

Innosuisse

Holistic Analysis of the Innosuisse Start-up Training Programme

Final Report



econcept AG
Gerechtigkeitsgasse 20
CH-8002 Zürich



Strategos SA
Rue Marterey 1
1005 Lausanne



Austrian Institute of Tech-
nology GmbH
Giefinggasse 4
A-1210 Wien

The responsibility for this project towards the client lay with econcept AG.

econcept AG

Ethan Gertel, MA of International Political Economy
Katharina Brandenberger, Dr. phil., MA in Political Science
Julie Agosti, MSc Conflict Resolution and Governance
Linda Mülli, Dr. phil., MA in History

Barbara Haering, Prof. Dr. sc. nat. ETH, Dr. h. c. sc. pol.

AIT

Karl-Heinz Leitner, Prof. Dr. rer. soc. oec.
Georg Zahradnik, Mag. rer. soc. oec.
Sabine Neuberger, Ph.D. Business Economics, Dipl. Ing.

Strategos

Sandra With, MPA Harvard, lic. oec. HSG VWL

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Management Summary – English

Objective of the holistic analysis of the Innosuisse Start-up Training Programme

The objective of the analysis was to assess impact and relevance of the Innosuisse Start-up Training Programme (the Programme) and thus, to support Innosuisse regarding the development of a needs- and future-oriented, impactful, and complementary Programme in accordance with the subsidiarity principle and in synergy with all other offerings of Innosuisse. The analysis consisted of three parts

- Evaluation of the Programme with regards to sensitisation and training
- Identification of needs and trends in entrepreneurial education
- National and international benchmarking of the Programme

Project design in a nutshell

The project started with kick-off meetings with Innosuisse and with a preliminary overview of documents and data. This led to a detailed inception report. Based on the inception report, the holistic analysis addressed the impact and relevance of the Programme, needs and trends in entrepreneurial education as well as national and international benchmarks. The evaluation included expert interviews, an extensive online survey, in-depth biographical interviews as well as national and international analysis. The final phase of the project was dedicated to synthesising the results in terms of an overarching perspective. A workshop with the support group enabled a reflection on the evaluation results and on future developments of the programme.

Assessment of the Programme

The analysis leads to a positive assessment of the Programme. The results underline its high reputation among both former participants as well as national and international experts. The programme has become an important pillar of Innosuisse' multifaceted start-up support and is well embedded in the national start-up ecosystem. As a nationwide training offering, the Programme offers a national benchmark. At the same time, its anchoring in the regional higher education systems ensures that specific aspects of the regional ecosystems are addressed. Furthermore, the Programme serves as a platform and thus also impacts training offers by other providers. At the same time, the national approach can be nurtured by a diverse experience – also regarding other supporting instruments of Innosuisse.

Recommendations

Success and reputation can be taken as starting points for further developments of the Programme.

Developing a national start-up training strategy: Thanks to its experience and position as a market leader in supporting science-based start-ups, its strong involvement in start-up ecosystems in Switzerland, Innosuisse is predestined to collect and exchange best practices on start-up training and to network trainers and coaches. The development of a national start-up training strategy could be a door-opener to share these experiences with other countries and to promote the Swiss start-up ecosystem beyond Switzerland. Cooperating with Swissnex could be interesting in this regard.

Maintaining a comprehensive and mission-based Programme: The Programme is well structured and comprehensive. The modular structure has proven to be successful and should be maintained. Covering all stages of the development of a start-up is one of the specifics of the Programme hardly any other provider is offering. Trainings are key to acquire knowledge, skills and know-how in terms of business and market rules. Interdisciplinary groups, engaging among peers, learning from coaches, are essential elements and should be kept as well. An adaptation worth considering would be to offer additional coaching opportunities in Module 2. Industry-specialised courses within Module 3 and 4 have already been implemented, as requested by respondents.

Enlarging target groups: The development of a national start-up training strategy could also serve to redefine the target groups of the Programme – while maintaining a focus on science and technology-based start-ups. In addition to the prevailing ETH and university graduates, graduates from universities of applied science become increasingly interesting as target group, since their research projects are application oriented. However, this would mean a repositioning also in terms of the profile of universities of applied sciences, since fostering entrepreneurship has not been set as one of their specific goals by politics. Moreover, various results of the evaluation lead to the assessment «the earlier the better» – both regarding the age of training participants as well as the development stage of the start-up. However, addressing high-school students needs different approaches than the science-based Programme offered by Innosuisse.

Women are underrepresented also in the start-up field. Due to socio-cultural aspects, they feel less addressed and welcomed in the start-up world and hence also in training courses. They tend to underestimate their potential, they are less confident and at the same time both, more risk aware and more risk averse. In view of strengthening entrepreneurial attitudes, start-ups and economic growth in Switzerland, their potential must be better exploited through coaching, training, networking, and by offering role models.

Sustainability and social entrepreneurship: Becoming an entrepreneur or supporting a start-up financially is a powerful way to make a difference in this world. Thus, fostering entrepreneurial mind sets has a societal impact beyond the start-up ecosystem, particularly if embracing sustainability in its broad understanding not just as a challenge but also as an important field of growth. Thus, Innosuisse could more actively follow trends and developments regarding sustainability, social entrepreneurship, and social responsibility, as observed in the EU-context and initiated by the SDGs of the UN.

Maintaining a shared responsibility for the Programme: We recommend maintaining the established division of responsibilities between the national framework for the Programme and the operational responsibilities of regional providers integrated in the higher education system of Switzerland – and to base this cooperation on a national start-up training strategy. Moving away from the current approach could therefore result in the loss of both, the national quality benchmark and the possibility of learning from regional specificities. To strengthen diversity within the start-up ecosystem, possibilities to include more diverse and also smaller training providers should be considered.

Strengthening coaching opportunities: The results of the analysis indicate a particular interest and an additional need for coaching opportunities. In view of the structure of the programme, Module 2 is particularly suitable for this. Participants of Module 2 already have a basic project idea; however, they need an early reality check as well as specific guidance to successfully advance with their project. Furthermore, offering more coaching within the modules or at least linking participants to other coaching offers has the potential to bridge the gap perceived between Module 4 and the later stage of funding processes.

«Digital is here to stay» but direct contacts remain important: Based on the experiences made during the Covid-19 pandemic, we recommend enhancing digital learning tools while keeping enough room for physical interactions. However, direct contacts among peers as well as with experienced entrepreneurs during on-site training sessions remain crucial in view of early reality checks, finding potential business partners, networking and being exposed to an entrepreneurial environment.

Synergies with other Innosuisse offers: Innosuisse has a comprehensive and coherent set of support offers for start-ups. While some synergies between these offers are already being captured, there remains potential to use these synergies more strategically and effectively. Moreover, Innosuisse' support for start-ups should be translated into a proactive and comprehensive marketing. This would help providers to promote Innosuisse offerings in a targeted way and not just as one offer among others. At the same time, it could improve the experience of participants by raising their awareness for Innosuisse and its various support services.

Management Summary – Deutsch

Ziel der holistischen Analyse des Innosuisse Start-up Training Programms

Ziel der holistischen Analyse war es, Wirkungen und Relevanz des Innosuisse Start-up Training Programms (das Programm) zu evaluieren und damit Innosuisse bei der weiteren Entwicklung des Programms mit Blick auf ein bedarfs- und zukunftsorientiertes, wirkungsvolles und komplementäres Angebot zu unterstützen, das den Prinzipien der Subsidiarität folgt und Synergien mit weiteren Unterstützungsangeboten von Innosuisse ermöglicht. Die Analyse bestand aus drei Teilen:

- Evaluation des Programms hinsichtlich Sensibilisierung und Ausbildung
- Identifizierung von Bedürfnissen und Trends in der unternehmerischen Bildung
- Nationales und internationales Benchmarking des Programms

Projektdesign in Kürze

Das Projekt begann mit Start Sitzungen mit Innosuisse und mit einer ersten Sichtung vorhandener Dokumente und Daten. Dies ermöglichte die Erarbeitung des Detailkonzepts. Auf dieser Grundlage wurden in einer holistischen Analyse Wirkungen und Relevanz des Programms evaluiert, Bedürfnisse und Trends in der unternehmerischen Bildung erhoben sowie nationale und internationale Vergleiche erarbeitet. Die Evaluation umfasste Interviews mit Experten/innen, eine umfangreiche Online-Befragung, vertiefende biografische Interviews sowie nationale und internationale Analysen. Die letzte Projektphase war der Synthese der Ergebnisse hinsichtlich einer umfassenden Sicht gewidmet. Ein Workshop mit der Begleitgruppe ermöglichte eine Reflexion zu den Evaluationsergebnissen und zu künftigen Entwicklungen des Programms.

Bewertung des Programms

Die Evaluation führt zu einer positiven Bewertung des Programms. Die Ergebnisse unterstreichen die hohe Reputation des Programms sowohl bei ehemaligen Teilnehmern/innen als auch bei nationalen und internationalen Experten/innen. Das Programm hat sich zu einem wichtigen Pfeiler der vielfältigen Start-up Förderung von Innosuisse entwickelt und ist gut in das nationale Start-up Ökosystem eingebettet. Als schweizweites Ausbildungsangebot bietet das Programm einen nationalen Benchmark. Gleichzeitig stellt seine Verankerung in den regionalen Hochschulsystemen sicher, dass spezifische Aspekte der regionalen Ökosysteme angesprochen werden. Das Programm dient auch als Plattform und hat damit Auswirkungen auch auf Ausbildungsangebote anderer Anbieter/innen. Gleichzeitig kann der nationale Ansatz durch vielfältige Erfahrungen gestärkt werden – und dies auch hinsichtlich anderer Förderinstrumente von Innosuisse.

Empfehlungen

Erfolg und Reputation können als Ausgangspunkte für weitere Entwicklungen des Programms dienen.

Entwicklung einer nationalen Strategie für Start-up-Trainings: Dank ihrer Erfahrung und ihrer Position als Marktführerin in der Unterstützung wissenschaftsbasierter Start-ups, ihrer starken Einbindung in Start-up-Ökosysteme der Schweiz ist Innosuisse prädestiniert, um Best Practices zu Start-up-Trainings zu sammeln und auszutauschen und um Ausbilder/innen und Coaches zu vernetzen. Die Entwicklung einer nationalen Strategie für Start-up-Trainings könnte dabei eine Möglichkeit sein, um diese Erfahrungen auch mit anderen Ländern zu teilen und zudem das Schweizer Start-up-Ökosystem über die Schweiz hinaus zu fördern. Eine Zusammenarbeit mit Swissnex könnte dabei interessant sein.

Beibehalten eines umfassenden und zielorientierten Programms: Das Programm ist gut strukturiert und umfassend. Der modulare Aufbau hat sich als erfolgreich erwiesen und sollte beibehalten werden. Die Abdeckung aller Phasen der Entwicklung eines Start-ups ist eine Besonderheit des Programms, die von anderen Angeboten kaum geleistet wird. Ausbildungen sind der Schlüssel zum Erwerb von Wissen, Fähigkeiten und Know-how in Bezug auf Geschäfts- und Marktregeln. Interdisziplinäre Gruppen, der Austausch unter Gleichgesinnten und das Lernen von Coaches sind wesentliche Elemente und sollten ebenfalls beibehalten werden. Erwägenswert wäre das Angebot zusätzlicher Coaching-Möglichkeiten in Modul 2. Auf Wunsch der Teilnehmenden wurden bereits branchenspezifische Kurse in Modul 3 und 4 eingeführt.

Zielgruppen erweitern: Die Entwicklung einer nationalen Strategie für Start-up Trainings könnte auch dazu dienen, die Zielgruppen des Programms zu erweitern – unter Beibehaltung des Fokus auf wissenschafts- und technologiebasierte Start-ups. Neben den vorherrschenden ETH- und Universitätsabsolventen/innen werden zunehmend auch Absolventen/innen von Fachhochschulen (FH) als Zielgruppe interessant, da deren Forschungsprojekte anwendungsorientiert sind. Dies würde allerdings eine Neupositionierung auch im Profil der Fachhochschulen bedeuten, da die Förderung des Unternehmertums von der Politik nicht als eines ihrer spezifischen Ziele festgelegt wurde. Zudem führen verschiedene Evaluationsergebnisse zur Erkenntnis «je früher, desto besser» – sowohl was das Alter der Ausbildungsteilnehmer/innen als auch was das Entwicklungsstadium der Gründung betrifft. Die Ansprache von Gymnasiasten/innen erfordert jedoch andere Ansätze als das wissenschaftsbasierte Programm von Innosuisse.

Frauen sind im Bereich der Unternehmensgründung unterrepräsentiert. Aufgrund soziokultureller Aspekte fühlen sie sich in der Welt der Unternehmensgründung und auch in den Ausbildungskursen weniger angesprochen und willkommen. Sie neigen dazu, ihr Potenzial zu unterschätzen, sie sind weniger selbstbewusst und gleichzeitig risikobewusster und risikoaverser. Im Hinblick auf die Stärkung des Unternehmertums, der Unternehmensgründungen und des Wirtschaftswachstums in der Schweiz muss ihr Potenzial durch Coaching, Ausbildung, Vernetzung und durch Vorbilder besser ausgeschöpft werden.

Nachhaltigkeit und soziales Unternehmertum: Unternehmer/in zu werden oder ein Start-up finanziell zu unterstützen, ist ein wirksames Mittel, um etwas zu bewegen. Die Förderung unternehmerischer Einstellungen hat daher eine gesellschaftliche Wirkung über das Start-up-Ökosystem hinaus, insbesondere wenn Nachhaltigkeit in ihrem umfassenden Sinn nicht nur als Herausforderung, sondern auch als wichtiges Wachstumsfeld verstanden wird. Innosuisse könnte somit Trends und Entwicklungen zur Nachhaltigkeit, zu sozialem Unternehmertum und zu sozialer Verantwortung aktiver verfolgen, wie dies auch im EU-Kontext beobachtet und durch die SDGs der UNO angeregt wird.

Eine gemeinsame Verantwortung für das Programm beibehalten: Wir empfehlen, die etablierte Aufteilung der Zuständigkeiten des nationalen Programms und der operativen Zuständigkeiten der regionalen Anbieter/innen, die im Schweizer Hochschulsystem integriert sind, beizubehalten und diese Zusammenarbeit auf einer nationalen Strategie für Start-up Trainings zu basieren. Eine Abkehr vom heutigen Ansatz könnte daher den Verlust sowohl des nationalen Qualitätsmassstabs als auch der Möglichkeit des Lernens aus regionalen Besonderheiten zur Folge haben. Um die Vielfalt innerhalb des Start-up-Ökosystems zu stärken, sollten Möglichkeiten zur Einbeziehung vielfältigerer und auch kleinerer Anbieter/innen in Betracht gezogen werden.

Verstärkte Coaching-Möglichkeiten: Die Ergebnisse der Analyse deuten auf ein besonderes Interesse und einen zusätzlichen Bedarf an Coaching-Möglichkeiten hin. Mit Blick auf die Struktur des Programms bietet sich dazu insbesondere Modul 2 an. Teilnehmer/innen von Modul 2 haben bereits eine grundlegende Projektidee; sie benötigen jedoch einen frühen Realitätscheck sowie spezifische Anleitung, um ihr Projekt erfolgreich voranzubringen. Darüber hinaus könnten vermehrte Coachings innerhalb der Module oder zumindest das in Verbindung bringen der Teilnehmer/innen mit anderen Coaching-Angeboten die Lücke zwischen Modul 4 und der späteren Phase der Finanzierungsprozesse zu schliessen.

«Digital is here to stay», aber direkte Kontakte bleiben wichtig: Ausgehend von den Erfahrungen aus der Zeit der Covid-19-Pandemie, empfehlen wir, die digitalen Lernwerkzeuge zu stärken, dabei aber genügend Raum für direkte Interaktionen zu lassen. Direkte Kontakte unter Gleichaltrigen und mit erfahrenen Unternehmern/innen während der Ausbildungen vor Ort bleiben von entscheidender Bedeutung, wenn es darum geht, wirtschaftliche Realitäten frühzeitig zu erkennen, potenzielle Geschäftspartner zu finden, Netzwerke aufzubauen und mit einem unternehmerischen Umfeld konfrontiert zu sein.

Synergien mit anderen Angeboten von Innosuisse: Innosuisse verfügt über ein umfassendes und kohärentes Angebot an Unterstützungsleistungen für Start-ups. Während einige Synergien zwischen diesen Angeboten bereits genutzt werden, gibt es noch Potenzial, dies noch strategischer und effektiver zu tun. Zudem sollte die Unterstützung von Innosuisse für Start-ups in ein proaktives und umfassendes Marketing umgesetzt werden. Dies würde Anbieter/innen helfen, Innosuisse-Instrumente zielgerichtet zu bewerben und nicht nur als Angebote unter anderen. Gleichzeitig könnte dies die Erfahrung der Teilnehmer/innen verbessern, indem sie für Innosuisse und ihre vielfältigen Unterstützungsangebote sensibilisiert würden.

Management Summary – Français

Objectif de l'analyse holistique du programme Innosuisse Start-up Training

L'objectif de l'analyse holistique était d'évaluer les effets et la pertinence du programme Innosuisse Start-up Training (le programme) et de soutenir ainsi Innosuisse dans le développement du programme en vue d'une offre axée sur les besoins et l'avenir, sur l'efficacité et complémentarité, tout en respectant les principes de subsidiarité et en permettant des synergies avec d'autres offres de soutien d'Innosuisse. L'analyse s'est déroulée en trois parties :

- Évaluation du programme en termes de sensibilisation et de formation
- Identification des besoins et des tendances en matière de formation à l'entrepreneuriat
- Benchmarking national et international du programme

Conception du projet en bref

Le projet a débuté par des réunions de démarrage avec Innosuisse et par un premier aperçu des documents et des données existants. Cela a permis d'élaborer le concept détaillé. Sur cette base une analyse holistique a permis d'évaluer les effets et la pertinence du programme, de recenser les besoins et les tendances en matière de formation à l'entrepreneuriat et d'élaborer des comparaisons nationales et internationales. L'évaluation comprenait des interviews d'experts, un vaste sondage en ligne, des interviews biographiques approfondies ainsi que des analyses nationales et internationales. La dernière phase du projet a été consacrée à la synthèse des résultats en vue d'une vision globale. Un atelier avec le groupe d'accompagnement a permis une réflexion sur les résultats de l'évaluation et les développements futur du programme.

Évaluation du programme

L'analyse aboutit à une évaluation positive du programme. Les résultats soulignent la grande réputation du programme, tant auprès des anciens participant-e-s que des expert-e-s nationaux et internationaux. Le programme est devenu un pilier important de l'encouragement diversifié des start-ups par Innosuisse et est bien intégré dans l'écosystème national des start-ups. En tant qu'offre de formation à l'échelle de toute la Suisse, le programme constitue une référence nationale. En outre, son ancrage dans les systèmes universitaires régionaux garantit que des aspects spécifiques des écosystèmes régionaux sont abordés. Le programme sert également de plate-forme et a donc un impact sur les offres de formation d'autres prestataires. En même temps, l'approche nationale peut être renforcée par de multiples expériences, également en ce qui concerne d'autres instruments de promotion d'Innosuisse.

Recommandations

Le succès et la réputation peuvent servir de points de départ pour de nouveaux développements du programme.

