panel presents insights from site visit	SSC Working Group
17:00	End	

State Secretariat for Education, Research and Innovation

- Gregor Haefliger, Head of the Division Research and Innovation, member of the executive board of the SERI
- Nicole Schaad, Vice head of the Division Research and Innovation

SNSF Leadership

- Jürg Stahl, President of the Foundation Council
- Matthias Egger, President of the National Research Council
- Angelika Kalt, Director of the SNSF

2.10 Panelbericht

Im Anschluss an die Site-Visit erarbeitete das Expertenpanel seinen Bericht selbstständig und unabhängig unter der Leitung des Panelpräsidenten und übermittelte den Bericht am 28. Februar 2022 dem SWR.

2.11 Sounding Board

Der SWR stellte ein Sounding Board mit Führungskräften aus der Schweiz zusammen, um mit ihnen im Rahmen von Workshops die gegenwärtige und zukünftige Rolle des SNF im BFI-System zu diskutieren. Die Workshops wurden von den Mitgliedern der SWR-Arbeitsgruppe geleitet.

Workshop 24. Februar 2022

Teilnehmende Führungskräfte:

- Kelly Richdale, Diem Networks
- Patricia Schulz, United Nations Research Institute for Social Development
- Denise Tonella, Schweizerisches Nationalmuseum
- Nathalie Wappler, SRG

- Patrick Warnking, Google Switzerland

Workshop 1. März 2022

Teilnehmende Führungskräfte:

- Fabiola Gianotti, CERN
- Mauro Oddo, Centre hospitalier universitaire vaudois
- Severin Schwan, Roche
- Christian Keller, IBM Switzerland
- Alain Gut, IBM Switzerland
- Philipp Spaeti, IBM Switzerland

2.12 Zwischenbericht, Stellungnahmen und Schlussbericht

Auf der Grundlage aller vorhandenen Berichte, Dokumente und Erkenntnisse erarbeitete der SWR den Zwischenbericht. Der Zwischenbericht beinhaltet sowohl den vollständigen Basisbericht des SNF als auch den vollständigen Bericht des internationalen Expertenpanels. Der Zwischenbericht beantwortet die Evaluationsfrage des SBFI, fasst die wesentlichen Befunde und Erkenntnisse zusammen und formuliert Handlungsempfehlungen. Der SWR übermittelte dem SBFI den Zwischenbericht am 30. Juni 2022 und unterbreitete ihn am gleichen Datum dem SNF und Innosuisse zur Stellungnahme. Der SWR hat im Juli und August 2022 Teile des Zwischenberichts aus dem Englischen ins Deutsche und Französische übersetzt. Dieser teilübersetzte Zwischenbericht bildet zusammen mit den Stellungnahmen des SNF und Innosuisse den Schlussbericht des SWR.

2.13 Plenarsitzungen und Arbeitsgruppe des SWR

Die Evaluation des SNF wurde durch eine aus Ratsmitgliedern bestehende Arbeitsgruppe vorbereitet und gesteuert. Zudem erarbeitete die Gruppe Teile des Zwischen- bzw. Schlussberichts und entwickelte Handlungsempfehlungen. Die Teilschritte der Evaluation sowie der Zwischen-/Schlussbericht des SWR wurden in den Plenarsitzungen des SWR ausführlich diskutiert.

3 Evaluationsaktivitäten im Zeitverlauf

Tabelle 1 stellt die wichtigsten Termine und Aktivitäten des Evaluationsverfahrens aus Sicht des SWR dar.

Tabelle 1. Wichtige Termine und Aktivitäten

Datum	Aktivität
30. November 2020	SBFI erteilt das Evaluationsmandat an den SWR
Dezember 2020 bis Februar 2021	SWR stellt Liste mit möglichen Expertinnen und Experten für das internationale Panel zusammen
Januar 2021	SNF übermittelt Dokumente und vorhandene Evaluationen an den SWR
Februar 2021	SNF prüft Vorschläge des SWR zur Besetzung des

	internationalen Expertenpanels
Februar 2021	SWR übermittelt die Wegleitung zur Erstellung des Basisberichts an den SNF
Februar bis 31. Mai 2021	SNF erarbeitet den Basisbericht (Selbst-Evaluation)
1. März 2021	SWR informiert das SBFI und den SNF über den Plan des SWR zur Umsetzung der Evaluation
31. März 2021	SWR kommuniziert die Mitglieder des internationalen Expertenpanels an das SBFI und den SNF
Mai bis November 2021	Recherchen und Analysen des SWR
Mai bis Dezember 2021	Externe Mandatnehmer führen die vier vom SWR beauftragten Studien durch
13. Dezember 2022	Briefing des Expertenpanels durch den SWR (Videokonferenz)
7. Januar 2022	SWR klärt die offenen Fragen des Expertenpanels (Videokonferenz)
11. bis 14. Januar 2022	Site-Visit (Videokonferenz)
28. Februar 2022	Bericht des internationalen Expertenpanels an den SWR
24. Februar und 1. März 2022	Workshops des SWR mit dem Sounding Board
Februar bis Juni 2022	Ausarbeitung des Zwischenberichts durch die Arbeitsgruppe des SWR
28. Juni 2022	Verabschiedung des Zwischenberichts durch den SWR
30. Juni 2022	Zwischenbericht des SWR zuhanden SBFI, SNF und Innosuisse
31. August 2022	Stellungnahmen zum Zwischenbericht durch den SNF und Innosuisse
7. Oktober 2022	Schlussbericht des SWR zuhanden des SBFI



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Economic Affairs,
Education and Research EAER

Swiss Science Council SSC

Annexe XI

Statement by the SNSF on the interim report of the SSC

Bern, 31 August 2022

Overall Evaluation of the Role and Function of the Swiss National Science Foundation in the National Education, Research and Innovation System

**SNSF Statement on the interim report by the Swiss
Science Council**

Abstract

The SERI has mandated the SSC to evaluate the SNSF's role and impact in the national ERI system. The main findings and recommendations resulting from the evaluation are presented in an interim report. The SNSF is invited to comment on the report, and we would like to thank the SSC for this opportunity.

Central role and strong impact

We welcome the SSC's appreciation of the central role and strong impact of the SNSF until today. The SSC states that the Swiss ERI system has benefited enormously from the SNSF's funding approach, as it fosters ambitious, ground-breaking research, attracts foreign talent, and integrates Switzerland into the global ERI landscape. This, says the report, has contributed immeasurably to Switzerland's overall competitiveness and international reputation. We are pleased with this assessment and are committed to providing impactful research funding in the coming years and will take account of the SSC's recommendations for the future. Where our view differs from the SSC's, we will point this out and justify it in our statement.

Valuable recommendations – many already scheduled for implementation

The report provides valuable guidance on important issues such as portfolio and strategy development. Many of the SSC's assessments and proposals for improvement are consistent with our self-evaluation and our MYP 2025-28. These include enhanced dialogue and cooperation with other stakeholders in the ERI system, especially the HEIs, stronger coordination at the national level concerning infrastructures, the crucial importance of international collaboration, and proposals for the development of the NRPs. In many areas, we have already begun to take steps that address the recommendations of the SSC. This concerns, for instance, improvements of the internal governance and measures to better support researchers from UASs and UTEs. Based on the recommendations, we will consider monitoring the SNSF's strategy and portfolio development more systematically.

Too narrow a view of the SNSF's role

While we welcome the SSC's emphasis on coordination across the ERI-landscape, the interfaces with other stakeholders are not systematically considered in the report. In our view, the detailed recommendations predominantly reflect the perspective of HEI representatives. The views of the broader Swiss science community and international views are less present, and the end-users of research not addressed. We would have appreciated more holistic, overarching guidance about how the SNSF could evolve in the future and on collaboration with stakeholders.

The report expresses contradictory views on the general role of the SNSF. While it includes numerous observations on the important system-shaping influences of the SNSF and its potential to evolve, elsewhere, it recommends that the SNSF focus on a much more limited role as a response-mode service provider to the HEIs. In our view, this does not do justice to the potential of a national funding organisation to contribute to a strong, thriving research sector. As the international panel puts it: the global and European research system is changing, and the SNSF as one actor in the Swiss ERI system has to be better positioned and more proactive in tackling important challenges. Reducing the SNSF to the aforementioned role would be counterproductive and harm Swiss research and Switzerland.

List of abbreviations

DIS: Data infrastructures and services

DORA: Declaration on Research Assessment

ERI: Education, research, innovation

ETH: Eidgenössische Technische Hochschule

GRC: Global Research Council

HEI: Higher education institution

MYP: Multi Year Programme

NCCR: National Centre of Competence in Research

NRP: National Research Programme

OA: Open access to research publications

ORD: Open access to research data

R&D: Research and development

RIPA: Research and Innovation Promotion Act

SERI: State Secretariat for Education, Research and Innovation

SNSF: Swiss National Science Foundation

SSC: Swiss Science Council

UAS: University of Applied Sciences

UIBR: Use inspired basic research

UTE: University of Teacher Education

1 General impression of the evaluation process and report

The SNSF would like to thank the Swiss Science Council (SSC), the international panel and the committees mandated by the SSC for the overall evaluation of the SNSF. Receiving outside expert perspectives and new impetus is crucial for the development of the foundation. We acknowledge that the evaluation is based on many comprehensive analyses and detailed perspectives.

According to the mandate from the State Secretariat for Education, Research and Innovation (SERI) the SSC evaluated the SNSF's 1) funding portfolio, 2) central funding instruments with a view to future development and 3) function and impact in the national education, research and innovation (ERI) system.

The interim report by the SSC (hereafter referred to as the report) attests to the SNSF's central role and strong impact¹ and provides valuable guidance on important issues. Many of the SSC's assessments are consistent with our self-evaluation and our MYP 2025-28. We have already taken measures that address some of the recommendations of the SSC. This includes, for example, improvements to internal governance and measures to better support researchers from UASs and UTEs.

However, the report contains recommendations that are not spelt out in concrete terms, and are partly contradictory. In some places, it remains unclear on what grounds and data the SSC bases its assessment of the SNSF's past impact and recommendations for the future. In our view, the SNSF's self-evaluation, the report of the international panel and the commissioned studies are referred to in a selective way. Although some of the commissioned studies include surveys among researchers, the stakeholder exchanges seem to have taken place predominantly with institutional representatives of HEIs. Consequently, many of the recommendations appear to reflect their interests rather than the views of the broader Swiss science community. The report also takes insufficient account of the views of the end users of research results.

The input from the HEIs may also explain the overarching recommendations that the SNSF should operate largely as a responsive-mode service provider to the HEIs. In contrast, the international panel report, which provides an outside perspective, is more nuanced and forward-looking. It acknowledges that the global and European research system is changing and that the SNSF has to be better positioned and more proactive in tackling important challenges². Overall, the SSC's report leaves the questions about the SNSF's possible future role and impact in the Swiss ERI system unanswered or answers them vaguely and contradictorily, and it provides only few forward-looking ideas.

2 Specific comments

In line with SERI's mandate, we will only comment on the high-level recommendations. This document follows the structure of the SSC's report. Corrections of factual inaccuracies are listed in Appendix I. Since 'Governance' was explicitly excluded from the scope of the evaluation, we did not cover it in detail in the self-evaluation and do not address it here.

2.1 Funding portfolio

The SSC and the international panel make valuable recommendations on **strategy development and monitoring**. We agree that the SNSF should develop a more formal strategy development and monitoring process - for its funding portfolio and overall strategic framework. The SNSF has already taken steps in this direction and introduced strategic priorities in 2018 that served as the basis for its MYP 2025-28.

We also agree that **strategy should be developed in close consultation with all stakeholders**³. The proposals in the SNSF's MYPs are based on surveys of stakeholders (e.g. a comprehensive researcher survey, a survey among universities, UAs and UTEs about the future of the NCCRs, UAs for PRIMA) as well as on inputs from national and international experts in research funding and science policy. Where relevant, measures have been developed in close cooperation with key stakeholders (e.g. Practice-to-Science with UAs). Further, we introduced an international advisory board to obtain independent, expert inputs on future challenges and trends in the research and research funding landscape. We will consider how to strengthen the board's role in the future.

HEI stakeholders have various opportunities to discuss (strategic) issues with the SNSF each year. Nonetheless, we agree that "**more regular bilateral exchange and dialogue processes**"⁴ are needed. We will seek to ensure that the external view of the SNSF's strategic and quality development is considered in revising its statutes. At the same time, processes need to include different stakeholders' perspectives and differentiate between institutional interests and the interests of research communities.

The SNSF will also take up the recommendations on **systematic monitoring of progress towards strategy**⁵. In past years, we have commissioned numerous evaluations and studies and conducted our own analyses to monitor progress towards specific objectives. We provided the SSC with a list of evaluations and studies of the last 10 years. Although the international panel attests that the SNSF has a "significant positive impact on the quality and diversity of science and research in Switzerland"⁶, the SSC recommends a systematic, independent analysis to examine the impact of the SNSF. We would welcome such an analysis, but in our understanding, the goal of this evaluation by the SSC was precisely to assess the impact of the SNSF's funding policy on the Swiss ERI system.

The SSC's assessment of the **funding portfolio** is in line with our self-evaluation, which concludes that there are currently too many funding schemes.⁷ In recent years, we focused on project funding, mainstreamed international collaboration in key instruments, and streamlined career instruments. In addition, with the MYP 2025-28 the SNSF has decided to discontinue certain funding schemes independently of the growth scenario. This will free up funds to consolidate project funding and set specific incentives in sustainable development and digitalisation. In line with the international panel report, the SNSF wants to "help create new peaks of excellence in areas of societal need."⁸ To achieve this, flexibility in the portfolio is key.

2.2 Project funding

The SNSF has consistently stated that **responsive-mode funding** will remain the cornerstone of its funding activities.⁹ We welcome the SSC's support for this orientation. We also fully agree that the SNSF needs to improve funding for **use-inspired / applied research** and become more open for researchers from **UAs and UTEs**.¹⁰ The RIPA clearly defines the SNSF as the Confederation's funding body for

research in all academic disciplines represented at a higher education research centre. Therefore, our understanding is that the SNSF should offer appropriate funding schemes and evaluation procedures for all types of research. As observed by the SSC and the international panel, we acknowledge that the SNSF has been mainly funding basic research in the bottom-up mode and predominantly researchers at universities. Its evaluation processes are primarily geared to these tasks. However, in the interest of diversity in research, the SNSF should not be limited to this role in our opinion.

The report includes **inconsistent remarks about the SNSF's role** in the promotion of different types of research and funding modes:

On the one hand the SSC advises that "bottom-up, response-mode funding of individual principal investigators should remain the "Standbein" (...) for SNSF funding" and that "other needs will require different funding mechanisms"¹¹, which "may be more appropriately implemented by other agencies, such as Innosuisse."¹² On the other hand, the SSC recommends that "the SNSF, through its strategy, should explicitly position itself within the context of international research trends (impact, mission-oriented collaborative research, involvement of non-academic stakeholders)."¹³

Recommendations on funding for applied research and UASs/UTEs are inconsistent, too. On the one hand, the SSC recommends that "the SNSF should enable project trajectories from basic to applied research (...) beyond the purely exploratory phase"¹⁴ and respect "the diversity of all types of HEI's and to take the different ways of doing research and their distinct outcomes into account."¹⁵ On the other hand, it argues for "suitable mechanisms outside the SNF to properly fund applied science."¹⁶

Research is changing, and so are societal expectations of research. Interdisciplinary and translational research are gaining in importance. There is no linear evolution from basic to applied research and no clear line between the two. Basic research is increasingly expected to be more responsive to societal needs. There is no exclusive attribution of applied research to the UAS/UTEs. At the same time, the clear distinction between bottom-up and top-down funding modes is being contested. Flexible, **well-coordinated funding opportunities are needed along the value chain**, in collaboration with other actors. We remain convinced that the SNSF can and must develop its funding modes to contribute to new developments. This requires further reflection and studies on knowledge flows and research gaps, adding to the studies commissioned for the evaluation by the SSC.

We appreciate the international panel's assessment, which highlights the challenges and limitations of a mainly researcher-driven approach to funding and recommends diversifying it.¹⁷ The proposals in our self-evaluation take account of **non-linear knowledge production** and aim to offer **permeable funding formats to optimally support and incentivise diversity of research**. Proposals like the implementation networks aim to bridge curiosity-driven funding formats with responsiveness to societal challenges. In recent years, we have created important funding offers for use-inspired, high-risk, and interdisciplinary research. Further, at the international level, the SNSF has participated in thematically oriented multilateral initiatives and calls of bilateral programmes, and launched NRPs linked to major international challenges (e.g. NRP 69). We welcome the SSC's recommendation to redesign NRPs as missions, even more focusing on grand challenges.¹⁸ We also acknowledge that the SNSF needs to develop additional

competencies, processes and structures in this context¹⁹, building on our experience in funding schemes for targeted research (NRP, r4d).