Développer une stratégie nationale pour la formation des start-ups : grâce à son expérience et à sa position de leader du marché dans le soutien aux start-ups basées sur la science, à sa forte implication dans les écosystèmes de start-ups en Suisse, Innosuisse est prédestinée à collecter et à échanger les bonnes pratiques en matière de formation des start-ups et à mettre en réseau les formateurs et les coachs. Le développement d'une stratégie nationale pour la formation des start-ups pourrait ouvrir la porte à un partage de ces expériences avec d'autres pays et en plus soutenir la promotion de l'écosystème suisse des start-ups au-delà de la Suisse. Une collaboration avec Swissnex pourrait être intéressante à cet égard.

Maintenir un programme complet et ciblé : le programme est bien structuré et complet. La structure modulaire s'est avérée efficace et devrait être maintenue. La couverture de toutes les phases du développement d'une start-up est une particularité du programme qui n'est guère fournie par d'autres offres. Les formations sont la clé de l'acquisition de connaissances, de compétences et de savoir-faire en matière de règles commerciales et de marché. Les groupes interdisciplinaires, l'échange entre pairs et l'apprentissage par des coachs sont des éléments essentiels et devraient également être maintenus. Il serait utile d'envisager des possibilités de coaching supplémentaires dans le module 2. Des cours spécifiques aux secteurs industriels ont déjà été introduits dans les modules 3 et 4 à la demande des personnes interrogées.

Élargir les groupes cibles : Le développement d'une stratégie nationale pour les formations aux start-ups pourrait également servir à redéfinir les groupes cibles du programme – tout en conservant l'accent sur les start-ups basées sur la science et la technologie. Outre les diplômé-e-s des EPF et des universités, qui prédominent, les diplômé-e-s des hautes écoles spécialisées (HES) deviennent de plus en plus intéressants en tant que groupe cible, car leurs projets de recherche sont orientés vers les applications. Cela impliquerait toutefois un repositionnement dans le profil des HES, car la promotion de l'entrepreneuriat n'a pas été définie par la politique comme l'un de leurs objectifs spécifiques. En outre, différents résultats d'évaluation conduisent à la conclusion que « le plus tôt sera le mieux » – tant en ce qui concerne l'âge des participant-e-s à la formation que le stade de développement de la création d'entreprise. S'adresser aux gymnasien-ene-s nécessite toutefois d'autres approches que le programme d'Innosuisse basé sur la science.

Les femmes sont sous-représentées dans le domaine de la création d'entreprise. En raison d'aspects socioculturels, elles se sentent moins concernées et moins bien accueillies dans le monde de la création d'entreprise ainsi que dans les cours de formation. Ils ont tendance à sous-estimer leur potentiel, elles sont moins sûres d'elles et en même temps plus conscientes des risques et plus averses aux risques. Dans l'optique de renforcer l'entrepreneuriat, la création d'entreprises et la croissance économique en Suisse, leur potentiel doit

être mieux exploité par le biais du coaching, de la formation, de la mise en réseau et de modèles de rôle.

Durabilité et entrepreneuriat social : devenir entrepreneur(e) ou soutenir financièrement une start-up est un moyen efficace de faire bouger les choses. La promotion d'attitudes entrepreneuriales a donc un impact social au-delà de l'écosystème des start-ups, surtout si la durabilité dans son sens large n'est pas seulement considérée comme un défi, mais aussi comme un important domaine de croissance. Innosuisse pourrait ainsi suivre plus activement les tendances et les évolutions en matière de durabilité, d'entrepreneuriat social et de responsabilité sociale – comme cela est également observé dans le contexte de l'UE et stimulé par les ODD de l'ONU.

Maintenir une responsabilité commune pour le programme : nous recommandons de maintenir la répartition établie des responsabilités du programme national et des responsabilités opérationnelles des prestataires régionaux intégrés dans le système suisse des hautes écoles – et de baser cette coopération sur une stratégie nationale pour les formations aux start-ups. Un abandon de l'approche actuelle pourrait donc entraîner la perte à la fois de l'étalon de qualité national et de la possibilité d'apprendre des particularités régionales. Afin de renforcer la diversité au sein des start-ups, il convient d'envisager des possibilités d'intégrer des prestataires plus diversifiés, y compris de petite taille.

Renforcer les possibilités de coaching : les résultats de l'analyse indiquent un intérêt particulier et un besoin supplémentaire de possibilités de coaching. Compte tenu de la structure du programme, le module 2 se prête particulièrement bien à cet effet. Les participants au module 2 ont déjà une idée de projet de base, mais ils ont besoin d'une réflexion précoce de la réalité et de conseils spécifiques pour faire avancer leur projet avec succès. En outre, davantage de coachings au sein des modules, ou du moins la mise en réseau des participants avec d'autres offres de coaching, pourraient combler le fossé entre le module 4 et la phase ultérieure des processus de financement.

«Digital is here to stay», mais les contacts directs restent importants : sur la base de l'expérience acquise lors de la pandémie du Covid-19, nous recommandons de renforcer les outils didactiques numériques, tout en laissant suffisamment de place aux interactions directes. Les contacts directs entre pairs et avec des entrepreneurs expérimentés pendant les formations en présentielle restent essentiels pour identifier rapidement les réalités économiques, trouver des partenaires commerciaux potentiels, construire des réseaux et être confronté à un environnement entrepreneurial.

Synergies avec d'autres offres d'Innosuisse : Innosuisse dispose d'une offre complète et cohérente de services de soutien aux start-ups. Si certaines synergies entre ces offres sont déjà exploitées, il existe encore un potentiel pour le faire de manière plus stratégique et plus efficace. En outre, le soutien d'Innosuisse aux start-ups devrait se traduire par un marketing proactif et complet. Cela aiderait les prestataires à promouvoir les instruments d'Innosuisse de manière ciblée et pas seulement comme des offres parmi d'autres. En même temps, cela pourrait améliorer l'expérience des participant-e-s en les sensibilisant à Innosuisse et à ses multiples offres de soutien.

Management Summary – Italiano

Obiettivo dell'analisi olistica del programma di formazione per start-up di Innosuisse

L'obiettivo dell'analisi olistica era quello di valutare l'impatto e la rilevanza del programma di formazione per start-up di Innosuisse (il programma) per sostenere Innosuisse nello sviluppo di un programma complementare d'impatto orientato alle esigenze e al futuro, che segua i principi di sussidiarietà e che permetta delle sinergie con altre offerte di sostegno di Innosuisse. L'analisi si è articolata in tre parti :

- Valutazione del programma in termini di sensibilizzazione e formazione
- Identificazione delle esigenze e delle tendenze nella formazione imprenditoriale
- Analisi comparativa nazionale e internazionale del programma

Struttura del progetto in breve

Le riunioni iniziali con Innosuisse e una prima revisione dei documenti e dei dati esistenti hanno dato avvio al progetto e hanno permesso di sviluppare un rapporto iniziale dettagliato. Sulla base di questo rapporto dettagliato è stata condotta un'analisi completa per valutare l'impatto e la rilevanza del programma, per sondare le esigenze e le tendenze nella formazione all'imprenditorialità e per tracciare delle analisi comparative nazionali e internazionali. La valutazione ha incluso interviste con esperti, un'ampia indagine online, delle interviste biografiche approfondite e delle analisi nazionali e internazionali. La fase finale del progetto è stata dedicata alla sintesi dei risultati in termini di visione globale. Un workshop con il gruppo di accompagnamento ha permesso di riflettere sui risultati della valutazione e sui futuri sviluppi del programma.

Valutazione del programma

L'analisi si è conclusa con una valutazione positiva del programma. I risultati sottolineano l'alta reputazione del programma tra gli ex partecipanti e gli esperti nazionali e internazionali. Il programma è diventato un pilastro importante delle diversificate attività di promozione delle start-up di Innosuisse. Esso è anche ben inserito nell'ecosistema nazionale delle start-up. Trattandosi di un'offerta formativa estesa in tutta la Svizzera, il programma rappresenta un punto di riferimento nazionale. Il suo ancoraggio ai sistemi regionali di istruzione superiore garantisce che vengano integrati aspetti specifici degli ecosistemi regionali. Inoltre, il programma funge da piattaforma e ha quindi un impatto sulle offerte di formazione di altri fornitori. Allo stesso tempo, l'approccio nazionale può essere rafforzato attraverso esperienze diverse, anche per quanto riguarda altri strumenti di finanziamento di Innosuisse.

Raccomandazioni

Il successo e la reputazione possono servire come punti di partenza per ulteriori sviluppi del programma.

Sviluppare una strategia nazionale di formazione per le start-up: grazie alla sua esperienza e alla sua posizione di primo piano sul mercato del sostegno alle start-up di carattere scientifico, nonché al suo forte coinvolgimento negli ecosistemi di start-up in Svizzera, Innosuisse è predestinata a raccogliere e scambiare le migliori pratiche sulla formazione delle start-up e a mettere in rete formatori e coach. Lo sviluppo di una strategia nazionale per la formazione delle start-up potrebbe essere un modo per condividere questa esperienza con altri Paesi e promuovere l'ecosistema svizzero delle start-up al di fuori della Svizzera. A questo proposito potrebbe essere interessante una collaborazione con Swissnex.

Mantenere un programma completo e orientato agli obiettivi: il programma è ben strutturato e completo. La struttura modulare si è dimostrata efficace e dovrebbe essere mantenuta. La copertura di tutte le fasi di sviluppo di una start-up è una caratteristica peculiare del programma che difficilmente si ritrova in altre offerte. I corsi di formazione sono fondamentali per acquisire conoscenze, competenze e know-how sulle regole commerciali e di mercato. I gruppi interdisciplinari, lo scambio tra colleghi e l'insegnamento da parte di formatori sono elementi essenziali e dovrebbero essere mantenuti. Si dovrebbe prendere in considerazione la possibilità di offrire ulteriori opportunità di coaching nel modulo 2. I corsi specifici del settore industriale sono invece già stati introdotti nei moduli 3 e 4 su richiesta dei rispondenti.

Ampliare i gruppi target: Lo sviluppo di una strategia nazionale per la formazione delle start-up potrebbe inoltre servire a ridefinire i gruppi target del programma, pur mantenendo l'attenzione sulle start-up basate sulla scienza e la tecnologia. Oltre ai laureati dei Politecnici federali e delle università, i laureati delle scuole universitarie professionali (SUP) stanno diventando sempre più interessanti come gruppo target, in quanto i loro progetti di ricerca sono orientati all'applicazione. Tuttavia, ciò richiederebbe un riposizionamento nel profilo delle SUP, poiché la promozione dell'imprenditorialità non è stata definita dalla politica come uno dei loro obiettivi specifici. Diversi risultati della valutazione portano a ritenere che «prima è, meglio è» – sia per quanto riguarda l'età dei partecipanti alla formazione sia per quanto riguarda lo stadio di sviluppo della start-up. Rivolgersi agli studenti delle scuole superiori richiede però un approccio diverso rispetto al programma scientifico di Innosuisse.

Le donne sono sottorappresentate nel settore della creazione di imprese. A causa di aspetti socioculturali, le donne si sentono meno indirizzate e accolte nel mondo della creazione d'impresa, anche nei corsi di formazione. Esse tendono a sottovalutare il proprio potenziale, sono meno sicure di sé e allo stesso tempo sono più consapevoli e avverse al rischio. Per rafforzare l'imprenditorialità, la creazione di imprese e la crescita economica in Svizzera, è necessario sfruttare meglio il loro potenziale attraverso il coaching, la formazione, il networking e i modelli di riferimento.

Sostenibilità e imprenditorialità sociale: diventare imprenditori o sostenere finanziariamente una start-up è un modo efficace per fare la differenza. La promozione dell'attitudine imprenditoriale ha quindi un impatto sociale che va oltre l'ecosistema delle start-up, soprattutto se la sostenibilità nella sua ampia accezione viene intesa non solo come una sfida ma anche come un importante ambito di crescita. Innosuisse potrebbe quindi seguire più attivamente le tendenze e gli sviluppi in materia di sostenibilità, imprenditorialità e responsabilità sociale, come si osserva anche nel contesto dell'UE e come incoraggiato dagli OSS (Obiettivi di sviluppo sostenibile) delle Nazioni Unite.

Mantenere una responsabilità condivisa per il programma: Raccomandiamo di mantenere la divisione di responsabilità stabilita tra il programma nazionale e le responsabilità operative dei fornitori regionali integrati nel sistema universitario svizzero – e di basare questa collaborazione su una strategia nazionale per la formazione di start-up. Un allontanamento dall'approccio attuale potrebbe quindi comportare la perdita sia del parametro di qualità nazionale sia della possibilità di imparare dalle specificità regionali. Per rafforzare la diversità all'interno dell'ecosistema delle start-up, si dovrebbe prendere in considerazione la possibilità di includere fornitori di prestazioni di formazione più diversificati e anche più piccoli.

Rafforzare le opportunità di coaching: I risultati dell'analisi indicano un particolare interesse e un ulteriore bisogno di opportunità di coaching. Considerata la struttura del programma, il modulo 2 si presta particolarmente a questo scopo. I partecipanti a questo secondo modulo dispongono già di un'idea di base del progetto. Tuttavia, essi hanno bisogno di un confronto critico sulla realtà del settore e di un accompagnamento specifico per portare avanti con successo il loro progetto. Inoltre, una maggiore offerta di attività di coaching all'interno dei moduli o la messa in relazione dei partecipanti con altri servizi di coaching potrebbe contribuire a colmare il divario tra il modulo 4 e la fase successiva sul processo di finanziamento.

«Digital is here to stay», ma il contatto personale rimane importante: Sulla base dell'esperienza fatta durante la pandemia Covid-19, raccomandiamo di rafforzare gli strumenti digitali per l'apprendimento, mantenendo però sufficiente spazio per l'interazione diretta. I contatti in prima persona durante i corsi di formazione tra coetanei e imprenditori esperti restano fondamentali per conoscere in anticipo le realtà economiche, trovare potenziali partner commerciali, creare reti di conoscenze ed essere esposti a un ambiente imprenditoriale.

Sinergie con altre offerte Innosuisse: Innosuisse dispone di una gamma completa e coerente di servizi di supporto per start-up. Sebbene si stiano già sfruttando alcune sinergie tra queste offerte, esiste ancora un potenziale per una collaborazione più strategica ed efficace. Inoltre, il sostegno di Innosuisse alle start-up dovrebbe essere tradotto in un marketing proattivo e completo. Questo aiuterebbe i fornitori a promuovere gli strumenti di Innosuisse in modo mirato e non solo come una delle tante disponibili. L'esperienza dei partecipanti potrebbe migliorare con una maggiore consapevolezza sulle molteplici offerte di supporto di Innosuisse.

1 Introduction and Mandate

1.1 Innosuisse and its start-up training programme

Importance of entrepreneurial education

The impact of entrepreneurial education (e.g. Graevenitz et al. 2010) has been assessed by many studies in recent years. Souitaris et al. (2007), for instance, confirmed to what extent entrepreneurship education increases entrepreneurial attitudes as well as the intention to start a business. In a meta-analysis Martin et al. (2013) as well identified a positive impact of such trainings on entrepreneurship-related human capital assets and outcomes (e.g. start-ups). They pointed out that academic-focused entrepreneurship education (full course) had a stronger impact on the outcome than training-focused interventions (short courses). Thereby, entrepreneurial education and training shall address and strengthen abilities of entrepreneurs, particularly the ability to perceive opportunities, to design new products and concepts, to explore new markets, to overcome obstacles, bear uncertainties and risks and to show a proactive behaviour as well as the ability to organise a team or venture. Literature also discusses the content of entrepreneurship education (e.g. Fiet 2001), stressing that specific skills and personal traits are crucial in this respect (openness, pro-activity, confidence, creativity).

Some studies investigated effects of programs and initiatives launched by the European Commission (EC) to foster entrepreneurship education. The BEST report by the EC (2009), underlines that the impacts should be assessed in four dimensions, i.e. impact on entrepreneurship key competences, on intentions towards entrepreneurship, on individual employability, on society and economy. Ben Nasr and Boujelbene (2014) defined entrepreneurial attitudes, project approach and ability, communication and relationship skills as well as having a good reputation as the main outcome categories to be measured when assessing the effects of entrepreneurial education. Moreover, the authors of the evaluation and impact analysis of the CTI¹ start-up training programme (2019) argued that the time span between a first business idea and the actual founding of a business can be very long. Thus, effects of entrepreneurship education may only become visible years after the training. Furthermore, multiple factors such as networks or business partners influence the effect of entrepreneurial education.

Tasks of Innosuisse

The task of Innosuisse is to promote science-based innovation in the interest of the Swiss economy and society, focusing on funding of innovation projects, fostering the development of productive networks, providing training and coaching for (potential) start-up funders, organizing internationalisation camps, introducing the «proof of concept» bridge and offering

¹ CTI = The former Commission on Technology and Innovation has been transformed to become the Swiss Innovation Agency on Innosuisse in 2016 (Federal Act on the Swiss Innovation Promotion Agency, June 17, 2016)

start-ups with global ambitions the chance to attend international trade fairs as visitors or exhibitors. Innosuisse funds all BRIDGE² activities including proof of concept (POC) and discovery programmes. Innosuisse is thereby guided by the programmatic priorities for Innosuisse for the years 2021-2024 expressed by the Federal Government: orientation towards economic and social benefits and the preservation of value creation in Switzerland; cooperation with the national innovation funding system and international funding agencies in order to reduce duplication and exploit synergies and a systematic needs and impact orientation of all instruments and their further development. Furthermore, Innosuisse is also committed to promoting sustainability through innovation. This approach is in line with the vision of the Federal Council's draft «Sustainable Development Strategy 2030».

The Innosuisse start-up training programme

The purpose of start-up-coaching related activities is to offer tailor-made support to young entrepreneurs with the aim of generating economic added value and creating jobs, while the specific purpose of the start-up awareness-raising and training programme at universities (the Programme) is to enhance the number of (PhD-) students and postdocs who decide to pursue an entrepreneurial career. It used to be primarily aimed at PhD and other students or university affiliates. However, it has been opened to address all people interested in entrepreneurship. Also, the goal is to convince more people to pursue an entrepreneurial career, while giving them a group setting (one-to-many-approach) all tools needed to set up a business from the very early ideation stage all the way to the market. The Programme was launched in 2004 and has been implemented by several external providers.³ Its main goal is to equip entrepreneurs with the needed tools to set up and grow their own company: «The Innosuisse start-up training programme helps you develop your business idea, set up your company and implement a strategy for growth. Our four training modules are led by experienced entrepreneurs and held all over Switzerland.» The intended effects of the Programme on trainees can further be differentiated according to the four modules offered.

- *Module 1 / Business Ideas:* This first module consists of a motivational event offering participants the opportunity to meet interesting high-profile entrepreneurs and be inspired by their success stories. Furthermore, participants are introduced to important institutions and stakeholders active in the start-up ecosystem. The event lasts around two hours and is followed by a networking reception.
- *Module 2 / Business Concept:* In this second module, participants acquire both the theoretical and practical expertise to set up and to run their own knowledge- or technology-based company. The module includes sessions on market research, marketing, strategy, communication, business planning etc.. Module 2 is set up as a semester course with 14 evening events of four hours.

² The BRIDGE programme is jointly offered by the Swiss National Science Foundation (SNSF) and Innosuisse. It offers two funding opportunities at the intersection of basic research and science-based innovation for young and experienced researchers.