We will continue our **efforts to improve funding for use-inspired / applied research** and to **become more open for researchers from UASs and UTEs**.²⁰ This is not a problem specific to the SNSF or Switzerland. To a certain extent it is also due to the structural conditions of UASs/UTES that the participation of researchers from these institutions in SNSF calls for proposals is low. We agree that continuous work on the development of measures is needed to improve the situation, taking into account international experience and expertise. For instance, based on the positive experience with DORE²¹ and the evaluation of UIBR funding at the SNSF²², we are currently implementing a call for UASs and UTEs in the health field, after consulting with the relevant stakeholders. And we have started and will continue to appoint more diverse panels.

Value creation processes depend on feedback loops and multiple interactions along the value-chain, which drive knowledge creation and transformation. Therefore, to support research and innovation in these diverse situations, **Innosuisse and SNSF** aim for **complementary funding offers** with some overlap. The two agencies jointly created BRIDGE after identifying a gap between their respective funding portfolios. It affects researchers with promising results that could translate into an innovative product or service. Therefore, we cannot accept the SSC's remarks that Innosuisse and the SNSF are at the most partially complementary.

We are not sure how to interpret the SSC's recommendation that Innosuisse should manage **BRIDGE**.²³ If this recommendation means integrating BRIDGE entirely into the portfolio of Innosuisse, we would disagree. BRIDGE meets a critical need and depends on the complementary expertise of the two organisations: promoting science-based innovation (Innosuisse) and use-inspired/ basic research (SNSF). Integrating it into one agency would weaken the scheme and its impact and would diminish the exchange and collaboration between the two funding agencies.

The SNSF acknowledges two issues with BRIDGE that need to be tackled. The evaluation of BRIDGE²⁴ has shown that Proof of Concept projects are successful, with over 80 start-ups created out of the projects funded between 2017-20. In contrast, most of the Discovery projects are still ongoing and their innovation potential has not yet been borne out. The second issue is the participation of UASs/UTES in BRIDGE (and in SNSF funding schemes in general as mentioned above). The SNSF welcomes the recommendation "to find ways to incentivise researchers from UASs to apply more frequently to BRIDGE"²⁵ (and to SNSF schemes). We disagree, however, with the call to "distribute the funds going to ETH, universities, UASs and UTEs (as well as to social scientists) more equitably."²⁶ The solution to this problem cannot lie in quotas for different institutions, but rather in a more diversified funding offer and fit-for-purpose evaluation procedures.

2.3 Career funding

We agree that the SNSF career funding schemes are well aligned with the **universities' needs but not** those of the **UASs and UTEs**. Together with the UASs and the UTEs we have recently tackled the problem of adapting career funding schemes to their conditions. Based on these consultations, we have adapted several criteria in the career funding schemes, e.g. enabling PhD-level cooperation of UASs

and UTEs with Swiss and foreign universities. The SNSF has introduced **Practice-to-Science** as a pilot scheme to bring researchers from outside the academic sector to UASs and UTEs. The report recommends that the SNSF develops a career promotion concept for UASs and UTEs²⁷, an issue the institutions have already worked on²⁸. In our view this is primarily their responsibility, because it needs to work at UASs and UTEs. The SNSF can then support these career paths through adequate funding modes.

As for the **impact of career funding on career paths**, the SNSF plans to continue its career tracker cohorts and seek compatibility with the data from the Federal Statistical Office, as recommended by the SSC²⁹. In our view, the relatively new data set does not allow for the conclusion that "the effect on long-term academic career success is rather small."³⁰ The impact of funding schemes must be assessed in the context of their scope and objectives. As stated in our self-evaluation³¹, the career prospects of grant holders are very positive. For example, 84% of former SNSF Professorship recipients have obtained a permanent professorial or an equivalent position. However, the total number of grantees in the Swiss academic system is limited, and hiring decisions are in the hands of the HEIs. What the SNSF's career funding schemes are doing is promoting a pool of excellent researchers in Switzerland. The evaluation by the SSC would have been an opportunity to assess the impact of SNSF career funding on the academic (and economic) system, but we acknowledge that this is not easy to achieve.

We miss recommendations regarding the **division of roles between the HEIs and the SNSF** concerning career funding, particularly at the PhD level. When it comes to funding PhD students directly, the SNSF's activities strongly overlap with those of the HEIs, but the SNSF provides only a small share of the funding. In contrast, SNSF career funding from the postdoc level onwards adds significant value: sending postdocs abroad is complementary to the HEIs' career funding. Schemes like Ambizione, Eccellenza or PRIMA offer researchers and HEIs interesting positions at the career stage of advanced postdoc / assistant professor. Therefore, the SNSF plans to withdraw from direct PhD funding in its career instruments and to concentrate on the postdoc to assistant professor level.

The SNSF agrees with the recommendation to strive towards greater **flexibility in its eligibility rules and grant management regulations**. There are limits to flexibility, however. Eligibility rules need to be clear, simple, transparent and not subject to discretionary, case-by-case decisions. Their goal is also to support a funding scheme's objectives, obtain a set of comparable proposals and prevent frustratingly large workloads for evaluators.

The SNSF welcomes the SSC's statement that "host institutions, rather than the SNSF, must ensure that **conditions of employment for young researchers** are appropriate"³². In the same paragraph, the report states that the SNSF should have a controlling function: "The SNSF should make sure that employment contracts are written in such a way that they protect the interests of young researchers." These diverging remarks illustrate the difficult role of the SNSF. On the one hand, the SNSF acknowledges that HEIs are the employers responsible for the employment conditions. On the other hand, as in other countries, the acquisition of competitive public funds comes with some requirements. Based on its own standards, the SNSF has contributed to a common understanding of good working conditions (financial, ethical) at the HEIs and acted in the interests of personnel employed in SNSF projects.

We want to highlight that the researchers, not the HEIs, are the primary recipients of research funding. HEIs are important stakeholders and partners. As discussed in the self-evaluation, we try to **balance the interests of the different stakeholders**, which do not always overlap.³³ As a result, change cannot always be based on complete consensus between the HEIs and the SNSF. It must, of course, be based on dialogue and cooperation, which we aim to improve.³⁴ We would have appreciated it if the report had said more about how to best reconcile our funding policies with the interests of young researchers and those of HEIs.

2.4 Research infrastructure funding

The SNSF welcomes the recommendation of the SSC for stronger **coordination of infrastructure funding at the national level with broad-based involvement of the main actors**.³⁵ Regarding the roadmap process, please note that the SNSF did not propose to lead the whole process. We strongly support its redesign and are willing to participate in this reflection process - as the SSC recommends.³⁶ The SNSF (and probably also other ERI actors) would have appreciated guidance from the SSC concerning a viable roadmap process for the future. We think that the recently founded National Strategy Council for Open Research Data³⁷ could serve as a model. One of its tasks is coordinating the data infrastructures and services in Switzerland. All ERI organisations are participating, as they share the responsibility for research infrastructures according to the RIPA – even if HEIs and the Confederation have the primary responsibility.

In the context of the MYP 2025-28, we have carefully considered the **SNSF's role in infrastructure funding**. The conclusion was that – given the general importance of (open) data for present and future research and given the task of the SNSF to promote excellent research in all disciplines – we should promote state-of-the-art data infrastructures and their services to the scientific community. Given the need to ensure support for the strategic development of the ORD landscape and avoid duplication of efforts, this cannot be done effectively in a purely responsive mode. Rather, it requires close coordination across the ERI landscape. We would have appreciated more detailed feedback from the SSC on this strategy and the division of responsibilities concerning infrastructure.

With regard to the SNSF's **ORD and OA policies**, remarks such as "due to the Open Data Strategy of the SNSF, needs for data management support are increasing"³⁸ suggest that the SNSF is at the origin of the costs of ORD in Switzerland. ORD (and OA to publications) are a globally accepted requirement in public research funding and serve the advancement of science and society. The SNSF supports these developments in a forward-looking manner through its OA and ORD policies, which are embedded in and coordinated with national strategies. Therefore, the SNSF does not understand the SSC's recommendation to evaluate the financial impact of its OA and ORD policies. Concerning OA to publications, the SNSF is a member of swissuniversities' negotiating team, whose mandate is to obtain the best possible deals with major publishers. As regards ORD, all ERI actors have accepted and recognised the importance of implementing this principle by formulating a national strategy, founding the National Strategy Council and dedicating 'projektgebundene Beiträge' ('project-based grants') to ORD development.

2.5 Role and impact of the SNSF within the ERI system

The SSC acknowledges the SNSF's **system shaping role**, which provides significant impetus and makes the system more dynamic³⁹. At the same time, the report voices concerns that too many responsibilities may go against the bottom-up approach of the SNSF⁴⁰. According to the report the only leading role the SNSF should take on is "designing its project funding portfolio and its research evaluation process"⁴¹. In other areas, for example, career funding, shaping a healthy research culture, or infrastructures, the SNSF should merely support.⁴² In contrast, the international panel states: "funding can effectively support, pursue, or establish conceptually strategic goals, such as promoting young scientists, gender equality, or diversity,"⁴³ "in both roles of the ERI system, as a lever and facilitator, the SNSF depends on its own quality and strength."⁴⁴ The SSC's approach would reduce the SNSF's influence below its potential and does not acknowledge the role of funders internationally. As Stephen Curry wrote, "research funders are a particularly crucial part of [system change], both because of the influence they can exert on other actors in research systems – requiring certain policies or practices to be adopted as a condition of funding – and because they often have more freedom to manoeuvre than others."⁴⁵

The report remains unclear why the SNSF should refrain from contributing to shaping the Swiss research landscape and culture. The impression we get is of a general concern that the SNSF could infringe on someone else's role (e.g. "priority-setting is the task of the higher education institutions and the disciplines")⁴⁶. A reason given in the report is that system-shaping is not the task of one sole actor, but rather a concerted effort by all stakeholders in the system, requiring coordination and dialogue⁴⁷ – a view we fully support. In our opinion, the SNSF and the other stakeholders embrace this need for enhanced coordination.

Coordination of efforts is vital for improving the **research culture** across the Swiss science community – not primarily to serve HEIs but to advance the Swiss research place. At the same time, the complexity of enhancing research culture should not stop individual actors from implementing improvements. The SNSF has become more active in recent years (implementation of DORA, a new CV format, OA to publications and research data), always consulting with national and international stakeholders.

The SNSF shares the SSC's assessment of the crucial importance of **European and international research cooperation** for Swiss Research and the strategic value of association with Horizon Europe. While the SERI has the lead in communication and political activities, the SNSF is ready to provide support where needed. The SNSF has also been actively involved in various international networks at different levels (e.g. Vice Presidency of Science Europe), and has hosted international meetings (e.g. Annual GRC meeting, High Level Science Europe Workshop). The Research Council president and the Executive Management are closely involved in these interactions, including negotiating the collaboration agreements. We are pleased that the SSC encourages these international activities. Concerning the SSC's comments on the Horizon Europe transitional measures, please note that the SNSF wrote its self-evaluation before receiving any mandates for these schemes. In addition to the transitional measures, which were put in place in close coordination with the SERI, complementary and replacement measures are under discussion.

The SSC recommends reducing restrictions for international cooperation in SNSF funding schemes⁴⁸ and monitoring **international schemes** more comprehensively⁴⁹. The SNSF has pursued a mainstreaming strategy to support international collaboration that offers maximum flexibility to researchers across its portfolio (e.g. multi- and bilateral agreements with other funding agencies, international project partners). Due to the growing threat of international isolation, the SNSF proposes in its MYP 2025-28 to reinforce support for multilateral collaboration and researcher-driven consortia with international participation. Relaxing restrictions by allowing more than one principal investigator from abroad or lifting budget limitations for international project partners as recommended⁵⁰ may create high demand from researchers outside Switzerland and increase pressure on the budget at the expense of support at the national level. The mainstreaming strategy makes detailed (automatic) monitoring difficult. However, we agree with the SSC that a general overview of the resources going into international collaborations would be useful, as would the simplification of these funding schemes⁵¹.

Appendix

- Report by the international panel of experts, chapter Funding portfolio of the SNSF: "Measures to promote higher-risk projects (e.g. Spark) or more extensive interdisciplinary collaborations (e.g. Sinergia) have been initiated, but their impact is uncertain and needs assessment." Spark was evaluated independently in 2021, as indicated in the list of internal and external evaluations and analysis of the SNSF provided to the SSC.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 1.3 (A.I.3.): figure 3 lacks an explanation and interpretation. For instance, the growth for R&D costs has been stronger than for teaching and training. HEIs are financed by several sources and not only by the SERI as is the case for the SNSF. In the past 10 years, the budget growth from these other sources may not have been as strong as from the SERI, flattening the overall growth curve of HEIs compared to the SNSF.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): Note "Postdoc.Mobility" is missing in table 4. With 395 applications approved in 2021 and over 4400 fellowships granted (cf. SNSF grant database, as at 20 July 2022, only postdoc fellowships after 2012), "Postdoc.Mobility" is an important career funding scheme. "International Short Visits" is not a career scheme and should be omitted from table 4.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): the footnote to table 4 says that the reviewers know of a PRIMA grantee at a UTE. We have no record of this.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): It is not clear where the 70 grants in table 4 come from. There are currently 74 entries for PRIMA in the SNSF grant database; 77 grants awarded minus 3 withdrawals after the award. Table 4 should be updated with correct numbers (e.g. Ambizione).
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): the report criticises that Practice-to-Science only had a success rate of 11% for the first call. However, the success rate of the second call was 22% (please note, that we only received half as many applications compared to the first call). For comparison, the Eccellenza call 2021 and the PRIMA call 2021 had a success rate of 13%.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.11 (C.I.2.): it should say SNSF Professorships instead of SNSF fellowships.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.11 (C.I.2.): "No HEI should be forced to permanently or even temporarily hire a scientist because of an SNSF grant". We agree with this recommendation, but it gives the impression that up to now, the SNSF has forced HEIs to hire certain scientists. This is not the case. Confirmation letters are required to apply for career funding schemes, to ensure that the framework condi-

tions are met and that the applicant has the required support from the rectorate and the research institution (examples are provided for Ambizione⁵²). Employment contracts are issued by the HEIs, not by the SNSF.

- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.11 (C.I.2.): "Communicate openly about the number of grantees". Statistics about the number and distribution of grants per research domain can be found on our website along with the names of the grantees, (see for instance PRIMA⁵³ [List-of-grantees-PRIMA-e.pdf \(snf.ch\)](#))
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.12 (C.I.3.): "Eccellenza and PRIMA grants can also be targeted from abroad by Swiss postdocs – provided they are able to establish a link to a university, and provided they are not already occupying a long-term position such as lecturer in the UK." The statement is imprecise. The exclusion criteria are defined in footnote 3 of the Eccellenza Regulations, with positions that do not allow submission being characterised as follows: temporary or permanent member of teaching staff with independent position involving independent research and teaching duties/activities not bound by instructions, right to supervise doctoral theses. For applicants from abroad, the position title may differ from those used in Switzerland (assistant professor, professor).
- Report by the international panel of experts, chapter Career Funding: "While the Prima programme is laudable to promote the careers of female academics, it should also be evaluated why the proportion of female professors has hardly increased in recent years." PRIMA is a recent programme, the first grantees started their projects in 2018. We are seeing increasing numbers of PRIMA grantees who have secured a professorship. However, hiring decisions are in the hands of the HEIs and beyond the SNSF's influence. What the SNSF can and is doing is promoting a pool of excellent female researchers in Switzerland through its career funding schemes.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.12 Career paths (C.I.3.): the paragraph Tenure Track is misleading stating that the SNSF Professorships promoted the creation of tenure track positions at Swiss universities. The SNSF Professorship Regulations did not touch upon the tenure track issue. Maybe the reviewers were referring to Eccellenza Grants, where assistant professors who recently obtained a tenure track position could apply. Eccellenza Grants were discontinued in 2021.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.12 Career paths (C.I.3.): "SNSF grants for short-term international stays are appreciated by all postdocs as they allow to keep affiliation to a Swiss HEI" This is not a career scheme. See also comment on table 4 section 2.10. This sentence should be removed. It seems that Postdoc.Mobility was not analysed in this context.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.5 (B.III.1.B): "In fact, an independent study from 2021 concluded that Sinergia does not sufficiently fulfil its claim of funding "breakthrough research ": "We find that applications

with a novel responsible applicant have, on average, 31% fewer chances of being awarded by the selection committee and that large shares of novel applicants in a proposal are detrimental for being funded."¹ The referenced study⁵⁴ uses Sinergia data from before 2016, when the scheme did not yet have a breakthrough criterion.

- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.6 (A.III.2.): In table 8 the international project partner role is missing and the difference between EU co-funded schemes and ERA-NET, of which some are co-funded, is not clear.
- Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.6 (A.III.2.): "Dedicated funding instruments for international cooperation should be simplified. Especially for smaller schemes – e.g. travel grants and bilateral cooperation – the effort for applications should be kept to a minimum. This could include office reviews rather than peer reviews. " Smaller schemes (Scientific Exchanges) are already only checked by the office and not sent out for peer review. Grants from the bilateral programmes have budgets from CHF 250,000 to CHF 350,000 and cannot be evaluated at the Administrative Office.
- Annex VI, Study D: The methodology and conclusions drawn from study D are problematic. First, it is questionable to include BRIDGE projects together with SNSF projects and use the Stokes model of scientific research. Second, it is uncertain if the TRL indicated by the applicants in the questionnaire truly corresponds to the TRL of their submitted projects. Third, conclusions: "Above all for TRLs 5-6 and 7-9 the success rates are clearly lower than for applications with TRL 1 which is confirmed in the multiple regressions for all applications together, NRP and Bridge applications. [...] In Bridge also applications with the lowest maturity level (level 1) in which implementation or commercialization are disregarded had lower chances of approval. " Neither Figure 19 nor 20 support that statement for BRIDGE. In addition, TRL 7-9 is not covered by BRIDGE and not even entirely covered by Innosuisse. Contrary to the interpretation of the SSC, study D shows that projects with a medium to higher TRL have higher approval rates than those with a low TRL. This is in line with the scheme's purpose.
- Annex IV: The international comparison concerning processes and the role of funders in infrastructure funding in Annex VII is incomplete. Notably, it does not consider the results and recommendations of projects such as InRoad (www.inroad.eu), it does not mention organisations such as the Science and Technology Facilities Council (STFC) and its role in the UK, or analyses and reports from the OECD.

¹ Report by the Swiss Science Council, Main Findings

² Report by the international panel of experts, Recommendations

³ Report by the Swiss Science Council, Main Findings. Report by the international panel of experts, chapter Funding Portfolio of the SNSF. SNSF Self-Evaluation, chapter A.I., p.10

⁴ Report by the international panel of experts, chapter Role and impact of the SNSF within the Swiss education, research, and innovation system

⁵ Report by the international panel of experts, Executive Summary and Recommendations

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- ⁶ Report by the international panel of experts, chapter Role and impact of the SNSF within the Swiss education, research, and innovation system
- ⁷ SNSF Self-Evaluation, chapter A.I.3., p.16
- ⁸ Report by the international panel of experts, chapter Project Funding
- ⁹ SNSF Self-Evaluation, p.6 and Multi-Year Programme 2021–2024, p.3
- ¹⁰ SNSF Self-Evaluation, chapter A.II.1., p.17
- ¹¹ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.1. (B.I.1.)
- ¹² Ibid.
- ¹³ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.5 (A.III.1.)
- ¹⁴ Report by the Swiss Science Council, Main Findings
- ¹⁵ Report by the Swiss Science Council, Main Findings
- ¹⁶ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.2 (A.II.2.)
- ¹⁷ Report by the international panel of experts, chapter Project Funding
- ¹⁸ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.2.9 (B.III.4.)
- ¹⁹ SNSF Self-Evaluation, chapter B.I.1, p.28
- ²⁰ SNSF Self-Evaluation, chapter A.II.1., p.17
- ²¹ DORE (Do Research) was an SNSF programme to support applied research at UAS and UTE from 1999 to 2011.
- ²² Technopolis (2017). Use-inspired basic research at SNSF. Final report.
- ²³ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.7 (B.III.2.B)
- ²⁴ Econcept (2022). Evaluation BRIDGE – Zwischenbericht zuhanden der Begleitgruppe.
- ²⁵ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.7 (B.III.2.B)
- ²⁶ Ibid.
- ²⁷ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.)
- ²⁸ Swissuniversities (2017) Laufbahnen an Fachhochschulen: https://www.swissuniversities.ch/fileadmin/swissuniversities/Dokumente/Forschung/LaufbahnenFH_de.pdf (last accessed 21 August 2022)
- ²⁹ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.14 (C.II.2.)
- ³⁰ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.14 (C.II.2.)
- ³¹ SNSF Self-Evaluation, chapter C.I.2, p.49
- ³² Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.11 (C.I.2.) p.34
- ³³ SNSF Self-Evaluation, chapter A.II.1, p.17
- ³⁴ SNSF Self-Evaluation, chapter A.I.1., p.10
- ³⁵ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.20 (D.II.1.)
- ³⁶ Ibid.
- ³⁷ ORD Strategy Council – swissuniversities: <https://www.swissuniversities.ch/en/topics/digitalisation/open-research-data/national-strategy-and-action-plan-1> (last accessed 21 August 2022)
- ³⁸ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.17 (D.I.1.)
- ³⁹ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.3 (A.II.3., A.II.4.)
- ⁴⁰ Ibid.
- ⁴¹ Ibid.

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- ⁴² Ibid.
- ⁴³ Report by the international panel of experts, chapter Role and impact of the SNSF within the Swiss education, research, and innovation system
- ⁴⁴ Ibid.
- ⁴⁵ Curry, S., de Rijcke, S., Hatch, A. et al. (2020). *The changing role of funders in responsible research assessment : progress, obstacles and the way ahead*. Working Paper. Research on Research Institute (RoRI), p.20 ⁴⁶ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 2.3.4 (E.1.)
- ⁴⁷ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.3 (A.II.3., A.II.4.)
- ⁴⁸ Ibid.
- ⁴⁹ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.6 (A.III.2.)
- ⁵⁰ Report by the Swiss Science Council, Annex I, Detailed assessment by the SSC, chapter 3.6 (A.III.2.)
- ⁵¹ Ibid.
- ⁵² SNSF. Ambizione Written confirmation of the research institution: https://www.snf.ch/media/en/QgmqozMyZcMWLsQh/ambizione_confirmation_institution_e.pdf (last accessed 21 August 2022)
- ⁵³ SNSF. PRIMA: Statistics: https://www.snf.ch/media/en/JE53HuOylXst1kMm/PRIMA_statistics_E.pdf (last accessed 21 August 2022) and PRIMA: List of grantees 2017-21: <https://www.snf.ch/media/en/PAEwik8xN5jLkWk/List-of-grantees-PRIMA-e.pdf> (last accessed 21 August 2022)
- ⁵⁴ Ayoubi, C., Pezzoni, M. & Visentin, F. (2021). Does it pay to do novel science? The selectivity patterns in science funding. *Science and Public Policy*, 48(5), 635–648.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Economic Affairs,
Education and Research EAER

Swiss Science Council SSC

Annexe XII

Statement by Innosuisse on the interim report of the SSC



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation
Innosuisse – Swiss Innovation Agency

Evaluation of the Swiss National Science Foundation (SNSF)

Statement by Innosuisse on the interim report of the Swiss Science Council (SSC) of 28 June 2022

Innosuisse, 29 August 2022

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Management summary

One of the shared features of SNSF and Innosuisse is that they both offer competitive funding in the academic field. Their complementary approaches to allocating that funding represent important pillars of Switzerland's scientific excellence. Whereas the mission of Innosuisse leans towards promoting application-oriented innovation that considers the interests of a diversity of stakeholders, the focus of SNSF is more on basic scientific research. Notwithstanding the SNSF's focus on research, Innosuisse strongly advocates that SNSF be granted a level of independence from academic bodies so that it may also take into account both the interests of society and relevant stakeholders rather than simply acting as a funds allocator between academic institutions and a way for researchers to obtain financing. Combined with strong cooperation between SNSF and Innosuisse in operational funding, the diversity of competency of these two agencies enables better coverage of the entire value chain. This complementarity represents a key feature of the Swiss ERI system that promotes more effective advancement of scientific findings into high-quality output that benefits society and the economy.

Regarding BRIDGE, Innosuisse values its collaboration with SNSF, not solely in the interest of Innosuisse, but rather for the benefit of all stakeholders. One key indicator of the effectiveness of BRIDGE is the very high level of demand from stakeholders for BRIDGE-funded grants. We strongly support a continuation of BRIDGE as a joint venture between the two funding agencies, even if we would advocate for Innosuisse to play a more leading role in the partnership.

1 Introductory remarks

Innosuisse thanks the Swiss Science Council (SSC) for the opportunity to comment on its interim report concerning the evaluation of the Swiss National Science Foundation (SNSF). Innosuisse gladly accepts this invitation, especially since some of the recommendations directly concern its own organisation as well. However, in view of the large volume of material made available, an extensive statement proves to be very demanding. For example, Study D, which is also relevant for Innosuisse, would have merited a more in-depth, critical examination, particularly of the hypotheses on which it is based, but also of the methodological approach and the results presented. However, the effort involved exceeds the possibilities of Innosuisse within the scope of the present statement. Therefore, only sporadic reference is made in the following remarks. In general, Innosuisse has chosen to focus its statement on those aspects that are also particularly relevant to it. These include, in particular, the funding measures along the value chain (chapter 2.2.4 of the SSC interim report), the issue of complementarity between the funding offered by SNSF and Innosuisse (chapter 2.2.6 of the SSC interim report), and the BRIDGE programme (chapters 2.2.7 and 2.2.8 of the SSC interim report). Innosuisse would like to make a few general remarks on other elements of the evaluation report under point 2 below.