³ The procurement process with regards to providers of the Programme shall not be part of the analysis.

- *Module 3 / Business Creation:* This third module addresses participants launching about to set up their own company or having recently started a business – with the goal to strengthen their plans and to consolidate their knowledge. Throughout the course, specialist trainers and Innosuisse coaches provide start-ups with one-on-one support. Module 3 is offered as a sector-specific course and consists of a five-day intensive course (spread over several weeks), including three hours of one-on-one coaching.
- *Module 4 / Business Growth:* In this last module, participants who have already founded their start-up will analyse barriers, opportunities and markets in their sector and learn about processes and structures supporting the growth of their company. The module is offered as sector-specific courses and includes opportunities of one-on-one coaching with specialist trainers and Innosuisse coaches. It consists of a five-day intensive course (spread over several weeks), including three hours of one-on-one coaching.

Taken together, the four modules are designed to walk participants through the start-up cycle and to support and accompany them from the very first moment when an idea is born, to founding and first stages of a start-up.

Intended effects of training modules on participants

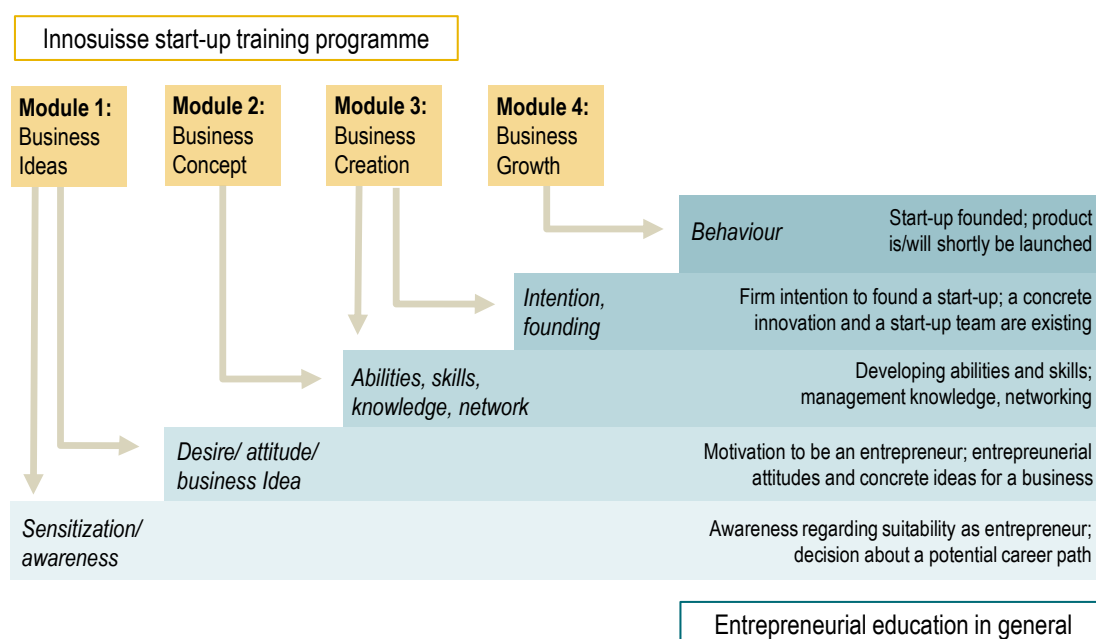


Illustration 1: Specific effects of training modules on participants

While the «instruments in the area of entrepreneurship and start-ups have proven their worth (...) there is further room for improvement when it comes to starting an entrepreneurial activity and considering entrepreneurship as a good career choice» (GEM Report 2017), especially with regard to women as well as younger and older target groups (Innosuisse Multi-year programme 2021 to 2014). Previous evaluations and impact analyses (B, S, S., KMU Forschung Austria 2019) highlighted that CTI's entrepreneurship courses are highly appreciated by participants and experts. Furthermore, their econometric study showed that the courses have a positive influence on the entrepreneurial attitude of the participants.

At the same time, the evaluation identified room for improvement in the following areas: Clarify the target group(s) of modules 3 and 4; allow for a more modular approach within the modules; ensure a follow-up support (possibly Start-up Coaching Programme); increase the awareness of the Programme; address women more strongly and better analyse the beneficial and detrimental impacts of the mandate on the course providers. The question of how homogeneous the participants of the modules should be, remained open in the evaluation.

1.2 A holistic analysis based on an impact model

The Programme was launched in 2004 and the offerings have been entirely outsourced and allocated to various providers, mainly through a competitive bid process. Taken the long existence of the Programme as well as a rapidly changing entrepreneurial landscape, Innosuisse launched a re-evaluation of the Programme and its context with a holistic approach to get a broad perspective on offerings, impacts and future needs.

Relevance of the Programme

The main goal of the holistic analysis was to identify the relevance of the Programme and to support the decision-making of Innosuisse to develop a complementary, needs-oriented, future-oriented, and impactful offering in accordance with the subsidiarity principle and in synergy with all other offerings of Innosuisse. The analysis consisted of three parts.

Parts of the analysis	Main questions addressed
1 Evaluation: A formative (concept, set-up) and summative (impact) evaluation of the current offer, eventually, differentiated according to individual modules. The aim is to assess structure, implementation and impact of Training Modules 1, 2, 3 and 4 as offered in 2020.	To what extent does the Programme achieve goals set with regards to sensitization and training?
2 Needs and trends: A needs and trends analysis of the entrepreneurial landscape in Switzerland with regards to awareness-raising and entrepreneurial training programmes.	What would be the optimal shape and positioning of a future awareness-raising and entrepreneurial training programme?
3 Benchmarks: A national and international benchmarking analysis of the Swiss and regional start-up ecosystems with a focus on «start-up training».	What are other promising sensitizing and training programme offerings?

Table 1: Main goals and main questions of the holistic analysis

Impact model as starting point

Since the Programme aims at showing impact on the level of target groups as well as on a systemic level, the holistic analysis has been based on an impact model presenting a comprehensive «Theory of Change» comprising the following elements.

- *Incomes:* The model differentiates needs and potentials of future entrepreneurs.
- *Inputs* summarise resources enabling the Programme. This includes legal and conceptual framework conditions as well as financial and human resources.
- *Implementation* of the Programme is supported by specific structures and processes.

- *Output*: On this level the model addresses services provided and their quality.
- *Outcome*: The outcome of the Programme refers to effects of trainings on participants and subsequently on their start-ups.
- *Impact*: The impact of the Programme occurs on the level of the economy, the society as well as on sustainable developments in Switzerland and beyond.

The impact model has been revised based on the results of the analysis and is depicted in the graph below.

Impact model for the Innosuisse start-up training programme

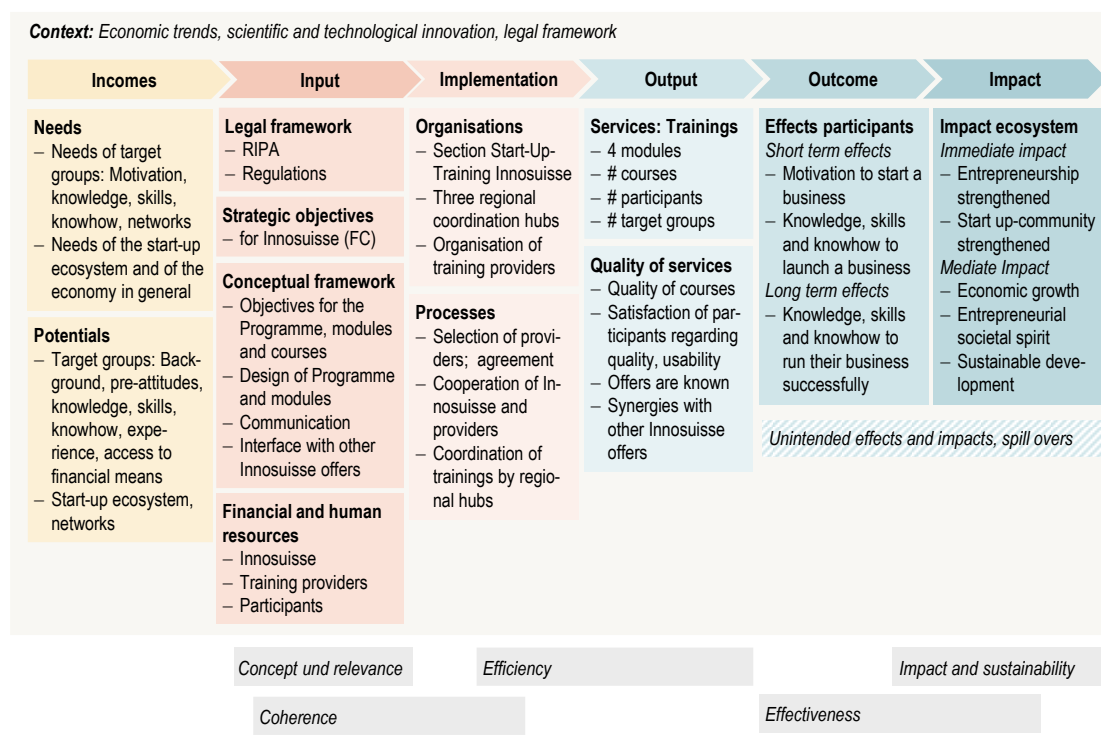


Illustration 2: Impact Model for the Innosuisse Start-up Training Programme

1.3 Evaluation questions

Detailed evaluation questions were formulated in view of the overarching goals of the study, addressing the three specific parts of the study. The following tables give a short version of these questions. The detailed evaluation questions can be found in Annex A-1.

Evaluation questions regarding the summative and formative evaluation

The evaluation questions have been structured according to the impact model as well as to the summative and formative aspect of the evaluation.

Summative and formative evaluation (short version)
Design and implementation: To what extent is the Programme oriented towards its objectives and the needs of the target group? How is the Programme embedded in the national and regional entrepreneurial landscape? What alternative designs could be envisaged taking account the needs of the target group?
Participants and their satisfaction: How can participants be characterised? To what extent are they satisfied with the modules? What was/is the influence of the Covid-pandemic and of an increase use of digital education on participants and their participation in the Programme?
Motivating factors: What are factors motivating individuals in different modules/ different stages of their entrepreneurial projects?
Influence on entrepreneurial mind set: To what extent is the Programme able to influence the motivation to start a business / to run a business successfully?
Ecosystem: To what extent is the Programme integrated in the regional ecosystem? What is the overall impact of the Programme on local ecosystems?
Diversity and sustainability: To what extent does the Programme impact diversity and sustainability in the start-up ecosystem?
Coherence: To what extent does the Programme impact the participation of other Innosuisse support measures? To what extent are synergies exploited?

Table 2: Evaluation questions for part 1

Evaluation questions regarding needs and trends

The evaluation questions address the positioning of the Programme as well as needs of participants and trends regarding training offers.

Needs and trends (short version)
Positioning and USP : What is the positioning of the training Programme within the increased offering of entrepreneurship-related programmes of universities and of private providers?
Needs of (potential) participants: What are needs of potential participants according to the stage of their start-up? What are the different «customer journeys» entering the «entrepreneurial track»?
Trends and dynamics of the ecosystem: What are trends and dynamics of the ecosystem that should be taken into account for future considerations?

Table 3: Evaluation questions for part 2

Evaluation questions regarding the national and international benchmarking

The evaluation regarding the national and international benchmarking included questions addressing national and international training offers.

National and international benchmarking (short version)
National benchmarking: What are other training offers provided by public and private organisations in Switzerland, including other programmes and instruments offered by Innosuisse? Who are key players and what are there target groups?
International benchmarking: What are the promising alternatives offered internationally by other governmental agencies that are comparable to Switzerland in terms of economic and innovation capabilities?

Table 4: Evaluation questions for part 3

1.4 The project design in a nutshell

The project design included in three main phases addressing the different dimensions of the holistic analysis in a coherent way.

- *First phase – setting the stage:* The first phase of this project covered two kick-off meetings as well as a preliminary overview of documents and data to serve as a basis for all three parts of the project. A detailed inception report has been presented as result of this first phase. The inception report has been validated by the supporting group. The detailed evaluation matrix, summarizing all evaluation questions including benchmarks and methodological approaches can be found in the annex A-2.
- *Second phase – holistic evaluation of the Programme:* Based on the inception report, the holistic analysis addressed the formative and summative evaluation of the Programme, needs and trends as well as the national and international benchmarking were carried out. This included expert interviews, an extensive online survey, biographical interviews as well as a national and international benchmarking. The questionnaires have been established in accordance with Innosuisse. The identification of relevant trends and dynamics in entrepreneurship and continuing education included a screening of relevant information and documents: Specific reports on trends from other countries, national start-up and innovation monitors with a focus on context, conclusions as well as reports addressing general economic trends. Methodologies applied assured synergies between the three thematic parts of the project.
- *Third phase – synthesis and workshop:* The last project phase included a synthesis of all results and insights, thus allowing to put the different analysis parts into perspective. Aim of the synthesis workshop with the support group for this project⁴ was a joint reflection on the evaluation results and on the Programme and its future development. The first part of the workshop focussed on the validation and interpretation of the findings of the holistic analysis. The second part addressed a SWOT-analysis of the Programme as well as needs and trends regarding its further development. Results of the workshop discussions have been included in this final report.

This report presents the results of the evaluation as well as recommendations. The evaluation considers the development of the Programme over the past years as well as the ambition of Innosuisse to make use of synergies regarding different support measures to achieve coherence of Innosuisse offerings. Moreover, current, and future developments of the entrepreneurial landscape of Switzerland and beyond have been considered. To mention in particular: Digitalisation of education and trainings allowing for an increased internationalisation of offers and demand as well as a growing awareness of universities with regards to initiating and supporting start-ups.

⁴ The support group for this project had been established by Innosuisse and included national as well as international experts regarding start-up ecosystems and entrepreneurial trainings.

The project design is depicted in the graph below. Details regarding the documentation analysed, experts interviewed as well as regarding the online survey addressing former participants of the Programme can be found in the annexes.

Comprehensive project design

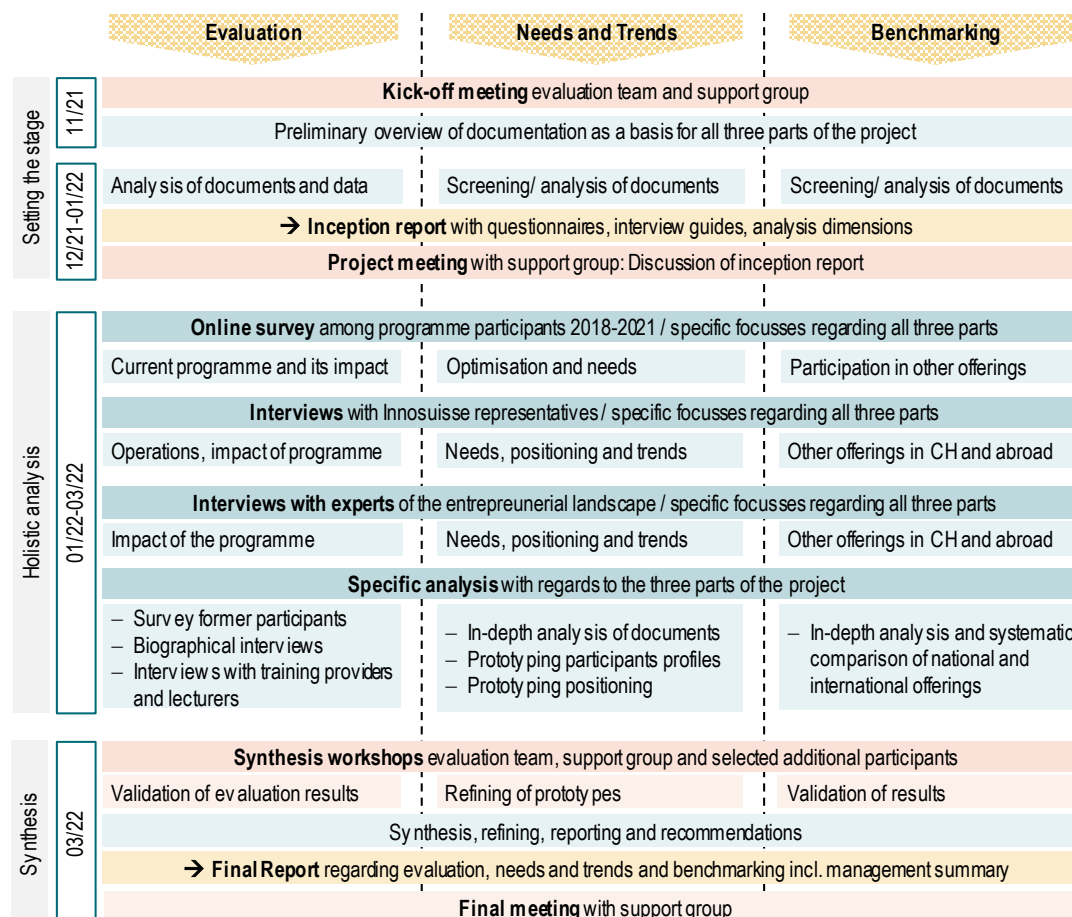


Illustration 3: Comprehensive project design

2 The Programme – Assessed by Experts

2.1 Overview of expert interviews

In order to provide a broad view of the Programme, in-depth interviews were conducted with various experts:

- Representatives of Innosuisse and experts of the support group for this project
- Providers and lecturers of the Programme
- National and international experts regarding start-up ecosystems

These experts were addressed with tailor-made questionnaires to capture their specific experience. The interviews lasted about 45 minutes. The overview of interview partners as well as the questionnaires can be found in annexes A-4 and A-5.

2.2 Assessment by Innosuisse and members of the support group

The interviews with representatives of Innosuisse and of the support group provided an in-depth insight regarding the strategic basis of the Programme, its implementation as well as challenges met. Moreover, Innosuisse experts are familiar with typical profiles of participants as well as with trends regarding entrepreneurial training and the entrepreneurial landscape in Switzerland. Lastly, they were able to assess awareness-raising and other training programmes both in Switzerland and internationally.

Positive Programme appreciation, adding some thoughts for further developments

The representatives of Innosuisse and of the Support Group highly appreciated the Programme. They emphasised to what extent it fosters entrepreneurship and welcomed its modular structure aligned with the typical development phases of start-ups. Thus, the courses help participants develop concrete ideas and implement them. Representatives of Innosuisse and of the support group pointed out that Innosuisse deliberately follows a comprehensive approach accompanying start-ups all the way from research to start-up ideas to market introduction.

The interviewees generally agreed that the Programme is inclusive in terms of industries, language, and region – as well as established throughout Switzerland. However, the main impact of the Programme was said to be around ETH in Zürich and EPFL in Lausanne. Interviewees assessed the Programme objectives as clear and realistic, including awareness raising and proficiency regarding entrepreneurial tools. The fact that new topics such as sustainability and diversity had been added as subgoals in recent years, has been welcomed by the interviewees. Thus, more women could be attracted to the Programme. However, more diversity is still expected by some among trainers and providers.

Focussing on science-based start-ups, the main target group are recent graduates and PHDs. Regarding technology transfers, the close cooperation with the universities was

considered key, working well and valued accordingly. Yet, interviewees underlined, that the target group should be broadened, integrating younger participants as well as participants without an academic degree. Including smaller or new training providers would be welcomed as well.