Overall, the interim report paints a somewhat confusing picture of the recommendations made to the SNSF therein. On the one hand, they do not always appear to be consistent, at least at first glance, and on the other hand, they do not always appear to be comprehensibly justified or derivable from the results of the various studies. Below, where relevant, specific reference is made to such inconsistencies. In view of the importance of SNSF research funding for the Swiss economy and society as a whole, it is also surprising that only the parties directly entitled to funding have their say in the various studies. Thus, from Innosuisse's point of view, the evaluation focuses too much on those stakeholders who have to defend their own funding interests against the SNSF. For Innosuisse, the statements on funding along the value chain are particularly relevant in this regard, as they do not shed any light at all on the interface to practice and thus on the stakeholders in business and society who are involved in the implementation of research results. An expansion of the surveys to include the recipient and implementation side of scientific research results would probably have led to a broader spectrum of opinion in various respects and to a better foundation of the results overall.

2 Comments on individual aspects of the evaluation

2.1 Organisation of the SNSF

In chapter 2.1, the SSC takes the opportunity to comment on the organisation of the SNSF as part of the evaluation questions. This seems neither required, nor consistent with the actual questions. Organisational issues in a militia organisation with strong self-governance elements are complex and sensitive. They require careful analysis, the inclusion of all relevant stakeholders, and the use of proven expertise. To the knowledge of Innosuisse, the SNSF is currently engaged in reforming its organisation to eliminate identified weaknesses and to position itself for the future. The result of this work should be awaited. As far as Innosuisse is concerned, it has had good experience with the organisational structure provided by the legislature and in particular with the clear separation of strategic and operational tasks. On the other hand, the full-time position of Research Council President proposed by the SSC, with overarching responsibilities in the strategic and operational areas, is unlikely to be adequately filled by a person determined solely by scientific excellence, nor would it comply with the currently valid rules of good governance.

2.2 Role of the SNSF in the HERI system

While the international evaluation panel recommends that the SNSF protect and strengthen its autonomy and act as an audible voice of Swiss science, the SSC seems rather to advise the SNSF to take a step back in this respect and to seek its field of action within the Swiss Conference of Higher Education Institutions (SHK) and swissuniversities. Innosuisse cannot understand the recommendation of the SSC. For the Swiss ERI system and Swiss society as a whole, it can only be advantageous if both the SNSF and Innosuisse, as independent research bodies of the Confederation, each represent their own positions to the outside world as well and actively contribute to the formation of opinion within the framework of the legal guidelines provided to them.

3 Funding measures along the value chain

Based on the finding in Study D (Annex VI) that application-oriented research is underfunded in contrast to knowledge-oriented basic research and that there is a funding gap in this regard, the SSC recommends that the SNSF promote the transition from basic research to application-oriented research and encourage basic researchers to pursue the further development of their research results toward application. The opposite approach is recommended to Innosuisse. The statements of the SSC, but also the layout of Study D, give the impression that science has to shoulder the realisation of science-based innovations all by itself and should accordingly be promoted over all stages of development (for example up to TRL 9). But this is by no means the case. On the one hand, the high development levels (especially TRL 8 and 9) have hardly anything to do with research – and not even with application-oriented research. On the other hand, funding such projects from science would distort competition with innovative companies in a way that would be unacceptable. Moreover, such an approach would promote the phenomenon that researchers remain in their “scientific bubble” and do not seek contact with innovation actors in business and society, or seek it too late. From Innosuisse’s perspective, however, it is precisely here that it is important to start and to ensure that researchers seek stimulation and support from external partners at an early stage who are familiar with the requirements of industrial scaling or with the needs and mechanisms of the market. The fact that there are exceptions and that even proven basic researchers can have the ability and interest to bring scientific results to market maturity or that university graduates take the path to entrepreneurship and want to bring their research results to market maturity in a start-up with appropriate support does not change this.

From Innosuisse’s point of view, it is central for the quality and sustainability of the Swiss ERI system and Switzerland’s innovative power that the SNSF continues to have a strong footing in the funding of blue sky and use-inspired basic research, while encouraging scientists at the same time to reach out towards application. However, recognising the application potential of scientific findings and promoting them further in the direction of application cannot be the sole task of the SNSF. Here, it is rather the cooperation between it and Innosuisse and the joining of the respective different competences that is central. Innosuisse does not agree with the SSC’s recommendation that both funding agencies should stick to their core competencies and continue cooperation at the institutional level (cf. comments under point 4). It is precisely the cooperation in day-to-day operational funding that promises the interaction of different competencies. This interaction is indispensable for the successful translation of scientific findings into high-quality innovations.

As the illustration used by the SSC in its detailed evaluation (Annex I) on page 19 shows, talk of a funding gap along the value chain does not correspond to the facts. The necessary tools are in place. The fact that application-oriented research, on the other hand, has a lower budget is correct and, not least, the result of a corresponding political decision.

4 Complementarity of the funding offered by SNSF and Innosuisse

The SSC considers the SNSF and Innosuisse to be at most partially complementary and emphasises the very different funding missions, modes of operation, philosophies, and core competencies of the two funding agencies. These differences would make cooperation more difficult. As mentioned in point 3, it therefore recommends that the two funding agencies focus on their core competencies and cooperate at the institutional level. This recommendation seems to contradict the recommendation, also cited in paragraph 3, that both funding agencies encourage their clientele to take action along the value chain. It is possible, however, that the seemingly contradictory recommendations also result from the fact that, in the SSC's view, the two funding organisations should serve the entire value chain, but do so according to their own respective funding philosophies and tailored to their own funding clientele. This would be a position that Innosuisse could not share. If the impact of the funding is correctly placed at the centre of considerations, it cannot only be a matter of ensuring that the funding customers are served optimally and in line with their own requirements, but also that the added value for the economy and society is optimised. Based on these considerations, it seems clear that somewhere along the value chain, there must be a replacement of SNSF funding by Innosuisse funding and a focus back on practice by actors from business and society. As emphasised, it is particularly up to policymakers to determine the resources to be allocated to the respective funding areas. Even though Innosuisse can certainly claim a clearly higher need for funds in its area of responsibility, it must be highlighted that the success of the Swiss ERI system to date by no means gives a bad report card to the decisions made to date. In line with the international expert panel, Innosuisse therefore considers the funding offers of SNSF and Innosuisse to be quite complementary. In addition, Innosuisse agrees with the international expert panel that there is potential for optimisation between the two funding organisations and with regard to other players in the ERI system, such as from the ETH space. As far as Innosuisse is concerned, it is prepared to make further efforts in this regard.

5 Pre-competitive research and BRIDGE

The SSC concludes that BRIDGE is a successful but underfunded funding instrument that does not sufficiently reach researchers from universities of applied sciences (UAS) and universities of teacher education (UTE) in particular. Study D showed that BRIDGE favoured basic research projects over applied research projects. Since Innosuisse is better positioned in this regard, the SSC expresses the recommendation to the SBF that the BRIDGE programme be managed by Innosuisse in the future, receive more budget, and that Innosuisse seek ways and means to better integrate researchers from universities of applied sciences and universities of teacher education.

The joint management for the BRIDGE programme stems from the mutual desire and decision of the two organisations to work together in this area. The fact that SNSF and Innosuisse are equal funders of BRIDGE represents the central basic idea of this funding programme. This way allows for cultural differences to be addressed together and the transition from basic research to innovation can be promoted. In Innosuisse's perspective, it is essential to maintain this basic element of BRIDGE. On the other hand, it cannot be denied, also in the opinion of Innosuisse, that the connection of BRIDGE to Innosuisse was not sufficiently visible internally and especially externally in the past, which is also due to limited resources on the part of Innosuisse. The two sponsoring organisations will therefore examine whether the BRIDGE secretariat currently located at the SNSF should be integrated into the Innosuisse office in the future.

Innosuisse regrets that Study D does not make a distinction between the two funding lines "Proof of Concept" as well as "Discovery Projects". This is because the experiences to date, as well as the existing challenges, definitely differ. In particular, "Proof of Concept" is a clear success story, in Innosuisse's

Evaluation

opinion. To date, no less than 88 start-ups have emerged from 168 funded “Proof of Concept” projects, a good portion of which, moreover, have already found access to Innosuisse’s start-up funding offers. It is true that the participation of Bachelor’s and Master’s graduates in general, but also in particular from universities of applied sciences and universities of teacher education, is low in this funding line, but this is probably also largely due to the structural framework conditions at these types of universities. The governing body of BRIDGE, which incidentally, like the evaluation panels, is made up of representatives from various types of higher education institutions as well as the business community, has taken up this challenge and is looking for new ways to remedy this situation.

With reference to Study D, the SSC concludes that in the context of BRIDGE, application-oriented projects would be rejected more often compared to basic research-oriented projects. Innosuisse draws a different conclusion from Study D. In particular, Figure 19 on page 46 of Study D shows that the approval rates in the range of TRL 2-4 as well as TRL 5-6 are about three times higher than for TRL 1. Contrary to the opinion of the SSC, this result indicates that the funding is correctly positioned and what is to be funded is apparently funded. However, it should also be noted that hasty conclusions should be avoided due to the currently still low number of funded projects. The evaluation commissioned by the funding organisations and the impact monitoring currently being set up will provide further information in this regard.

It cannot be denied that “Discovery projects” are underfunded. SNSF and Innosuisse are aware of this problem and, depending on the budget, will either use additional funds for BRIDGE in the next funding period or, if necessary, focus the support offer more narrowly.



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Swiss Science Council SSC

Annexe XIII

Statement by the SSC



Evaluation of the Swiss National Science Foundation

The SSC's comments on key themes mentioned in the SNSF and Innosuisse statements

1. Preliminary Remarks

The institutional evaluation of the SNSF has generated a wealth of material and findings. On 30 June 2022, the interim report of the evaluation was submitted to the SNSF and Innosuisse. Both funding agencies delivered their statements to the SSC on 31 August 2022 (see Annexe XI and Annexe XII). The SSC would like to thank both agencies for delivering detailed comments despite the relatively short deadline.

The SSC considers that most of the points raised in the statements to be consistent with the final report of the evaluation and recognizes that certain elements mentioned in the interim report are already being implemented. For this reason, the SSC will respond to only a few selected themes in this paper.

The SNSF has made a list of specific proposal for amendments, which it attached to its statement. Whenever these proposals have led to amendments, the SSC has listed the amendments in "Annexe XIII – Amendments". Besides these emendations, the SSC's report remains unchanged.

2. The role of the SNSF

Both the SNSF and Innosuisse have observed that there are inconsistencies in the SSC's interim report regarding the role of the SNSF. The SSC will clarify this important issue in the following. The SSC agrees with Innosuisse and with the international expert panel that the SNSF must remain an autonomous and independent funding agency. Moreover, the SSC would like to underline the fact that the SNSF has – and should continue to have – a central role in the ERI system. But the SSC would also like to emphasize that neither the Research and Innovation Promotion Act (RIPA) nor the SNSF statutes endow the SNSF with the special role of independently initiating and implementing research policies. Instead, the legal framework defines the SNSF as a research funding agency. The SNSF should therefore refrain from expanding the scope of its tasks and responsibilities and desist from assuming a more proactive role. From the SSC's point of view, it is the researchers, the disciplines, the higher education institutions (HEIs), and the federal government who have the task of defining research policies and initiating new orientations. Of course, the SNSF can and should participate in these discussions as well as reflect research policy developments in its funding policies. To this end, the SNSF should strengthen its engagement with the disciplines, HEIs, and ERI actors (particularly SHK, swissuniversities, and the Academies). The SNSF should also consider how it can do justice to the inherent diversity of the Swiss research community, particularly when the National Research Council, a central body of the SNSF, consists almost exclusively of professors from cantonal universities and the ETH domain, which has led researchers from Universities of Applied Sciences and Universities of Teacher to be under-represented at the SNSF.

2. Value chain

In their multi-year plans 2025–2028, the SNSF and Innosuisse proposed to strengthen their cooperation with reference to the value chain. The SSC welcomes this effort. From the SSC's point of view, however, the SNSF would have to undergo a radical restructuring in order to cover the value chain more systematically. This would not be desirable from the SSC's point of view, because the

SNSF has funded basic research at cantonal universities and the ETHs for a very long time and has been very successful in doing so. A stronger focus on bridging the value chain would jeopardise the SNSF's identity as well as its proven funding approach. For this reason, the SSC recommended in its evaluation report that the SNSF concentrate on its core competencies, that Innosuisse assume primary responsibility for BRIDGE, and that additional funding mechanisms for applied research are needed.

In order to close gaps in the value chain, the SSC argues that additional measures are also needed. In the SSC's "Recommendations for the ERI Dispatch 2025–2026", which it submitted to the SERI on 30 June 2022, the SSC proposed to expand Art. 15 RIPA in both financial and legal terms and to consider establishing a pilot funding project based on Art. 41 RIPA. In the context of its evaluation of the SNSF, the SSC also recommended that the SERI, together with the SNSF, should redesign the National Research Programmes (NRPs) in order to make them more focused on mission-orientated research and to take the various needs of all higher education institutions into account. The SSC also welcomes the proposal of Innosuisse to further develop BRIDGE with the aim of achieving greater diversification, particularly with regards to funding researchers from Universities of Applied Sciences.

The SNSF, Innosuisse, as well as the SERI have questioned a particular result from Study D. The authors of Study D clarified the issue and confirmed the validity of the result in a meeting on 29 August 2022, which was attended by a staff member of the SERI's unit "National Research" and staff of the SSC. Additional information on this matter can be found in "Annexe XIII – Amendments" of the SSC's final report.

4. Varia

In its statement, Innosuisse correctly observes that the internal organisation and governance of the SNSF was not part of the SERI's mandate. The SSC was and is aware of this and had not originally planned to address the SNSF's governance. However, the topic was raised multiple times over the course of the evaluation. In particular, one of the six main recommendations of the international expert panel refers explicitly to governance; Study A mentions governance in several places; and governance related topics were extensively discussed during the site visit. For these reasons, the SSC decided to address the issue of governance in its evaluation report. The SSC regrets that the SNSF has not informed either the international expert panel or the SSC about key aspects of the ongoing revision of the SNSF's governance and statutes.

In principle, the SSC agrees with the SNSF and Innosuisse that it would have been desirable to include even more people and perspectives in the evaluation. However, this would have exceeded the scope of an already broad and complex evaluation mandate. In fact, the SSC included a wide variety of perspectives in the evaluation and based its final report on these perspectives. For example, most of the material that the SSC received from the SNSF at the beginning of the evaluation reflect the perspective of researchers. The SSC also interviewed a large number of researchers in Study D and invited junior researchers to the site visit. The SSC itself consists of 15 professors with broad knowledge and competences in science, business, and public affairs. Furthermore, the SSC involved ERI stakeholders in the site visit and described their perspectives in studies A and B. Leading figures from science and business (including the CEO of Roche, for example), who use SNSF funded research in their organisations and hire SNSF funded talent, participated in a sounding board and shared their views on research funding with the SSC. Finally, the SSC provided an international comparison of research funding agencies (Study C), and the high-profile panel of international experts, chaired by the former president of the European Research Council, brought a highly insightful, international perspective to the evaluation.

The SSC would welcome more frequent evaluations of the SNSF in the future, especially on specific aspects and with clearly delineated questions, due to the SNSF's enormous importance for research activity in Switzerland.

Evaluation of the Swiss National Science Foundation

Amendments undertaken by the SSC based on the statement of the SNSF

This document lists the amendments made by the SSC based on the comments made by the SNSF in the Appendix of the “SNSF statement on the interim report by the Swiss Science Council” (see Annexe XI).

Comments by the SNSF	Amendments by the SSC
<p>Report by the international panel of experts, chapter Funding portfolio of the SNSF: “Measures to promote higher-risk projects (e.g. Spark) or more extensive interdisciplinary collaborations (e.g. Sinergia) have been initiated, but their impact is uncertain and needs assessment.” Spark was evaluated independently in 2021, as indicated in the list of internal and ex-ternal evaluations and analysis of the SNSF provided to the SSC.</p>	<p>The statement by the expert panel mentions Spark as an example. Moreover, the report on the Spark evaluation was made available to the SSC well after the site visit and could therefore not be included in the expert’s report. Accordingly, no amendments have been made.</p>
<p>Report by the international panel of experts, chapter Career Funding: “While the Prima programme is laudable to promote the careers of female academics, it should also be evaluated why the proportion of female professors has hardly increased in recent years.” PRIMA is a recent programme, the first grantees started their projects in 2018. We are seeing increasing numbers of PRIMA grantees who have secured a professorship. However, hiring decisions are in the hands of the HEIs and beyond the SNSF’s influence. What the SNSF can and is doing is promoting a pool of excellent female researchers in Switzerland through its career funding schemes.</p>	<p>No amendments have been made.</p>
<p>Annexe I, Detailed assessment by the SSC, chapter 1.3 (A.I.3.): figure 3 lacks an explanation and interpretation. For instance, the growth for R&D costs has been stronger than for teaching and training. HEIs are financed by several sources and not only by the SERI as is the case for the SNSF. In the past 10 years, the budget growth from these other sources may not have been as strong as from the SERI, flattening the overall growth curve of HEIs compared to the SNSF.</p>	<p>The figure is not intended to show costs for R&D or teaching and training nor the funding sources. Therefore, no amendments have been made.</p>
<p>Annexe I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): Note “Postdoc.Mobility” is missing in table 5. With 395 applications approved in 2021 and over 4400 fellowships granted (cf. SNSF grant database, as at 20 July 2022, only postdoc fellowships after 2012), “Postdoc.Mobility” is an important career funding scheme. “International Short Visits” is not a career scheme and should be omitted from table 5.</p>	<p>Postdoc.Mobility cannot be included in the table because researchers affiliated to the different types of Swiss HEIs are compared. In the publicly available SNSF database, the International Short Visits are categorized as</p>