Strong national positioning and overall regional integration

Despite numerous start-up trainings offered in Switzerland, the Programme has been assessed as well established, appropriately positioned, and competitive. Main reasons for this positive assessment are the country-wide offering on the one hand, while considering regional academic and start-up ecosystems on the other hand. Having attended the Programme is perceived as a quality label by investors and banks, and trusted by participants. Some interviewees highlighted that Innosuisse should maintain the subsidiarity principle and to be active where others are not. Since Innosuisse is spending public money, it should stay true to its very mission, which is to best serve society and economy, as some interviewees added. While many persons interviewed welcomed the fact that the Programme is offered free of charge, one interviewee raised his*her concerns over possible competition distortions. Overall, the interviewees assessed the Programme as seamlessly integrated in the regional Start-up ecosystems, except for Ticino as one of them pointed out. Interviewees mentioned that Innosuisse fosters close relationships with, and among, ecosystem stakeholders. Finally, the high coherence of the various Innosuisse instruments was praised as well.

Linking Programme objectives and participants needs

Numerous interviewees see it as a key Programme objective to present the entrepreneurial path as an attractive career and to equip participants to be able to navigate such a path successfully. Many researchers are not sufficiently equipped to become successful entrepreneurs and thus need to be supported. Furthermore, the importance of exchanges during with experienced entrepreneurs (and mentors) has been highlighted. Thus, practice-oriented teaching should be pursued and even developed. Such exchanges allow trainees to learn from experienced entrepreneurs as well as to feel part of their community, and thus contribute to prevent a feeling of loneliness so common among entrepreneurs. Two interviewees insisted on the fact that the Programme should provide a reality check at an early stage. Means and tools needed to generate growth and income should be addressed at an early stage, combined with a candid assessment of the specific business idea. In addition, the Programme should aim at strengthening soft skills, also by pushing participants out of their comfort zone. From a different perspective, several interviewees pointed out that training may not be sufficient as the overall entrepreneurial environment needs to be cultivated as well. Two interviewees underlined the need for a stronger focus on societal aspects and on SDGs, rather than on pure economic growth. Finally, start-ups, and entrepreneurs also need funding, which is perceived as being provided by Innosuisse only at the margin.

The start-up ecosystem is subject to great dynamics. Thus, a call for more agile training offerings emerged. In addition, various interviewees believed that strengthening an entrepreneurial mindset should start even earlier, and thus 15- to 20-year-old youngsters should be considered as a possible target group as well. Another important trend is making use of synergies, especially through collaborations with other national but also international programmes. Finally, interviewees mentioned the current digital shift, which was accelerated by the Covid-19 pandemic. Although many agreed that elements of digital learning were beneficial, they also insisted on the importance of preserving physical interaction and networking.

Key takeaways from the interviews with Innosuisse and the support group

The Programme meets its objectives

- well-structured, coherent, and mission-oriented national programme
- hands-on approach, building on participants entrepreneurial goals and mentoring by entrepreneurs
- nicely embedded in the local context
- working closely with universities
- integrated with other Innosuisse tools

There is a call for

- reaching out more beyond ETH and EPFL ecosystems
- developing modules for younger cohorts (15-20 years old)
- taking better advantage of national and international synergies
- assessing effects of digital shift
- focusing more on SDGs and societal aspects
- providing even more experiences with established entrepreneurs and additional more agile offerings

Table 5: Key takeaways from the interviews with Innosuisse and the support group

2.3 Assessment by providers and lecturers

Interviews with providers and lecturers highlighted aspects regarding the implementation of the trainings and effects of the Programme on programme participants and the regional ecosystems. Moreover, lecturers get to know participants and thus were able to assess effects and impacts of trainings with regards to entrepreneurial mind sets, skills and behaviours.

Positive Programme appreciation, adding some thoughts for further developments

Providers and lecturers agreed that the Programme is comprehensive, coherent, and competitive compared to other offerings. They described it as a door opener to an entrepreneurial world. Given its prominence and quality, the Programme is able to generate a high demand from participants as one interviewee pointed out. The satisfaction with Modules 2, 3 and 4 was generally assessed as high. Some interviewees particularly welcomed Module 2, which offers a suitable introduction, equips participants with basic tools and teaches them the importance of teamwork. Another person stated that there was a slight disconnect between Module 2 and Module 3 which could be bridged by more coaching offers.

Most interviewees described the target group as young and highly educated individuals, which corresponds at large with the actual profile of the participants. Occasionally, there are older participants, looking for a change in their career path. The motivation to participate in the Programme includes personal interests, the motivation to launch a company as well as the aspiration to expand networks. One interviewee underlined that the Programme often serves as a networking platform for potential business partners. The Programme is geared towards the needs and the entrepreneurial career of the participants. Some providers and lecturers mentioned that the focus on high-tech start-ups is aligned with the expectations of highly skilled, interesting, and well-prepared participants. Thanks to the high number of course applications, participants can be selective. Another person underlined that the interesting and interested participants of the Programme are an asset itself. Several interviewees mentioned the underrepresentation of women in start-ups and explained that they successfully adjusted their communication to attract more female founders.

Strong national positioning and overall regional integration

Providers and lecturers appreciated the Programme's comprehensiveness and its national dimension combined with regional implementations. Several interviewees also welcomed its mission-based and value driven approach as well as its thorough integration in the academic system. These elements were characterised as unique also with regards to other offerings in other countries. One interviewee stressed that the Programme achieves its goal of promoting innovation and thereby to generate something good for the Swiss public. The Programme succeeds in initiating many cooperation and exchanges among various stakeholders from the start-up scene. Thus, the Programme acts as a platform within the start-up ecosystem. The Programme has reached critical mass and visibility and thus, is able to attract the attention of potential participants, support organisations as well as of investors.

Linking Programme objectives and participants needs

Most interviewees underlined the importance of strengthening the trainee's skills in terms of perseverance, optimism, and resilience. Additionally, direct contacts with practitioners is perceived as highly important. They can serve as role models and reality check at the same time. Technical skills on the other hand, may be acquired in the course of developing the start-up, as some interviewees stated. While the percentage of female entrepreneurs has increased, some interviewees mentioned that the field is still male-dominated; specific challenges for female entrepreneurs should therefore be addressed – however, within mixed groups. Generating added value from a training programme is also highly dependent on the perfect timing regarding specific needs and maturity of a start-up. A recurring theme was the need for more coaching: some interviewees said that especially Module 2 should plan for more teams to be coached. This seems to be important to bridge the gap to later funding stages. Another interviewee suggested making better use of blended learning. With online learning elements to prepare for the modules, in-person lessons could be used more

effectively for coaching and hands-on exercises. Furthermore, one interviewee said that there is a need to better link the Programme with other Innosuisse instruments.

Following the slogan «the younger the better», several interviewees observed that fostering entrepreneurial skills increasingly becomes part of university curricula. However, one interviewee stressed that addressing gymnasium students would not be the purpose of the Programme. Mirroring the needs of trainees to benefit from coaching sessions, interviewees stated that participants also often express interest in coaching offers and projects. Overall, several interviewees stated that finding the right people, both on the participants' and the trainers' side remains a challenge. One interviewee observed an increased number of more specialised and shorter trainings and master classes on the market. This could be particularly important for participants of Module 3 and 4 since they are often already working on specific projects, have less time available and are looking for answers to specific questions. Finally, some interviewees stated that women often underestimate their potential, whereas men often apply for the Programme without a clear project idea.

Key takeaways from interviews with providers and lecturers

The Programme meets its objectives

- mission-driven, comprehensive, coherent, and competitive to this day
- national programme with strong localisation
- became a national platform attracting potential participants, support organisations and investors
- focused on young entrepreneurs
- earns a high level of satisfaction with the modules 2 to 4
- geared towards high-tech start-ups driven by highly skilled graduates
- provides specific outreach towards female prospects

There is a call for

- strengthening participants skills in terms of perseverance, optimism and resilience
- better addressing specific needs of female entrepreneurs
- providing even a stronger focus on direct contacts practitioners
- developing modules for university students, rather than younger cohorts
- blended learning as lesson learnt from the Covid-19 pandemic
- more coaching opportunities

Table 6: Key takeaways from interviews with providers and lecturers

2.4 Assessment by national experts

Interviews with national experts of the entrepreneurial landscape provided insights regarding the overall assessment and positioning of the Programme from an external view as well as needs and trends.

Positive Programme appreciation, adding some thoughts for further developments

Even though national experts were in general less aware of the specificities of the Programme, they appreciated its modular structure. According to the national experts interviewed the Programme offers young entrepreneurs the possibility to make their first steps into the entrepreneurial world. They described the target groups as highly skilled students and graduates with a particular focus on individuals with a MINT-background.

Strong national positioning and overall regional integration

Even though there are plenty of offerings, numerous national experts described Innosuisse as the market leader with a comprehensive programme offered on the national level. Furthermore, the trainings were characterised as door opener to other Innosuisse offers. The experts stated that there were clear synergies to be grasped between the different support offers of Innosuisse. One interviewee mentioned that these synergies could be used more efficiently, and that the Programme could profit from closer cooperation with institutions like such as Swissnex to give participants a global perspective.

Linking Programme objectives and participants needs

Several experts observed that trainees are highly skilled researchers, but they tend to lack intuition for economic and commercial needs. Thus, it is of utmost importance to convey commercial and business knowledge to participants and to encourage them to enlarge and complement their teams by integrating business skills at an early stage, as some experts stressed. Another point mentioned was the need of trainees to exchange experience, as a supporting factor towards entrepreneurial motivation. Participants need to be encouraged to try things out, accept mistakes and avoid over-academization, several interviewees stated. At the same time, one expert also underlined that participants depend on a clear reality check at an early stage; strengthening their optimism is not sufficient. In addition to opening doors to an entrepreneurial culture and mindset, experts underlined the need to teach specific skills – particularly pitching. Such skills can be learned through adequate training.

National experts observed an increased knowledge and agility level of young entrepreneurs during the last years. There are more serial entrepreneurs, who successfully found more than one start-up in a row. While this strengthens the start-up community and system, it is harder to integrate them in a training offer, as they often want to be independent and do their own thing, as one interviewee stated. Overall, experts assessed diversity beyond gender as crucial for successful teams. Having diverse educational backgrounds can be an asset. One expert commented the particular attention Innosuisse pays to gender. Some interviewees argued that sustainability must go hand in hand with economic success. Compared to other countries, Israel has been identified as best in class when it comes to industrial policies and public as well as private investments in start-ups. In their opinion Switzerland would need better framework conditions for start-ups, particularly regarding public industrial policies and taxes.

Key takeaways from interviews with national experts

The Programme meets its objectives

- well structured
- first steppingstones for young entrepreneurs
- market leader with a comprehensive national programme
- potential door opener for other Innosuisse offers

There is a call for

- better facilitating the integration of people with a business background into teams with tech backgrounds
- providing a strict reality check of entrepreneurial ideas early on
- offering proper training, and not only knowledge, to develop specific skills such as pitching
- conveying a culture that accepts mistakes and avoid over-academization
- learning more in terms of industrial policies and public investments in start-ups from the best in class countries, such as Israel
- engraining sustainability in any entrepreneurial approach

Table 7: Key takeaways from interviews with national experts

2.5 Assessment by international experts

Interviews with international experts provided expertise regarding the overall assessment and positioning of the Programme from an external view as well as needs and trends from an international perspective.

Positive Programme appreciation, adding some thoughts for further developments

International experts assessed the Programme as professional, attractive, and well structured. The Programme particularly attracts science and innovation-based start-ups. The experts particularly appreciated the modular composition of the Programme and the fact that it walks participants through a comprehensive process while also giving them the opportunity to walk away from the training with some artefacts acquired. Some experts underlined to what extent Module 1 succeeds in raising awareness among interested participants. Moreover, experts stressed a natural progression from Module 4 to being interested in coaching opportunities. This underlines the development of entrepreneurial attitudes and a growing awareness regarding the benefits of being supported on that journey.

Strong national positioning and overall regional integration

International experts agreed that the Programme is well integrated in the Swiss start-up ecosystem. They commented its impact and characterized the Programme as being an asset for the Swiss start-up community. Some experts particularly stressed the impact of awareness raising. Moreover, as a national offer, the Programme guarantees the quality needed in the start-up world, as one expert argued. However, since Switzerland is a small market and a small start-up community, several interviewees stressed that reaching out to international partners could be beneficial.

Linking Programme objectives and participants needs

Related to the relatively small size of the Swiss start-up community, several experts proposed a stronger cooperation with Swissnex in view of strengthening the international perspectives of participants. Another expert stressed that it is of high importance that training programmes do not separate the NPO world from the tech- and finance industry. Thus, there is a need for complementary teambuilding.

International experts observed an increased focus on social businesses and sustainability as important trends on the EU-level. They argued that this potential has not yet been fully exploited in Switzerland. One international expert stated that social business attracts more women – also for trainings. Increasing the share of women in the start-up system is highly desirable and should go beyond a «ticking the box exercise» – as several experts mentioned. Especially in the high-tech scene there is need for more women, one interviewee added. Another important trend is the increased number of intrapreneurs. Co-workers in (larger) companies may work on an idea for several years and may be ready to launch their own business at a later stage of their professional career. Finally, the increase in online offerings was mentioned. While these will not be able to replace physical interactions, Innosuisse should reflect on new approaches of combining on site and distant learning.

Key takeaways from interviews with international experts

The Programme meets its objectives

- allows people to walk through a structured process
- is an asset for the national start-up community
- strong impact in awareness raising

There is a call for

- increasing the outreach to international partners
- reflecting about better leveraging the Swissnex network
- providing specific training for social business
- matching problem-owners with tech-specialists
- better integrating sustainability altogether
- including intrapreneurship and the corresponding participants in the curricula
- providing more hybrid training formats

Table 8: Key takeaways from interviews with international experts

2.6 Synthesis of assessments made by experts

Overall, the results of the interviews show a lot of consistency and agreement among interviewees, both within one target group and as well as among the different target groups.

Appreciation of the Programme

The Programme is widely appreciated as a well-structured, comprehensive, and coherent learning offer opening various doors to the entrepreneurial world. While representatives of Innosuisse and of the support group stated that the Programme is well integrated with other Innosuisse instruments, some providers and lecturers suggested there could be even stronger links to other Innosuisse offers, particularly to coaching.

National positioning and international networks

Thanks to its national reach, its regional implementation, and its mission driven approach, the Programme remains competitive compared to other offerings. Interviewees welcomed the integration of the Programme in the Swiss start-up ecosystem; thus, making use of synergies with various national stakeholders. Furthermore, interviewees underlined the contribution of the Programme regarding strengthening the Swiss start-up ecosystem in general. International Experts stressed that Innosuisse could benefit from stronger relationships with international stakeholders. Thereby, ties with Swissnex could be strengthened. Learning from 'best in class' countries such as Israel could be beneficial.

Target groups and needs of participants

The interviewees agreed that there is potential to broaden the target group of the Programme. However, there was slight disagreement as to which additional target groups should be addressed particularly. While representatives of Innosuisse and of the support group agreed on including younger target groups, providers and lecturers did not perceive this as a task for university affiliated organisations. Some international experts highlighted the need for specific trainings for social entrepreneurs and encouraged trainings to not separate economically profitable from social start-ups.

When it comes to needs of participants, a large majority of experts interviewed underlined to what extent an early exposure to an entrepreneurial environment, contacts to practitioners and direct exchanges with peers will remain crucial. They also underlined the need for an early reality check regarding business ideas. Fostering sheer optimism is not enough to launch a business. At the same time, national experts stressed that trainees should also be conveyed a try and error culture.

Trends in entrepreneurial trainings

Regarding training trends, most interviewees agreed that the start-up system is a constantly evolving context and trainings need to be agile and respond to ever changing trends. The covid-19 pandemic has released a digital shift and more training offers take place online. However, everybody agreed that physical interactions remain key. Some representatives of Innosuisse and of the support group observed an increase in start-ups that are not linked to a university system but that are spin-offs from already existing companies. In that regard, young entrepreneurs are particularly active in the digital domain, such as app development. Thus intrapreneurs could be an interesting trend and a potential new target group for Innosuisse. Related to that, an interviewee stated that Innosuisse should consider a broader concept of innovation that goes beyond the purely scientific understanding. Providers and lecturers stated that female entrepreneurs tend to underestimate their potential and that trainings should respond to that. National experts stressed that diversity needs to go beyond gender and those start-ups benefit from mixed teams with different skill sets. International experts mainly pointed to the trending topics of social businesses and sustainability in the EU – trends that could also be interesting for Switzerland.

The following matrix illustrates these results in a condensed form.

Aspects		Innosuisse and Support Group	Providers and Lecturers	National Experts	International Experts
Appreciation of the Programme	– Agreement	<ul style="list-style-type: none"> – well structured, comprehensive programme – door opener towards entrepreneurial world – target group is young graduates and largely corresponds with trainees 			
	Different focus	<ul style="list-style-type: none"> – close cooperation with universities highlighted as a plus 	<ul style="list-style-type: none"> – earns high level of satisfaction for Modules 2-4 – geared towards high-tech start-ups driven by highly skilled graduates 	<ul style="list-style-type: none"> – geared towards participants with MINT background 	<ul style="list-style-type: none"> – strong impact on awareness raising
Positioning and benchmarking	Agreement	<ul style="list-style-type: none"> – well integrated in the regional and national ecosystem(s) – competitive, mission-driven, national program 			
	Specific focus	<ul style="list-style-type: none"> – well integrated with other Innosuisse tools 	<ul style="list-style-type: none"> – better link to other Innosuisse tools 	<ul style="list-style-type: none"> – learn from 'best in class countries' 	<ul style="list-style-type: none"> – leveraging Swissnex network better – providing specific training for social business
Needs of trainees	Agreement	<ul style="list-style-type: none"> – exposure to entrepreneurial environment – hands-on training – exchange with practitioners and peers 			
	Specific focus	<ul style="list-style-type: none"> – early reality check while at the same time conveying perseverance, optimism and resilience – developing modules for younger cohorts 	<ul style="list-style-type: none"> – developing modules for university students, rather than younger cohorts – better addressing needs of female founders – more coaching 	<ul style="list-style-type: none"> – learning to accept mistakes and avoid over-academization 	<ul style="list-style-type: none"> – provide specific trainings for social businesses – matching problem-owners with tech specialist – address needs of professionals and intrapreneurs
Trends regarding trainings	Agreement	<ul style="list-style-type: none"> – start-up ecosystem is a fast changing context – digital here to stay but does not replace physical interaction 			
	Specific focus	<ul style="list-style-type: none"> – explore entrepreneurial potential beyond university system – more "homegrown" start-ups 	<ul style="list-style-type: none"> – female entrepreneurs tend to underestimate their potential – importance of good match-making 	<ul style="list-style-type: none"> – more serial entrepreneurs – diversity is needed beyond gender 	<ul style="list-style-type: none"> – social businesses and sustainability trend in the EU – more intrapreneurs

Table 9: Overview of expert assessments

2.7 Results compared to the impact analysis and evaluation 2019

The results of the interviews largely correspond to the results of the interviews held for the impact analysis and evaluation of the CTI 2019 by the BSS Volkswirtschaftliche Beratung and the Austrian Institute for SME Research. In both rounds of interviews, the interviewees stated that there was a need for the Programme and Innosuisse succeeds in doing justice to this need and they welcomed the regional implementation of the modules. Furthermore, both cohorts appreciated the modular structure of the Programme. However, the interviewees from the evaluation 2019 stated that there was a decreasing demand for Module 3 and 4. This was not specifically mentioned during the interviews conducted in 2022. Both interview cohorts agreed that the Programme generates some impact and that interviewees particularly benefit from the exchange and networking possibilities. A persistent problem seems to be the definition of the target group. However, while the results of the interviews in 2019 show that there was disagreement whether to offer different modules for different target groups, the discussions in 2022 focused more on which additional target groups could be addressed. A final difference observed is the increasing focus on diversity, social entrepreneurship, and sustainability, which was seemingly not as present in the results of the interviews in 2019.

3 The Programme – Assessed by Former Participants

3.1 The online survey – an overview

Fields of investigation

The online survey provided assessments with regards to various evaluation questions such as the assessment of the design of the Programme, the satisfaction of participants with the Programme and effects of the Programme experienced by participants. Questions also addressed specific needs of participants as well as other awareness-raising and training programmes. Taken together, the online survey covered the following fields.

- *Design of the Programme* – addressing modules, courses, physical/online format, other participants incl. suggestions for optimising the design (i.e., needs of the participants)
- *Motivation of participants* – including the added value of the Programme as experienced by the participants regarding their entrepreneurial path and success was assessed. Participation of trainees in other awareness-raising or training programmes incl. comparison/assessment of offers.
- *Satisfaction with the Programme* – assessing the content per module, the quality of lecturers as well as organisational aspects incl. suggestions for optimising the Programme regarding specific needs of the participants. Specific effects of the Modules experienced by the participants regarding the entrepreneurial path.
- *Other Innosuisse instruments* – and their benefits for trainees as well as their participation in follow-up programmes, as coaching or consulting programmes.

The extensive questionnaire was prepared in consultation with Innosuisse; it included 50 questions; details may be found in annex A-7.

Implementation of the survey and response rate

The online survey addressed participants of the Programme 2018-2021. Programme providers⁵ were able to provide a total number of 7'248 e-mail addresses from 2018-2021 participants. The survey was carried out from February 18, 2022, till March 13, 2022, and was accompanied by an introductory letter and by two reminding emails. Findings of the impact analyses 2016 and 2018 have been considered in the preparation of the survey as well as in the interpretation of the survey results.

Unfortunately, 4% of the addresses provided were either no longer in use or incorrect. It can be assumed that numerous addresses were received by providers via other than Innosuisse events or via registrations for newsletters. With such a large number of non-targeted people who had either only a one-time or sporadic relationship with the Programme or with Innosuisse, there was a general risk of scatter losses for this surveys.

⁵ Contract partners Region West, Central, East, Clusters Bio/Medtech, Advanced Engineering, ICT, Social Entrepreneurship

At the end 3% of former participants addressed completed the survey; additional 8% started but abandoned the survey at a certain stage. With only 230 completed questionnaires, the response rate was low. No specific reasons can be given for this low response rate. Particularly, it can not be concluded that the program does not meet expectations, nor that the survey was carried out at the wrong time, since neither public holidays nor vacation periods were affected. The most likely explanation is that former participants are now in a different stage of their professional career – be it as a successful or as a less successful entrepreneur – and are no longer interested in the Programme. However, despite the poor response rate, the results are very clear.

In addition, econcept received about 20 personal responses by e-mail or by phone. Most of these persons requested their email address to be deleted from the list. Several persons asked about Innosuisse offers and were interested in participating in a future training. These inquiries were passed on directly to Innosuisse (in consultation with the persons). The following chapter presents the main findings of the conducted online survey. Where useful, the yellow boxes draw a comparison between these evaluation findings and results from the 2019 evaluation by the B,S,S and the Austrian Institute for SME Research. Additional details can be found in annex A-3.

3.2 Highly qualified programme participants

Since the Programme is aimed at potential entrepreneurs with science-based start-up ideas, the following aspects are particularly interesting in terms of characterising the participants: the gender distribution, the educational levels reached, the range of professional experience, the various affiliations with universities and the represented fields of interest. In terms of gender diversity, the online survey indicates a rather strong male predominance among the programme participants: Almost 70% of respondents identified themselves as males, while only 31% identified as females and 1% as another gender.

Genders of participants

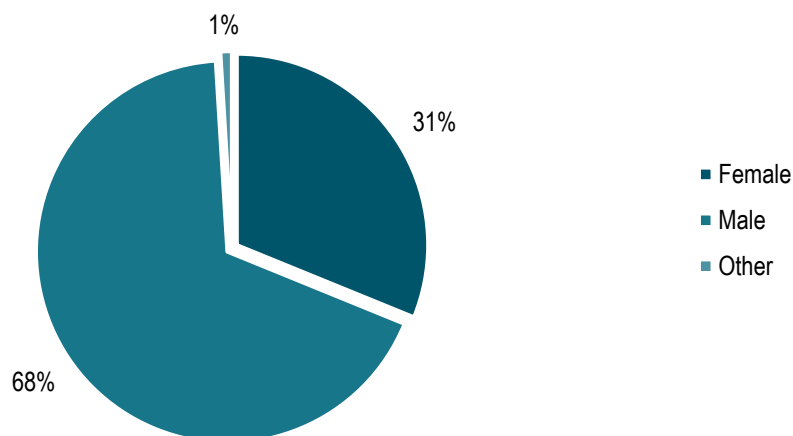


Illustration 4: Genders of participants. «May we ask you about your gender?» (n=423).

Compared to the evaluation conducted 2019, the share of female participants has increased from 22% to 31% (however, in the 2019, no data were collected for Module 1). Throughout both studies, highly qualified participants remain the majority of the Programme's participants.

The trainings particularly attract highly qualified academics. Most respondents had either a Master's degree (39%) or even a PhD (34%); only about 17% only had a Bachelor's degree.⁶ These numbers underline the substantial share of research-based knowledge as a basis for start-ups participating in the Programme.

Educational degrees of participants

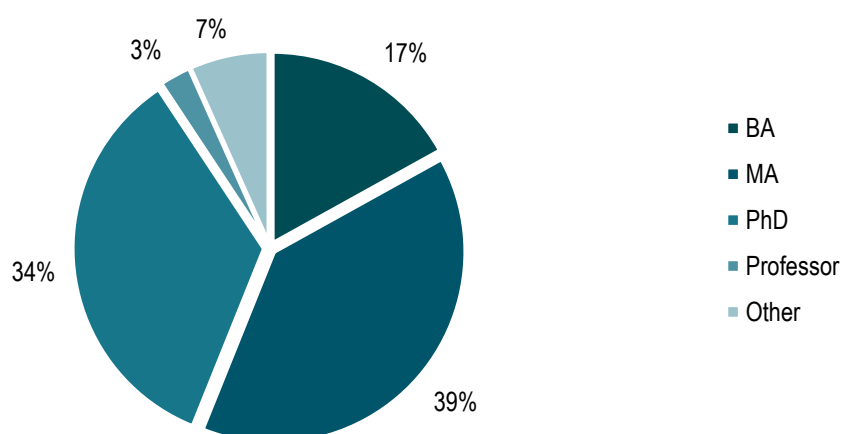


Illustration 5: Educational degrees of participants. «Please inform us about your educational degree» (n=423).

Regarding the professional experience of programme participants, that the Programme primarily appeals to established professionals who, given the distribution of degrees, have probably already embarked on a career path that tends to have great career potential, rather than fresh graduates who first need to orient themselves in the professional world. Only 3% of respondents stated to have had no professional experience at all before participating in the Programme and about 7% said to have had 1-2 years of professional experience in total. More than 80% indicated to have had more than 5 years of professional experience. Looking at the diversity of their professional experiences, the results show a rather even distribution among research, industry, and other sectors.⁷ Most respondents had already made various experiences and more than 80% of respondents had gained experience in more than one sector.

⁶ The questionnaire did not specify postdocs.

⁷ Other sectors including particularly professional experience in services; secondary/ tertiary sector have not been specified.

Professional experience of participants in different sectors

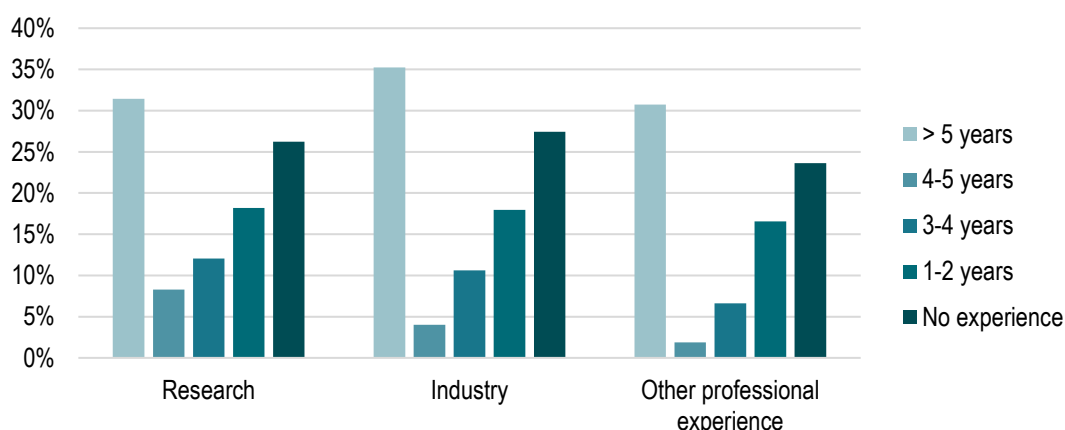


Illustration 6: Professional experience of participants. «Could you please describe the professional experience you had before participating in a Innosuisse Start-up Training Programme?» (n=423).

3.3 Research projects as an important origin of start-up ideas

The share of start-up ideas stemming directly from higher education projects is rather small. Only about 8% of respondents reported their start-up idea originated from their Master project. 15% and 6% declared their start-up idea had its origin in their doctoral or post-doctoral project respectively. 16% of start-up ideas came from other research projects. Taken together, almost half of the start-up ideas of training participants were directly anchored in research projects. Thus, linking the training programme to higher education institutions shows an impact and seems obvious.

Origin of start-up idea

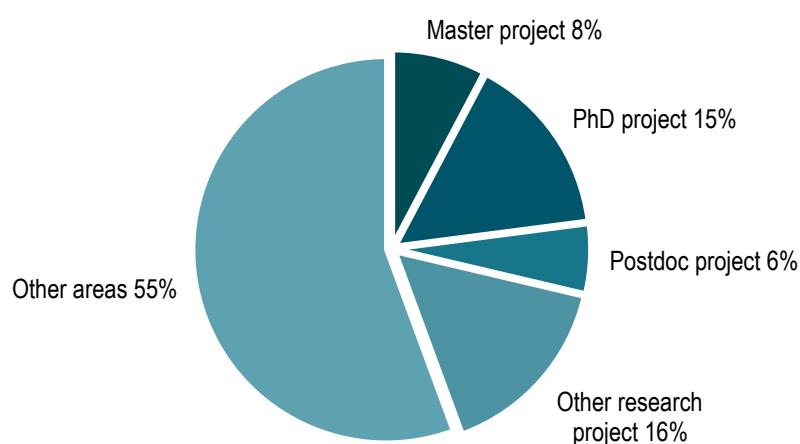


Illustration 7: Origin of start-up ideas. «Where did your Start-up idea come from?» (n=423).

According to the survey, 29% of the start-ups were direct spin-offs from a higher education or research institution. Here, the ETH-Domain stands out as a particularly strong start-up incubator. Of the total 110 spin-offs mentioned by training participants 26 were linked to

the ETHZ and 19 to the EPFL. Other institutions accounted only for 9 or less spin-offs. All universities of applied science together accounted for 18 spin-offs.

Higher education institution	Number of spin-offs
ETH Zurich	26
EPF Lausanne	19
University of Bern	9
Université de Genève	8
University of Zurich	7
University outside Switzerland	7
University of Basel	5
Université de Lausanne	5
University of applied Science Nordwestschweiz FHNW	4
Haute école spécialisée de Suisse occidentale HES-SO	4
Other publicly funded research institutions	3
University of Fribourg	2
Research institution of the «ETH-Domain» (Eawag, WSL, Empa, PSI)	2
CSEM	2
University of applied Science Bern BFH	2
University of applied Science Lucerne HSLU	2
University of applied Science Zurich ZFH	2
Scuola universitaria professionale della Svizzera italiana SUPSI	2
University of Lucerne	1
University of applied Science Ostschweiz OST	1
Kalaidos Fachhochschule / University of applied Science	1

Table 10: Number of spin-offs per higher education institution.

Regarding the areas of interest, information and communication technologies (ICT) as well as medical technology and diagnostics were particularly prominent: 71 respondents said their start-up was predominantly active in ICT and 66 respondents said to be active in medical technology and diagnostic.⁸ 27 respondents declared themselves as social entrepreneurs.

⁸ Compared to coaching offers there seems to be a significantly lower participation of biotech and pharma. However, based on the online survey no explanation can be provided for this fact.

Sector distribution of start-ups

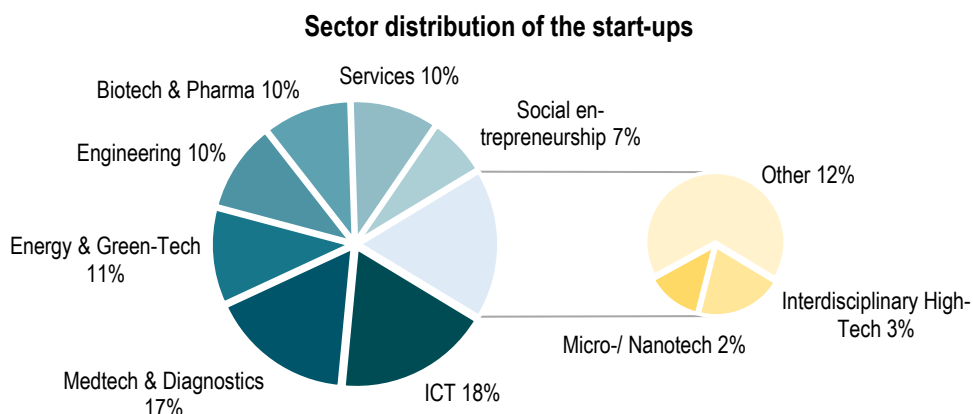


Illustration 8: Sector distribution of the start-ups. «Please inform us about the sector, in which your start-up is predominantly active respectively shall be active» (n=423).

3.4 Motivation for and benefits from the training

More than 40% of the respondents declared they had decided to attend the Programme based on positive recommendations received from others. This high share indicates the importance of networking in the start-up sector. The fact that around a quarter chose the Programme at random and just as many chose it because they did not know of any other similar programme indicates a strong visibility of Innosuisse in the start-up ecosystem.

Reasons for choosing the Innosuisse Programme over others

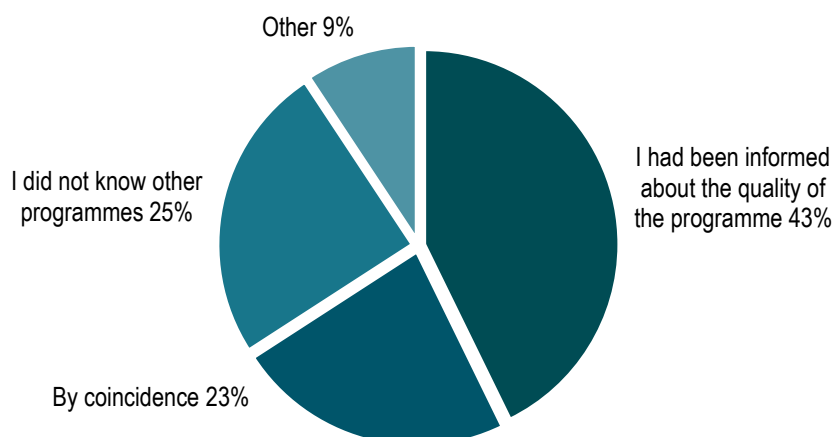


Illustration 9: Reasons for choosing innosuisse's program over others. «Why did you choose the Start-up Training Programme over other offers?» (n=305).

Regarding the motivation to participate in the training in general, strengthening abilities and skills in view of launching and running a start-up are predominant. About half of the respondents underlined these two factors as being among the main motivating aspects; only about 10% of respondents considered them to be rather unimportant.

Specifying the answers according to Module 1, focusing on motivation and awareness aspects on the one hand and to Modules 2-4 focussing more on networking and skills on the other hand, significant differences only emerge regarding two elements: Among participants of Module 1, compared to the total number of participants in Modules 2-4, about 10% more respondents express, they were motivated by the intention to launch a career – and the opposite appears regarding networking.

Motivation for participating in the Programme⁹

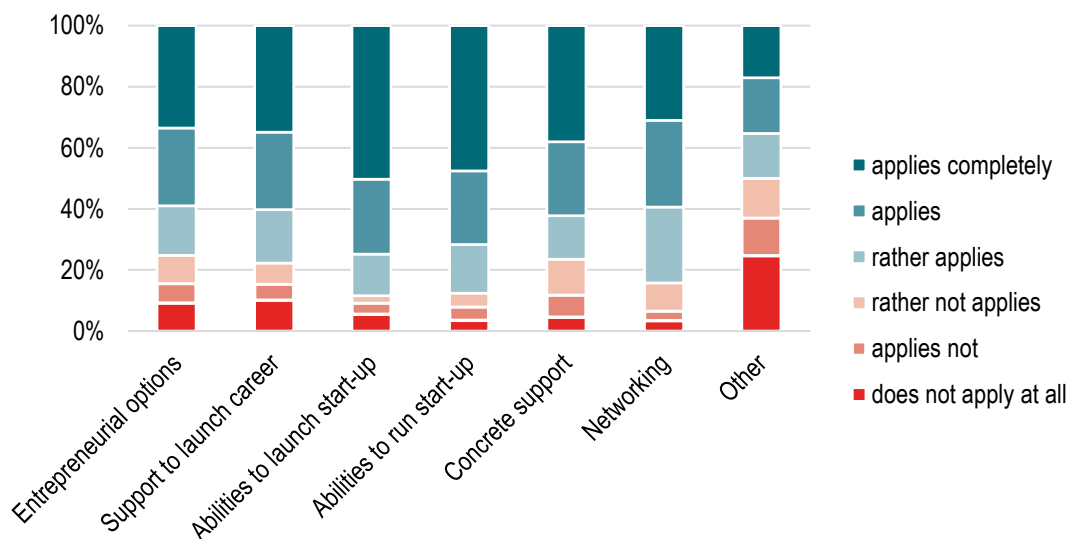


Illustration 10: Motivation for participating in the programme. «What motivated you to participate in the Start-up Training Programme in general?» (n=305).

While a relatively large number of respondents gave clear statements about their motivation, the answers regarding the actual benefits of the Programme were more uncertain. As the proportion of unambiguous statements decreased for each component, the proportion of those who would only tend to agree or disagree with the statements increased. Still, a great proportion of respondents said to have benefited from the Programme in multiple ways. The perceived retrospective discrepancy between expectation and real benefit is only significant regarding the abilities gained to run a start-up and networking.