	career instruments. “at Swiss HEIs” was added to the title of Table 5.
Annexe I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): the footnote to table 4 says that the reviewers know of a PRIMA grantee at a UTE. We have no record of this.	The corresponding footnote has been removed.
Annexe I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): It is not clear where the 70 grants in table 5 come from. There are currently 74 entries for PRIMA in the SNSF grant database; 77 grants awarded minus 3 withdrawals after the award. Table 5 should be updated with correct numbers (e.g. Ambizione).	The data was retrieved from the SNSF grant database on February 18, 2022, as indicated in the footnote of the table. Therefore, no amendments have been made.
Annexe I, Detailed assessment by the SSC, chapter 2.10 (C.I.1.): the report criticises that Practice-to-Science only had a success rate of 11% for the first call. However, the success rate of the second call was 22% (please note, that we only received half as many applications compared to the first call). For comparison, the Eccellenza call 2021 and the PRIMA call 2021 had a success rate of 13%.	The respective success rate, published in April 2022, was added to the report.
Annexe I, Detailed assessment by the SSC, chapter 2.11 (C.I.2.): it should say SNSF Professorships instead of SNSF fellowships.	Fellowships has been replaced by Professorships.
Annexe I, Detailed assessment by the SSC, chapter 2.11 (C.I.2.): “No HEI should be forced to permanently or even temporarily hire a scientist because of an SNSF grant”. We agree with this recommendation, but it gives the impression that up to now, the SNSF has forced HEIs to hire certain scientists. This is not the case. Confirmation letters are required to apply for career funding schemes, to ensure that the framework conditions are met and that the applicant has the required support from the rectorate and the research institution (examples are provided for Ambizione). Employment contracts are issued by the HEIs, not by the SNSF.	No amendments have been made.
Annexe I, Detailed assessment by the SSC, chapter 2.11 (C.I.2.): “Communicate openly about the number of grantees”. Statistics about the number and distribution of grants per research domain can be found on our website along with the names of the grantees, (see for instance PRIMA List-of-grantees-PRIMA-e.pdf (snf.ch))	This point has been clarified by adding “in advance”. The recommendation now reads: “Communicate in advance about the number of grants available.”
Annexe I, Detailed assessment by the SSC, chapter 2.12 (C.I.3.): “Eccellenza and PRIMA grants can also be targeted from abroad by Swiss postdocs – provided they are able to establish a link to a university, and provided they are not already occupying a long-term position such as lecturer in the UK.” The statement is imprecise. The exclusion criteria are defined in footnote 3 of the Eccellenza Regulations, with positions that do not allow submission being characterised as follows: temporary or permanent member of teaching staff with independent position involving independent research and teaching duties/activities not bound by instructions, right to supervise doctoral theses. For applicants from abroad, the	The statement has been revised and now reads: “provided they are not already occupying a senior position involving independent research and teaching duties.”

<p>position title may differ from those used in Switzerland (assistant professor, professor).</p>	
<p>Annexe I, Detailed assessment by the SSC, chapter 2.12 Career paths (C.I.3.): the paragraph Tenure Track is misleading stating that the SNSF Professorships promoted the creation of tenure track positions at Swiss universities. The SNSF Professorship Regulations did not touch upon the tenure track issue. Maybe the reviewers were referring to Eccellenza Grants, where assistant professors who recently obtained a tenure track position could apply. Eccellenza Grants were discontinued in 2021.</p>	<p>The SSC meant <i>indirectly</i> incentivising HEIs to create Tenure track positions. See also p. 36: “However, the SNSF's medium-term promotion policy for young researchers has helped to establish tenure-track positions at universities as part of the career structures in the long term – mostly as a reaction to the existence of SNSF professorships, as a new model.” Therefore, no amendments have been made.</p>
<p>Annexe I, Detailed assessment by the SSC, chapter 2.12 Career paths (C.I.3.): “SNSF grants for short-term international stays are appreciated by all postdocs as they allow to keep affiliation to a Swiss HEI” This is not a career scheme. See also comment on table 5 section 2.10. This sentence should be removed. It seems that Postdoc.Mobility was not analysed in this context.</p>	<p>This statement is not about the categorization of the funding scheme but the positive assessment by the postdocs. Hence, no amendments have been made.</p>
<p>Annexe I, Detailed assessment by the SSC, chapter 2.5 (B.III.1.B): “In fact, an independent study from 2021 concluded that Sinergia does not sufficiently fulfil its claim of funding breakthrough research: “We find that applications with a novel responsible applicant have, on average, 31% fewer chances of being awarded by the selection committee and that large shares of novel applicants in a proposal are detrimental for being funded.” The referenced study uses Sinergia data from before 2016, when the scheme did not yet have a breakthrough criterion.</p>	<p>The respective sentences have been removed.</p>
<p>Annexe I, Detailed assessment by the SSC, chapter 3.6 (A.III.2.): In table 8 the international project partner role is missing and the difference between EU co-funded schemes and ERA-NET, of which some are co-funded, is not clear.</p>	<p>To clarify this point, a sentence and a footnote have been added: “According to the SSC’s categorisation, the total amount of SNSF funding through instruments focusing on international collaboration is around 10%.” ¹²⁰ Data provided by the SNSF shows that between 2011 and 2020 around two thirds of the projects have reported some kind of international cooperation. However, the exact amount of project funding that went to researchers from abroad remains unknown.”</p>
<p>Annexe I, Detailed assessment by the SSC, chapter 3.6 (A.III.2.): “Dedicated funding instruments for international cooperation should</p>	<p>The following sentence has been removed: “This could include office</p>

<p>be simplified. Especially for smaller schemes – e.g. travel grants and bilateral cooperation – the effort for applications should be kept to a minimum. This could include office reviews rather than peer reviews. " Smaller schemes (Scientific Exchanges) are already only checked by the office and not sent out for peer review. Grants from the bilateral programmes have budgets from CHF 250,000 to CHF 350,000 and cannot be evaluated at the Administrative Office.</p>	<p>reviews rather than peer reviews."</p>
<p>Annexe VI, Study D: The methodology and conclusions drawn from study D are problematic. First, it is questionable to include BRIDGE projects together with SNSF projects and use the Stokes model of scientific research. Second, it is uncertain if the TRL indicated by the applicants in the questionnaire truly corresponds to the TRL of their submitted projects. Third, conclusions: "Above all for TRLs 5-6 and 7-9 the success rates are clearly lower than for applications with TRL 1 which is confirmed in the multiple regressions for all applications together, NRP and Bridge applications. [...] In Bridge also applications with the lowest maturity level (level 1) in which implementation or commercialization are disregarded had lower chances of approval." Neither Figure 19 nor 20 support that statement for BRIDGE. In addition, TRL 7-9 is not covered by BRIDGE and not even entirely covered by Innosuisse. Contrary to the interpretation of the SSC, study D shows that projects with a medium to higher TRL have higher approval rates than those with a low TRL. This is in line with the scheme's purpose.</p>	<p>The authors of Study D clarified the issue and confirmed the validity of the results in a meeting on August 29, 2022, attended by a SERI staff member from the unit National Research and by SSC staff. To clarify this point, the following sentence has been added: "Study D, which was mandated by the SSC, suggests that projects on higher TRLs (i.e. 2 to 9) do not have higher chances of being funded by BRIDGE than projects on TRL 1 (see Table 19 in Study D)."</p>
<p>Annexe VII Research Infrastructures: The international comparison concerning processes and the role of funders in infrastructure funding in Annexe VII is incomplete. Notably, it does not consider the results and recommendations of projects such as InRoad (www.inroad.eu), it does not mention organisations such as the Science and Technology Facilities Council (STFC) and its role in the UK, or analyses and reports from the OECD.</p>	<p>The report does not attempt to cover all relevant international actors in the field, such as OECD or the G7. Regarding the UK, the STFC is mentioned in Annexe I (p. 43). Therefore, no amendments have been made.</p>