Specifying the answers according to Module 1 on the one hand and Modules 2-4 on the other hand, relevant differences emerge regarding three elements: 10% more participants of Module 1 than participants of the other modules combined expressed they benefited from the programme in terms of entrepreneurial options, support in launching a career and in launching a start-up.

⁹ For better readability, the answer options in the chart have been shortened. In the following, the answer options are listed in full: *I was looking for entrepreneurial options/ I was looking for support regarding my intention to launch an entrepreneurial career/ I wanted to strengthen my abilities and skills to launch a start-up/ I wanted to strengthen my abilities and skills to run a start-up/ I was looking for concrete support regarding my start-up/ I wanted to strengthen my networks/ Something else motivated me*

Benefits from training¹⁰

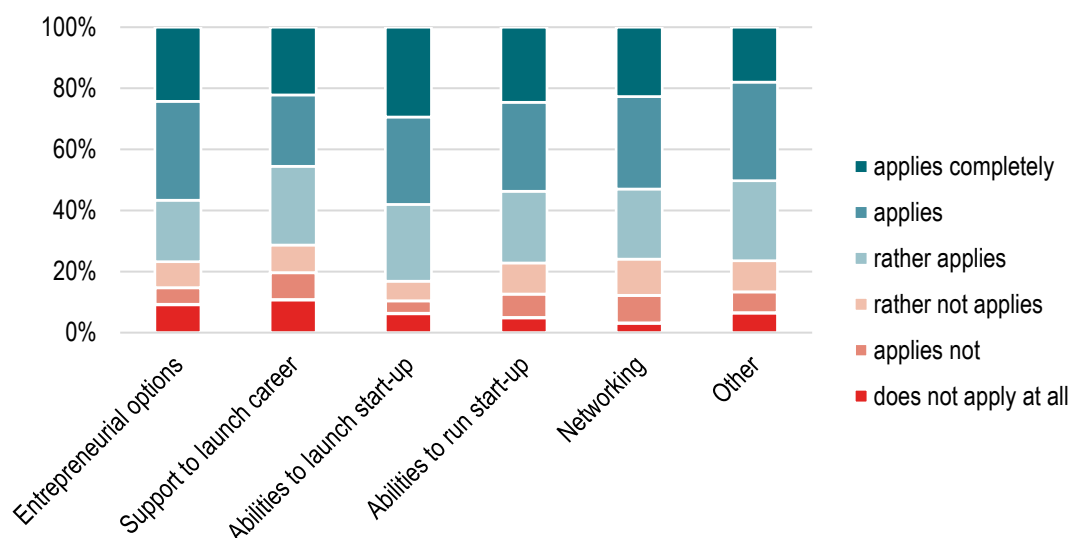


Illustration 11: Benefits from training. «In what areas have you benefited from attending the Start-up Training Programme?» (n=305).

3.5 Overall satisfaction with the Programme and the modules

High satisfaction with the content

Corresponding to the perception of benefits gained from participating in the Programme, overall satisfaction with the content of the modules was high. The rates for total satisfaction range around 30%. Overall dissatisfaction is well below 5% for all modules. Also, for each module at least two thirds of respondents stated the content of the module to be motivating or even very strongly motivating. Thus, no module stands out for which participants were significantly less satisfied in terms of content.

¹⁰ For better readability, the answer options in the chart have been shortened. In the following, the answer options are listed in full: *It made me aware of entrepreneurial options/ It supported my intention to launch an entrepreneurial career/ It supported my abilities and skills to launch a start-up/ It supported my abilities and skills to run a start-up/ It supported my networks/ It supported me in other ways*

Overall satisfaction with the content of the modules

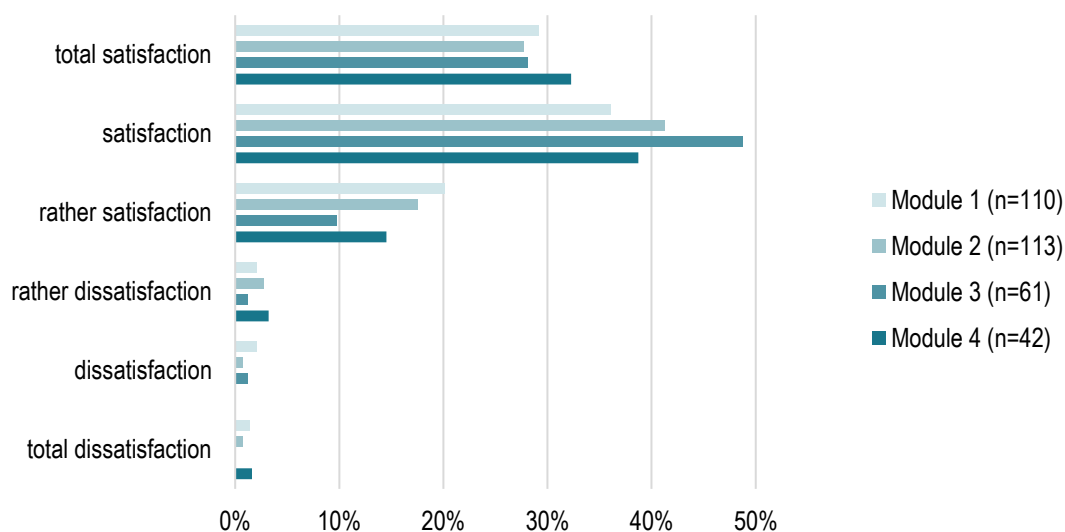


Illustration 12: Overall satisfaction with the content. «How satisfied were you with Module 1/2/3/4?»

High satisfaction with the format and the organisation of the modules

The overall satisfaction regarding the format and the organisation of the modules correspond to the ones regarding the content. Organisation and format of all modules seem to contribute to an atmosphere conducive to fruitful exchange and networking. Regarding the individual modules, a large proportion of respondents indicated that the exchange with teachers and peers as well as the networking opportunities were either motivating or even very motivating.

Overall satisfaction with the format of the modules

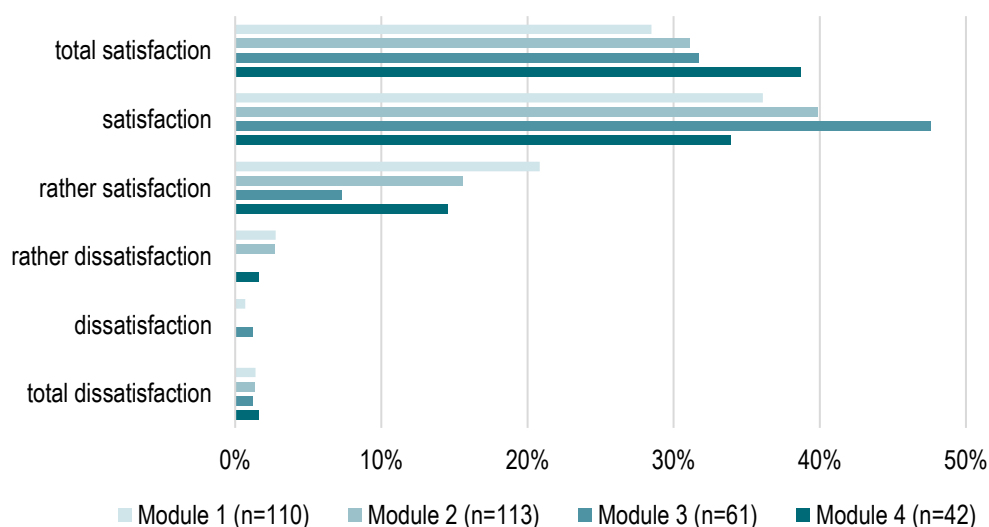


Illustration 13: Overall satisfaction with the format. «How satisfied were you with Module 1/2/3/4?»

Overall satisfaction with the organisation of the modules

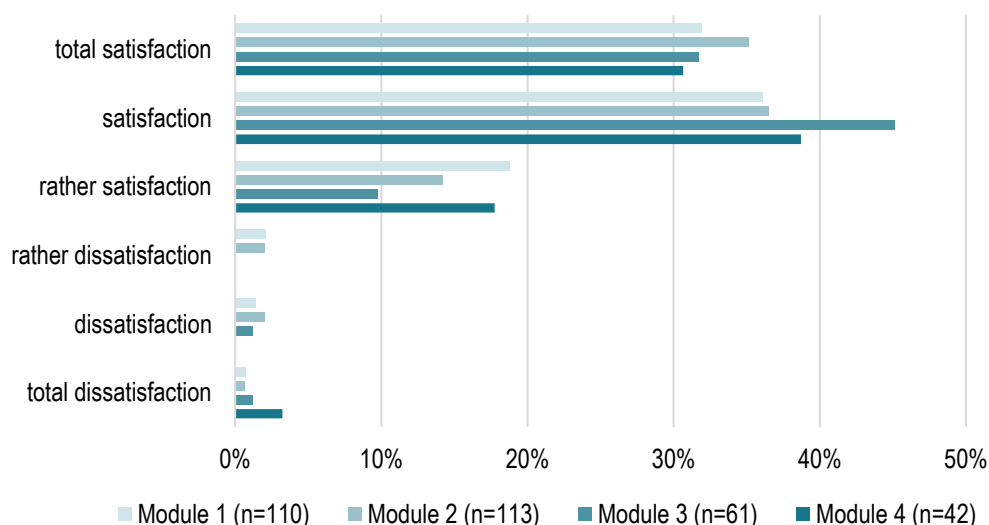


Illustration 14: Overall satisfaction with the organisation. «How satisfied were you with Module 1/2/3/4?»

The overall satisfaction with the Programme was high in both the 2019 evaluation as well as in this evaluation. Particularly modules 3 and 4 scored a higher overall satisfaction level than module 2 and module 1 (data only collected in this evaluation).

In terms of the format, it can furthermore be said that most respondents preferred trainings in presence, as only 23% preferred online trainings. Moreover, more than half of the respondents preferred a format with only one training session per week to intensive full-day boot camps. Given the high proportion of professional experience among the respondents, this could be due to workload in other occupations and reduced flexibility.

Preferred format

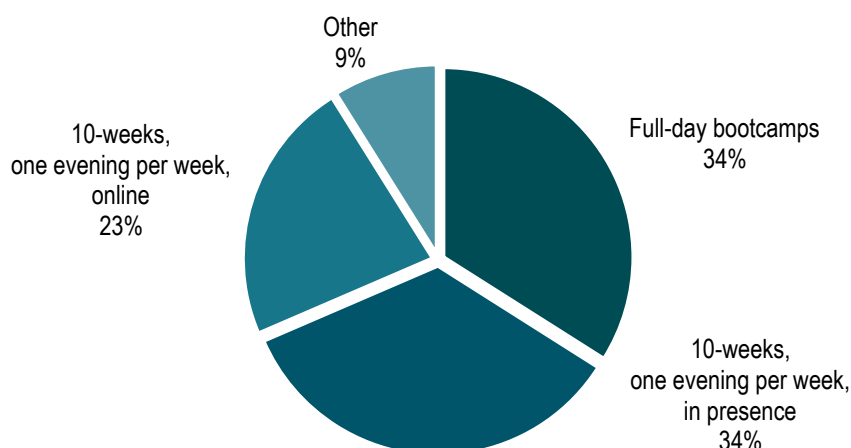


Illustration 15: Preferred format. «What format did you prefer in general?» (n=359).

3.6 Impacts of the modules

Impacts of Module 1

Looking at the impacts declared for Module 1, it becomes evident that the Programme is able to strengthen participants' intentions to launch a start-up. Only about 10% of respondents declared they likely or certainly refrained from pursuing their start-up idea because of the training. All of them stated they had fundamentally rethought their project because of the training, and a large proportion that the training encouraged them to reformulate their idea. It can be concluded from this that those who decided not to pursue their idea further after the training did so rather because of legitimate scepticism, than because of a demotivating experience.

Impacts of Module 1

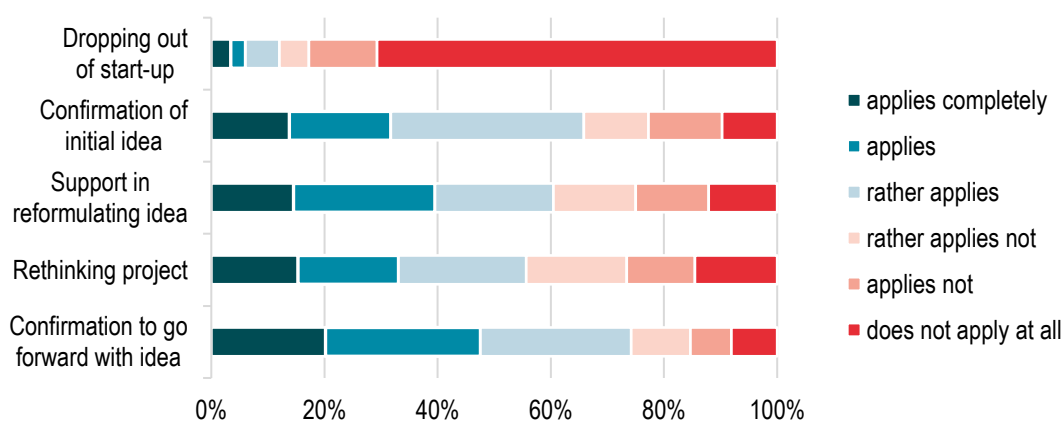


Illustration 16: Impacts M1. «What was the impact of Module 1 on your start-up and its development?» (n=140).

Impacts of Module 2

Module 2 also had an encouraging rather than an unsettling effect on participants. Compared to Module 1, however, Module 2 had a stronger and broader impact on participants and their start-ups. This is probably because ideas and projects of participants are already more mature. Participants therefore have more concrete perceptions regarding challenges and expectations. Thus, also a decision not to go ahead with a start-up does not per se have to be viewed as negative.

It must be emphasised that more than 90% of the respondents believe the module has strongly shaped or promoted their entrepreneurial thinking. Taken the focus of the Programme on science-based start-ups, where the thematic foundation is usually strong but business aspects are sometimes lacking, this is an important finding.

Impacts of Module 2

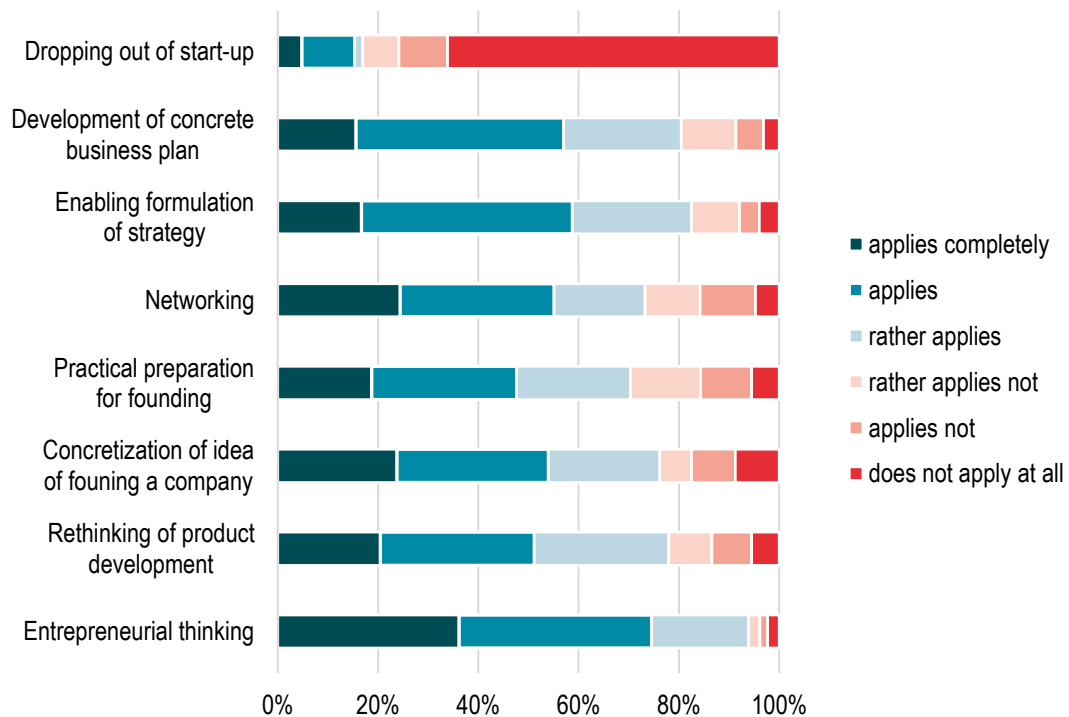


Illustration 17: Impacts M2. «What was the impact of Module 2 on your start-up and its development?» (n=144).

Impacts of Module 3

In Module 3, impacts are similarly broad and strong as for Module 2. Needs of participants are strategic as well as very concrete. Networking has both, the highest absolute approval rate, but also the highest overall rejection rate. This could be because those who proactively want to network can do so, but otherwise it does not happen automatically.

Impacts of Module 3

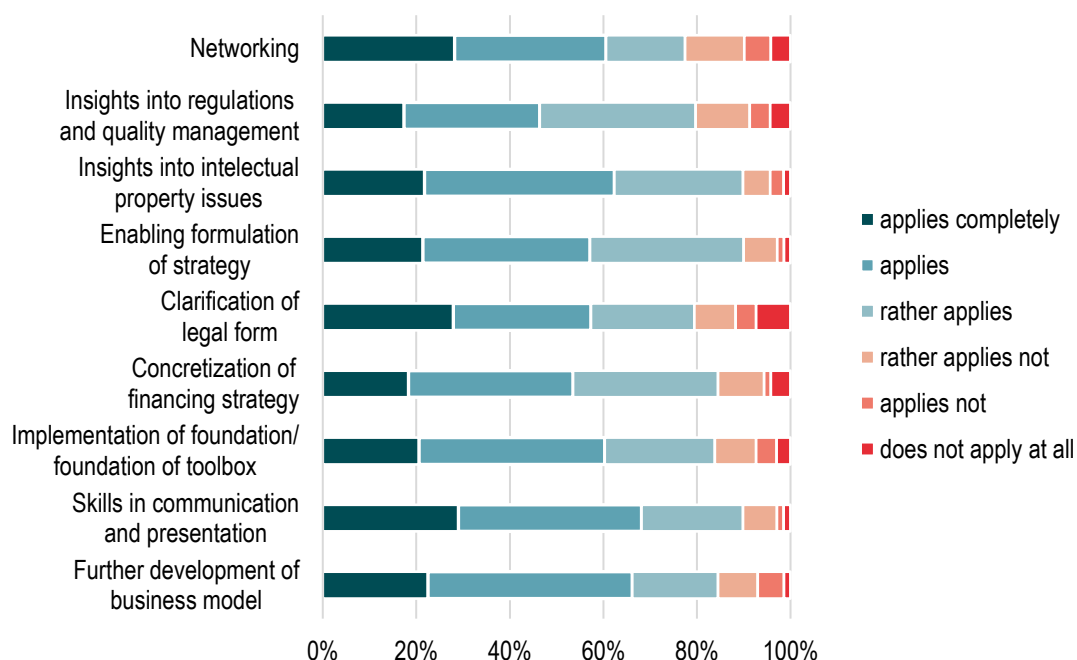


Illustration 18: Impacts M3. «What was the impact of Module 3 on your start-up and its development?» (n=79).

Impacts of Module 4

For Module 4, the approval rates are again more comparable to those for Module 1, but still very high. Taking the results for Module 3 into account, it becomes apparent that participants are less interested in questions regarding framework conditions of corporate management, i.e., legal or regulatory questions or corporate governance, and more interested in strategic and financial aspects.

Impacts of Module 4

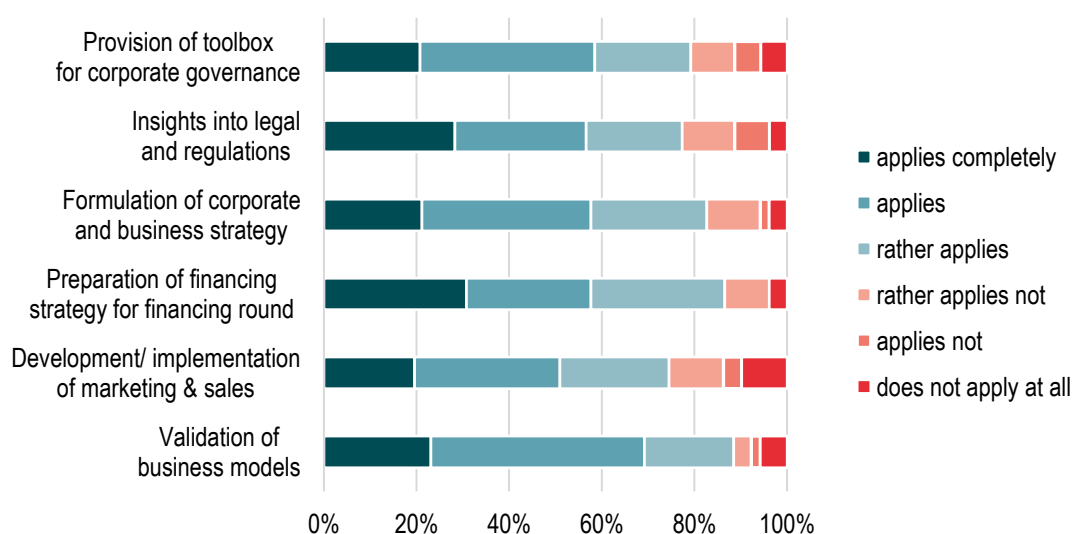


Illustration 19: Impacts M4.: «What was the impact of Module 4 on your start-up and its development?» (n=59).

Although the impact of the Programme has been measured differently by the two evaluations, some similarities can be observed. In both surveys, Module 2 had an encouraging effect rather than an unsettling one. In 2019, participants rated the likelihood of entrepreneurial success higher than before the course. In this evaluation, participants stated that the module impacted their entrepreneurial mindset, which is an important condition for founding a start-up. In Modules 3 and 4, participants stated in both evaluations, that the Programme had an impact on specific entrepreneurial skills.

3.7 Impact of the Covid-19 pandemic

The impact of the Covid-19 pandemic is assessed differently by the former participants. About 23% of respondents were not able to answer this question, many of whom participated in the training in 2018 or 2019. 28% of respondents experienced no impact of the pandemic on the training; 39% experienced only a small impact. About 33% of respondents indicate that the pandemic had either a «rather strong» or «strong impact» on their training. When asked how the switch to online affected them, about the same number of participants answered that they had gained or lost from it.

Impact of the pandemic on the quality of training

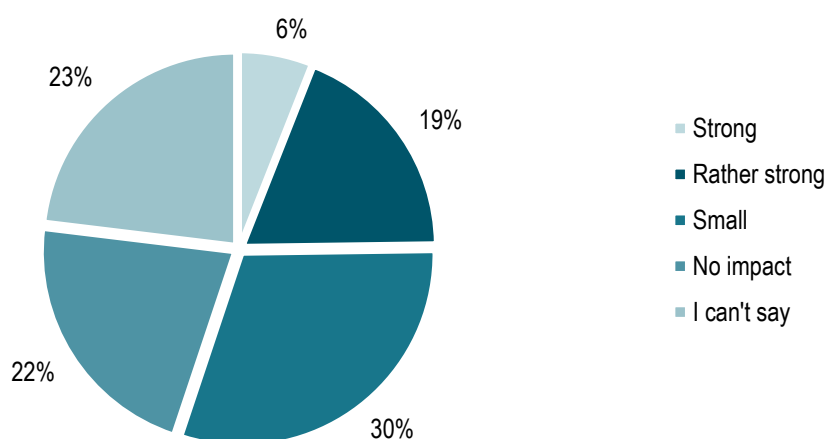


Illustration 20: Impact of the pandemic. « How did the pandemic impact the quality of the training?» (n=234).

3.8 Use of further support offers

Regarding other support services and instruments offered by Innosuisse, start-up coaching is by far the support most favoured by the respondents. Almost 40% have already taken advantage of this offer and more than 30% are planning to do so. Obviously, coaching that is tailored to the individual situation and designed to accompany the start-up and the entrepreneur on their journey is considered particularly valuable. In addition, the support offer for patent searches can be commented. While interest in other offers is expressed, they are hardly made use of. More than 40% of respondents have not yet taken advantage of any other offer.

Use of further support offers

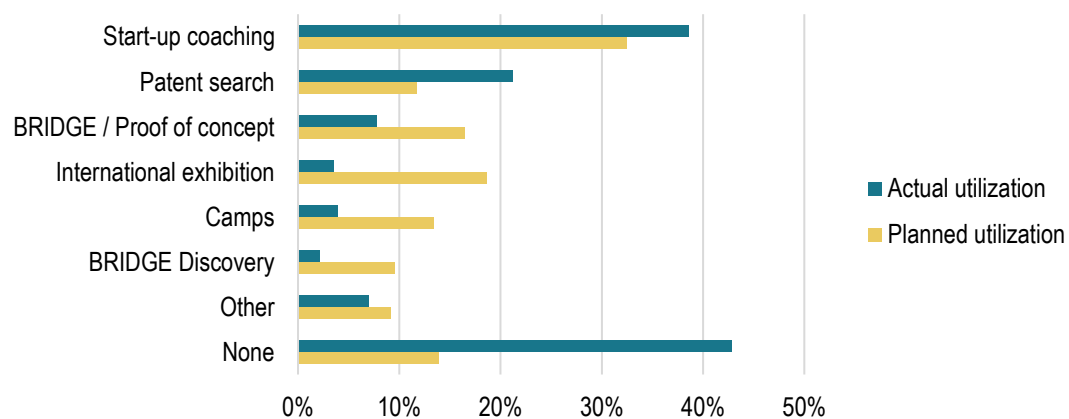


Illustration 21: Use of other support offers. « Have you taken advantage of other support offers or instruments of Innosuisse?» (n=231).

The demand for coaching offerings remained high throughout the years, as the results of the online-survey from 2019 and the online-survey from this evaluation show.

4 Biographical Interviews Regarding Entrepreneurship

4.1 Overview of biographical interviews

In view of studying in more detail and in an illustrative way the role of entrepreneurship training, interviews were conducted with start-up founders aiming to reconstruct key milestones in their biography. The qualitative approach chosen for the biographical interviews is inspired by biographical interviewing methods and narrative analysis of social science.¹¹ Successful¹² founders were selected that took part in an entrepreneurial training offered either by Innosuisse, or by other providers as well as entrepreneurs without any dedicated training. The start-up founders were selected based on survey respondents expressing their availability for an interview as well as based on existing contacts of the study team. The different entrepreneurial pathways reflect various learning endeavours and the diverse role and contribution of entrepreneurship training for start-up founders at different stages.

Even if illustrating individual paths, the stories identified and presented hereafter show exemplary types of entrepreneurs. Thereby, we must bare in mindr that the interviewees' storytelling represents *their* way of narrating their entrepreneurial experience.¹³

4.2 Entrepreneurial stories

Case A: Inspired by training and peers

The first case presents the story of a first-time founder who, thanks to a training, met like-minded persons. The interdisciplinary team founded a start-up.

- *Student enforced by an extensive entrepreneurial training programme:* The entrepreneur studied business informatics at a technical university and was interested in entrepreneurship and innovation. Hence, he enrolled in a one-year specific training programme on innovation and entrepreneurship offered by the university, though, without having the clear goal of becoming an entrepreneur.
- *Team building:* During the course he got to know two other students and they started to develop a business idea to digitize floor plans and interior design renderings recognising the potential on the quality of real estate listing. The idea was to produce interactive 3D models and visualizations so that people can show the full potential of their real estate. One of the co-founders was an architect, the other one a computer scientist

¹¹ See, for example: Meyer, Silke. «Editorial» *Fabula*, vol. 59, no. 1-2, 2018, pp. 1-7. <https://doi.org/10.1515/fabula-2018-0001>; Sontag, Katrin. *Mobile Entrepreneurs. An Ethnographic Study of the Migration of the Highly Skilled*. Budrich UniPress, 2018.

¹² «Successful» means that the start-up is still existing; the founders are still engaged. This must be said in the view of the fact that a high number of start-ups are not successful. <https://www.startupticker.ch/en/news/november-2019/neue-daten-zu-grundungen-wachstum-und-scheitern?msckid=027bac16ab4c11eca141d7d23d00d11e>. [accessed: 24.03.2022] Therefore, the stories presented here are «success stories», no «failure stories».

¹³ Methods and theory of narrative analysis inspired by linguistics and anthropology emphasise that storytelling of success (or failure) often mirror desired stories of a particular society. Moreover, scholars stressed that to every told story, there is also an untold one. In the SWOT analysis and conclusion, we contextualise the information gathered through the case studies.

indicating a perfect combination of expertise to create a start-up. However, the company cannot be considered as traditional science-based spin-off commercialising research results of the university.

- *Start-up*: The entrepreneur argued they felt somehow pushed by the trainers to move forward with their idea. This finally resulted in creating a company. Currently, the company is negotiating the first round of equity funding.
- *Impact of the training*: During the programme, the entrepreneur learned the basics of creating a start-up and was encouraged by the teachers to build an entrepreneurial team and to develop a business idea and plan. The interviewee argues that participating in the programme provided the basic knowledge (business model, strategy, pitching, etc.) for starting a business and increased the self-confidence for such a start-up. In addition, the network of trainers enabled them to meet some initial clients and helped them to obtain public funding from a national funding agency. The interviewee claims that the network of trainers and their advice on who to turn to enables one to overcome the next challenge along the way. Participating in the programme has sparked an interest in creating something new and developing an innovative solution. Starting a business also means going through a steep learning curve. The young start-up entrepreneur summed up: «*Without participating in the programme, I probably would not have founded a start-up*». The entrepreneur also firmly believes that entrepreneurship education is especially important for first-time founders.

Case B: Born entrepreneur

The second case reflects the story of the «born entrepreneur». This person funded a start-up without training and outside a university setting. The case shows options to reach out beyond universities to support individuals with an entrepreneurial spirit at a young age.

- *Already as pupil interested in becoming an entrepreneur*: The entrepreneurial story of the second start-up reflects the traditional role model of the «born entrepreneur». Already during his school days, the interviewee was interested in designing websites, which eventually led to the decision to start a business with a classmate without taking part in an educational programme at these days. Although his parents were not very pleased that he did not take up academic *studies*, the entrepreneur persisted with his idea and started to become an entrepreneur at an early age of even 18 together with a friend who was also interested in software engineering fascinated by the opportunities of the internet. Amongst barriers the entrepreneur had to master was to get an account from the bank to hire personnel. In the beginning the company was financed by the classical three F, family, friends and fools. The interviewee considers himself as passionate entrepreneur and reflects about his way: «*My vocation was definitely the topic of being an entrepreneur. And that was really what I wanted. And I think it was exactly this intrinsic motivation, that you could create something, implement cool projects in a team together with others and then get good feedback. That was actually almost the*

most important thing. We didn't really make money at the beginning, but we certainly had good feedback from the market».

- *No training:* The entrepreneur did not attend any entrepreneurial education. However, in the growth stage some coaches were consulted, particular in relation to recruiting a managing director after a fusion with another company they already cooperated for a longer time.
- *Networking:* The entrepreneur knows Innosuisse. However, the founders' attitude is: *«If we want to make it, we want to make it ourselves, because it's our money, our risk, our motivation and simply it's really ours»*. Building up a network was seen as essential and attending networking events was considered as crucial, especially in the beginning of the journey. Moreover, the founding team paid attention to their presence on social media and in business clubs.

Case C: University spin-off

Case C underlines the importance of a coach. Training can be important to get familiar with entrepreneurial knowledge and skills. The case shows that personal relationships are crucial to build bonds amongst founders, coaches, and investors.

- *Software development as background:* The (female) entrepreneur was already working on a software development product as part of her diploma thesis which set the ground for starting an *entrepreneurial carrier*. Together with other colleagues at the university, she worked on infrared spectroscopy and continued to work on the software as typical research project which eventually resulted in the creation of a spin-off.
- *Impact of training:* After two years of working on the topic at the university, the team felt the software was good and unique enough to be commercialized. Thus, she decided to participate in two modules of Innosuisse to get support in view of achieving next milestones. She reflected on the first course: *«At the end, you had to pitch and there was a jury, investors and one of these coaches. He decided to keep on coaching me, so he's doing that pro-bono. And this is really a great guy and I'm still speaking to him, sometimes even twice a week, which is great. He is now our business advisor. And he's really a very, very important part of the team, in fact.»* Aside from the immediate results of taking the course, the entrepreneur indicated that she will eventually leave academia and become an entrepreneur. But there were also very specific learnings. After attending her first course (Module 2), the interviewee and her team became aware of how far they were away from making any profit at all. The team realised that it might be a long way to go until the idea develops into a commercial success. By attending the course, the entrepreneur learnt all the basic skills for starting a company: *«At that time I had no clue. I learnt a lot. I mean, even the pitching part, I didn't even know the word "pitch". I basically learnt all of things related to industry, commercial start-ups, things like that. IP. I had no idea about investors and Seed Rounds and Series A's and things like that. For me, that was like a crash course on start-ups.»* The interviewee also attended a second Innosuisse course focusing on the ICT sector where he learnt

much from other participants. During this second Innosuisse course she became aware about the need to look for another co-founder with more business skills, since her current team consisted of two technicians. To conclude, attending the two Innosuisse modules were highly influential for the entire entrepreneurial journey so far.

Case D: Changing businessmodel as a consequence of training

Case D tells the story of a start-up inspired by practical experience, further developed by university research and supported by entrepreneurial training. As a consequence of the training, the business model was modified.

- *Inspired by practical work:* The idea for the spin-off emerged during the practical work of an anesthesiologist recognizing the opportunity to improve robotic endoscopy. A master thesis student started to explore some further questions related to robotic endoscopy and was supervised by the anesthesiologist. The master thesis student was fascinated by the topic and further elaborated the business idea. He looked for a co-founder and the interviewee working in the industry but looking for a new challenge was interested and immediately joined the team. Together they worked for one year on the business idea. This periode was funded by private savings and a public grant one of the founders received.

The startup can be considered as a spin-off and uses IP from the university, currently the regulation of IP is under negotiation. The start-up uses no facilities of the university but is located in the innovation park close to the university. While the start-up rapidly got positive feedback from potential customers and collected letters of intent, the acquisition of external equity capital was a big challenge. The startup successfully acquired a grant from ZKB (Züricher Kantonalbank) and also received funding from Innosuisse.

- *Revision of the business model:* The *entrepreneur* participated in all four Innosuisse training modules with the revision of the business model as main outcome. The interviewee reflects about the learning and challenges in the early stages: *«The project was pretty clearly going in an academic direction at the beginning. It is clear with such university start-ups that you think more on publications, but that was exactly the time when I came in. Then I attended these start-up courses from Innosuisse and so that is why I think it is so cool. Then we went out and realized we were going in the wrong direction. And then we took the decision to say: Okay, we are going to change the design completely. This will set us back several levels, so we dropped from TRL6 back down to 2. But nevertheless, the market feedback is much better now.»*

The interviewee reflected, that while Modul 2 delivered basic knowledge, Modul 3 was more applied, although the trainers were not able to address the specifics of the medical technology market. Attending Module 2 online hampered the possibility to answer specific needs and questions of the entrepreneur. An important learning of Module 4 was how to manage international networking. The interviewee argued that they still benefit from connections made with other start-ups and two lecturers during the course.

Later on, the entrepreneur also participated in the Theray Development Accelerator (TDA) and the zünder Accelerator which helped to create networks with investors and customers. The entrepreneurial pathway thus reflects the belief of the founder that entrepreneurial education, the learning from peers and the possibility to expand social capital is highly beneficial.

- *Trial and error and early learning:* In retrospect, the interviewed entrepreneur argues that the wrong strategic decisions made at the beginning could possibly have been avoided by attending the Programme earlier. In general, the entrepreneur is very satisfied with the Programme also because it is provided for free at an early stage.

Case E: Inspired on the job

Case E shows that start-up ideas can also be nurtured by practice. Combining practical experience with the support of their former company supported the young entrepreneurs. On their way to success they had to change their approach to the market.

- *A corporate spin-off developing architectural software:* On the job in a construction firm the entrepreneurs recognized a specific market gap and gained confidence that their idea could *work*. The company started with 2D and later 3D digital twins of buildings for the construction sector. The founding team noticed that it is really difficult to blueprint already existing buildings and that there is a specific need on the market. However, convincing customers was a difficult task. The company had no clients in the beginning which meant no income and only cash burning.
- *Support from former company:* The entrepreneurs received some financial support and assistance with a potential client list from their former company, since they were working in the same industry. In addition, the founding team collaborated with two Swiss universities and had an advisor who shared experiences gained in consulting other start-ups. In the beginning, the main challenge was to convince potential customers of the new technology and to explain, to what extent they were offering a new approach. Thus, it was more about explaining the benefits of this new solution and talking to potential clients.
- *Becoming first strong nationally before entering international markets:* The interviewee attended Module 4 of the Programme. The experience was that the module was more oriented on how to look for investors, how to grow through investors, and how to implement your solution globally. However, after the course they decided to become stronger (locally) first before becoming bigger and going international. At the moment, the company is still mainly active in Switzerland.

The interviewee explained to what extent observing how other industries work and listening to various experience *delivered* valuable knowledge. Hence, he argued that the module helped opening up their business minds beyond their own start-up goals. Sharing experience was considered as most helpful as they could learn from more experi-

enced entrepreneurs and about obstacles other start-ups have encountered. The entrepreneur summarised lessons learnt as follows: *«It was really diverse and really interesting to see how other industries, how they do and if it's different. We all have kind of the same questions, or problems to solve. Yeah, it was really interesting to stand with them and to share experience. Also with the high-level mentors who were there and with a lot of experience, and they also share their own experience».*

Case F: Getting independent from university as a challenge

Case F draws our attention to specific challenges moving away from university to the business world. It underlines the importance for scientists to learn basic business skill in order to be successful on the market.

- *Stay in academia, join a company, or become an entrepreneur?* The idea for the new business originated during the PhD where the young entrepreneur dealt with foaming technology from biomass resources. First it was developed for food systems but at a later stage the interviewed (female) entrepreneur started also to transfer the technology to agricultural biomass waste streams. The interviewee explained that after finalizing her PhD, she was unsure whether to stay in academia, join a company or become an entrepreneur. She attended a course («Food Global Program») within EIT and had the possibility to visit startup destinations in San Francisco, Madrid, Lausanne, and Lisbon to experience these different entrepreneurial hubs, develop her own idea and learn about pitching, interviewing customers and positioning on the market. During this period the final decision was made to become an entrepreneur. After the finalisation of the EIT program the entrepreneur also applied for the Pioneer Fellowship at ETH Zurich. During that fellowship year, she mainly analysed market opportunities. In addition, she received further grants and also a convertible loan from one of the recognized investors for Swiss start-ups. Receiving these fundings encouraged her, since it meant recognition of her business idea, thus strengthening her confidence. The entrepreneur considered herself as rather cautious preferring having «two feet on the floor».

Currently, the company has three coworkers and is mainly serving the agriculture and packaging industry, e.g., foam pieces in online orders, customized packages for fragile things, plant substrate for indoor farming.

- *Innosuisse training course providing basic business knowledge:* The entrepreneur attended Module 3 of the Programme in 2020. Clearly, her lack of business competences was considered as a weakness when starting her business. The interviewee heard about the course through a newsletter and had a preference towards in person meetings, as a precondition to talk «out of the box» i.e., also not only talking within the course. The comprehensive look at various topics was experienced as a perfect overview to receive a first impression of who is doing what in the Swiss entrepreneurial ecosystem. The entrepreneur valued the experiences from more advanced participants and explained she learned most from peers as for instance how others are pitching. She is still in contact with some classmates. In general, the course did not particularly

address her specific demands. Nevertheless, it was considered as valuable for the development of her start-up. Moreover, it was appreciated that it was for *free*. Attending the course also made clear that the team needed somebody for business development.

- *A big learning step* was the insight that the challenge was not only developing a product but looking at the whole supply chain which involves talking to farmers, manufacturers or disposal institutions. In addition, the entrepreneur also took an advanced course of business development at ETH but stressed that she learns most just by talking to the customers and finding out what they need, how much they sell and how their supply chain looks like. She benefits a lot from her experiences of the US which she considers as more beneficial for entrepreneurs because everything goes faster, more pragmatic, and more agile. She also continuously joins events organised by the university and other organisations for start-ups. She highlighted «... *what helps me the most is just trying not to give up going to these events, even if they don't help me by 100 percent or they don't turn my perspective*».
- *Independence as challenge*: The start-up is a spin-off from the ETH Zurich which still holds the patents for the technology; currently the team is negotiating a licence agreement. The company is still located at ETH using its facilities. The entrepreneur argues it is not easy to become independent as they rely on machinery and equipment from the university which they would need to invest in.

4.3 Learnings from the biographical interviews with regards to training

The biographical interviews enabled to grasp crucial aspects we had access to through the stories presented by so-called successful first-time founders and young entrepreneurs. The examples show that some individuals are driven to become entrepreneurs at a young age. Others might need more time, they can be inspired in group settings, encouraged by additional knowledge acquired in trainings, support by coaches and peers. The findings of the biographical interviews related to entrepreneurship training can be summarised as follows:

- *Strengthening entrepreneurial attitude*: Participating in the Programme has helped the interviewees make their final decision to become entrepreneurs. The program strengthened decision-making and gave them the confidence to really pursue the entrepreneurial path. All entrepreneurs had the intrinsic motivation and desire to create something innovative and new, even though alternative careers in academia or industry would have been possible. However, they made the decision to become entrepreneurs and were motivated by their trainers to pursue the entrepreneurial path. Thus, participating in a course could be decisive to finally become an entrepreneur. The cases show that entrepreneurial training helps people, often young, to build confidence and trust, as well as to develop their personal attitudes.
- *Basic skills as an important impact*: All entrepreneurs interviewed who participated in entrepreneurship training (four of them in the Programme) stated that it had a great impact on the development of their business. One of the main aspects of the training

was that it provided these entrepreneurs, who all had a scientific and technical background, with the basic business skills (business model, strategy, pitching, etc.). The training allowed them to learn the basic knowledge and competencies needed to get started and also showed that these skills can be learned by highly motivated individuals and taught by good trainers. The interviews reflected the difficult path of building a new innovative business with high uncertainties, which can often be described as a trial-and-error process where entrepreneurial training can help to learn faster and to avoid common mistakes. Finally, the entrepreneurs also argued that the fact that the courses are free is very helpful and that a fee would have even prevented them from attending.

- *Addressing different stages of the start-up:* Attending entrepreneurship training allowed them to benefit at different stages. Some entrepreneurs argued that they could have avoided failures at the very early stages (if they had attended the training earlier), especially in the development of their business model. So, the earlier they enter entrepreneurial education during the business development, the better, both in terms of age (i.e., building a habitus), and in terms of development stage.
- *Networking and learning from peers:* The interviewees also stressed the importance of learning from peers, e.g., by watching other pitches. Some entrepreneurs even met their co-founder in the Programme. In addition, networking and matchmaking with investors was considered as highly important where the coaches (and their networks) play a decisive role fostering networking/matchmaking. The trainers and coaches also helped the entrepreneurs to receive public funding.
- *Diversity:* Two of the entrepreneurs interviewed were women. They indicated that entering the start-up scene was a completely new experience and felt strange since everyone appeared very convinced of themselves and instructors pushed participants towards a very confident attitude. This did not match their character. The instructors obviously did not specifically address gender aspects. Both female entrepreneurs did not attend a specific programme addressing female entrepreneurship. Presenting role models that do not necessarily represent the typical entrepreneur but is still successfully was recommended as a possible strategy for future Programme design.

While all persons interviewed were highly satisfied with learning the generic competencies and skills of becoming an entrepreneur, there are also some limitations to what can be learnt with respect to very specific demands of a particular industry.

5 The Programme – Assessed through Benchmarking

5.1 Overview of national and international benchmarking

In this last step, the Programme has been systematically compared to competing offers in Switzerland as well as with entrepreneurial education and trainings in other countries.

- *National benchmarking:* The national benchmarking supports the evaluation of the Programme in the context of entrepreneurship-related awareness-raising and training programmes from other public or private organisations in Switzerland. The analysis compares the Programme to competing offerings in Switzerland and in selected countries around the globe. As a basis for this national benchmarking desk research (e.g. SECO report 2016¹⁴, startupticker.ch¹⁵, offices in charge of entrepreneurship at universities, cantonal organisations etc.) were carried out and interviews performed.
- *International benchmarking:* Countries selected are comparable to Switzerland in terms of economic and innovation capabilities. The following countries were selected: Finland, Sweden, Austria, Israel, UK, The Netherlands, USA, Singapore. While European countries selected are comparable concerning the economic capabilities or size, the other countries are of interest concerning their specific entrepreneurial culture and their innovation capabilities. Desk research and interviews supported the analysis in view of illustrating the international landscape, trends, and best practices in entrepreneurship education and training.

In addition, the benchmarking allowed to identify general trends regarding the development of entrepreneurial trainings.

5.2 National benchmarking of the Programme

Shared interests to support entrepreneurship

The promotion of entrepreneurship education at universities has gained importance among the entire university sector in Switzerland in the last years. This is driven by a shared interest of all actors to promote entrepreneurship as well as the creation of start-ups. The ETH-domain, universities as well as universities of applied sciences (UAS) systematically developed strategies to enforce their third mission activities, to transfer knowledge and to commercialise research findings. Entrepreneurship education is considered as an important pillar of this endeavour. It is perceived as a first key activity on the way to become more entrepreneurial; and some Swiss university even call themselves an «entrepreneurial university» (e.g., UAS Graubünden).

¹⁴ Report to the Federal Council following the postulate 13.4237 Derder of 12th December 2013.

¹⁵ See Calendar of Trainings, <https://www.startupticker.ch/en/events?type=Trainings> [accessed: 12.10.2021]

Most universities have specific entrepreneurship institutes, often as part of a faculty for business administration (or a business school), which offer entrepreneurship training for their own students but increasingly also for students in other fields. Moreover, strategic university bodies as well as rectorates aim at promoting entrepreneurship education as part of comprehensive innovation and technology strategies. While TTOs have been in place in universities for some time, many universities are starting to systematically promote entrepreneurship across the entire university, often setting up their own incubators or collaborating with incubators at regional level. Promoting entrepreneurship education is an important measure within such a strategy. Finally, public policies on national and regional level are increasingly pushing and supporting universities to promote entrepreneurship (education) with the offer of Innosuisse as most comprehensive and established programme.

Almost all Swiss universities offer entrepreneurial trainings

The analysis of entrepreneurship education programmes reveals that almost all Swiss universities offer entrepreneurship education targeting students and increasingly also researchers. In total, there are about 70 start-up training offers at the Swiss universities. These education and training offers are broad and cover a large range of specific issues – all the way from general motivation for an entrepreneurial career to concrete subjects. They cover a large range of formats – from events, workshops, courses to structured CAS-offers and MBAs. While some offers have no specific focus and address students in all fields, subjects and departments, some trainings have a specific thematic orientation or industry focus, e.g., female entrepreneurship, social entrepreneurship, digital entrepreneurship or BioEntrepreneurship. The offers primarily address students, to some extent also researchers and partly also interested individuals from outside the university, e.g., corporate innovators or intrapreneurs.

A closer look at these offers reveals that not all but many universities provide a modular programme along the entrepreneurial stages from seed to growth similar to the four Innosuisse modules. Covering all stages of the development of a start-up is hence one of the specific of the Programme hardly any other providers or institutions is offering. In contrast, some universities offer also individual courses for the specific need for an industry or achieving societal goals which is not offered by Innosuisse.

Collaboration with partners

While most of the education and training offers targeting students and researchers are organised and offered by universities, in some cases they are provided in collaboration with external partners. Moreover, some offers are run by other institutions such as interest associations. The programme «First Venture», provided by the Gerbert Rüef Foundation, the three-year coaching programme offered by genisuisse (an NPO of public and private partners), the support programme by Starteld targeting potential entrepreneurs from St. Gallen and Appenzell as well as the Institute für Jungunternehmen IFJ can be mentioned as examples. About half of these offers have regional focus.

Funding of entrepreneurial education and training

Concerning the funding of the entrepreneurship education and training programmes, both internal resources (e.g., part of the university budget) and external funding is important. Concerning the later, Innosuisse is a key source. Regional governments and even local initiatives are relevant as well. Apart from external public funding, private funds are of increasing importance, e.g., by banks, insurance companies or foundations which act as funding partners or sponsors. However, due to a lack of data, estimating its share is difficult. Yet, in Switzerland, most of the funding comes from public sources, either by internal university funds, which in turn, is funded by public money, or from external public institutions such as Innosuisse. It is also of interest to analyze to what extent the offers aim to provide training deliberately for free or to a very low price. The data reveals that most of the offers are for free or are offered to a very low price to set incentives to participate.

Digital offers increasing

As in general, there is a growing trend to offer of online education also in the field of entrepreneurial trainings, e.g., online platforms of universities, open universities, online education platforms in collaboration with universities (edX) or private online education platforms (Udacity, Coursera).

The table below gives an overview regarding alternative offers in Switzerland.

Provider	Description	Free of charge	Interdiscipli-nar-ity	Start-up/busi-ness plan re-quired	Modular struc-ture
Offers by universities					
EPFL	EPFL Launchpad (for students) / EPFL Changemakers : incubator program designed to develop your skills and bring your idea into implementation.	X	X		(X)
	EPFL Launchpad (for students) / EPFL Blaze Accelerator : program is designed to forward leading student startups up to a successful market launch	X	X	X	
	EPFL Launchpad (for tech startups): / Booster : Design, Interns, Risk / very focused, no training / https://www.epfl.ch/innovation/startup/student-launchpad/			X	
	mintt course : Management of Innovation and Technology Transfer course / providing PhD students accelerated training in invention management, assessment of the potential, intellectual property rights elaboration, license negotiation, startup option evaluation and experience integrating academic results into industrial processes and markets. / https://www.epfl.ch/education/phd/doctoral-studies-structure/doctoral-courses/transferable-skills-courses/mintt-course/	X	(X)		X
	Cooperation with EPFL Innovation Park : Fast Track Board Academy; Fast Track Sales Academy / https://epfl-innovationpark.ch/get-involved/start-right-away/workshops/	X	X	X	(X)
ETHZ	Innovation & Entrepreneurship Lab : Various workshops and events, no training. https://ethz.ch/en/industry/entrepreneurs/ielab/Events-for-Entrepreneurs.html	X	X	(X)	
	Pioneer Fellowship : Grant of CHF 150'000 over 12-18 months, in addition to extensive mentoring and training. https://ethz.ch/en/industry/entrepreneurs/entrepreneurship/pioneer-fellowships.html	X	X		
	Lean Startup Academy – From Idea to Startup : Skills course, squarely focused on developing entrepreneurial competences around idea validation. https://entgroup.ethz.ch/education/spring/lean-startup-academy.html	X	X		(X)
	CAS ETH Entrepreneurial Leadership in Technology Ventures https://entgroup.ethz.ch/education/cas-eltv.html		X	(X)	X
	Education at the Chair of Entrepreneurship : Entrepreneurship centered courses, e.g. Discovering Management & Modules for CAS Entrepreneurial Leadership in Technology Venture https://entgroup.ethz.ch/education.html	X	X		
UZH	BioEntrepreneurship & Innovation (BEI) program : Modular course system consisting of three modules: General introduction to BioEntrepreneurship / basics of law and finance, intellectual property, product development and marketing or soft skills / workshop-like sessions delve deeper into selected topics and offer the possibility for one-to-one coaching. / https://www.irem.uzh.ch/en/biomedentrepreneurship/BEI/BEI-program.html	X	X		X*
	UZH Innovators Camp (with ZHdK and ETH): 5-days camp, to develop new ideas https://www.innovation.uzh.ch/de/training-courses/uzh-innovators-camp.html	X	X		
	Digital Entrepreneurship Bootcamp : 9 weeks Bootcamp, focusing on startup idea. Experienced coaches, facilitated workshops and startup role models https://www.innovation.uzh.ch/de/training-courses/digital-entrepreneurship/digital-entrepreneurship-bootcamp.html	X	(X)		(X)

Provider	Description	Free of charge	Interdisciplinary	Start-up/business plan required	Modular structure
	Digital Entrepreneurship Seminar: https://www.innovation.uzh.ch/de/training-courses/digital-entrepreneurship/digital-ventures.html	X	(X)		
	Courses in Innovation & Entrepreneurship: https://www.innovation.uzh.ch/de/training-courses/courses-at-uzh.html	X	(X)		
UNIBE	CAS Entrepreneurship/ https://entrepreneurship-bern.ch/weiterbildung/		X		X*
HSG	Startup@HSG inkl. HSG Gründergarage, Talents Program and HSG Gründer Lab: Networking, consulting and financial support particularly for societal and sustainable projects / https://www.unisg.ch/de/universitaet/ueber-uns/portraet/unternehmertum / https://www.startuphsq.com/		X		
UNIL	Hub Entrepreneuriat et Innovation: Variety of courses (Start-up launch and development: analysis methods and applied experience) and programs (activation, exploration, acceleration) https://www.unil.ch/hub/en/home.html		(X)	(X)	(X)
HSLU	Smart Up: Support and training offers / https://www.hslu.ch/de-ch/hochschule-luzern/ueber-uns/smart-up/smart-up-angebot/	(X)	(X)		
FHNW	Swiss Startup Challenge: In addition to prize money, the Swiss Startup Challenge offers several hours of coaching with experienced coaches in the startup field. https://www.fhnw.ch/de/die-fhnw/swiss-challenge-wettbewerbe/startupchallenge	X	X		
ZHAW	ZHAW Startup Challenge: The annual event offers students from across the ZHAW the opportunity to gain their first startup experience and develop business ideas during the spring semester. https://www.zhaw.ch/en/research/entrepreneurship-at-the-zhaw/entrepreneurshipzhaw/startup-challenge/	X	X		
	Impact Entrepreneurship: Promoting sustainability projects and initiatives by students and staff members / Three stages from awareness to incubation. https://www.zhaw.ch/en/about-us/mission-and-strategy/zhaw-sustainability-strategy/impact-entrepreneurship/	X	(X)	(X)	
	Startup Accelerator: The Startup Accelerator is an initiative of Institute of Innovation and Entrepreneurship (IIE) in the School of Management and Law at ZHAW. Offers online microlearning for startups and is not free of charge. https://startup-accelerator.org/how-it-works/		X	(X)	
	RUNWAY Startup Incubator: Supports start-ups in the pre-seed and seed phase through a targeted coaching and mentoring program and is open to business ideas from all industries and geographical regions in Switzerland. https://runway-incubator.ch/	X	X		
UniBas	From Idea to Startup ONLINE: Understanding what innovation and entrepreneurship means, what crucial factors of a successful life science spin-off are and how to create an impactful business that meets customer needs. https://fortbildung.unibas.ch/courses/topics/dissertation/from-idea-to-startup-293782	X	X		
	FEMtrepreneurs Initiative: Focussing on supporting innovative, research-based projects by providing entrepreneurial education, supporting projects by giving them visibility, as well as creating a network of peers, future employees, supporters and advisors. https://www.pupella.org/femtrepreneurs	X	(X)		
UNIFR	Young entrepreneurs: Online conference presenting success stories to inspire entrepreneurial students. https://www.innovation-club.ch/events	X	X		
USI	In cooperation with Fondazione Agire: Boldbrain Startup Challenge: Accelerator program aimed at early-stage startups and innovative ideas / providing participants tools to assess whether their idea is valid or not and if it has the prerequisites to be transformed into a scalable business. https://boldbrain.ch/?lang=en		X		

Provider	Description	Free of charge	Interdiscipli-narity	Start-up/busi-ness plan re-quired	Modular struc-ture
SUPSI	Startup Garage: Scouting entrepreneurial ideas among all students of the Department of Innovative Technologies (DTI) / mentoring and training units on general interest topics to develop entrepreneurial, personal and managerial skills thanks to guest speaker or case studies. https://www2.supsi.ch/cms/startupgarage/	X	X		(X)
HES-SO	Entrepreneurship Major: https://www.hes-so.ch/en/master/hes-so-master/programmes/business-administration-msc-ba/entrepreneurship-major		X		(X)
Startup Campus	In cooperation with many Swiss universities and universities of applied sciences (e.g. ETH, UZH, zhaw, HSG, OST, FHGR); links to numerous opportunities, https://www.startup-campus.ch/de/training-coaching/	(X)	(X)	(X)	(X)
Offers by others organisations					
Gerbert Rüef	First Ventures: Supporting students at UAS who develop a project idea with entrepreneurial potential as part of their Bachelor's or Master's thesis / financial contributions of up to CHF 150,000 and individual coaching. CHF 1.5 million per year. https://www.grstiftung.ch/fr/champs-activite/first_ventures.html	X			
genisuisse	Coaching: Genisuisse offers a free 3-year coaching program to selected young entrepreneurs. https://www.genisuisse.ch/coaching/	X		X	
IFJ	Consulting regarding business plans or the establishment of a company for young companies throughout Switzerland. IFJ collaborates with partners and contributes to the Start-up Forums at Olma and Rhema twice a year. https://www.ifj.ch/ueber-uns / https://www.ifj.ch/informieren/kurse	(X)	X	(X)	
Startup Academy	Support program: The support process comprises eight steps and is individually adaptable. The Startup Academy provides optimal framework conditions and a target-oriented network consisting of mentors, experts and - if available - students and interns. https://startup-academy.ch/startups/	(X)	X		X
Start Netzwerk TG	Start Netzwerk: Startup-related events, workshops and coaching free of charge: https://www.startnetzwerk.ch/	X	X	(X)	
Startfeld	Support Program: Startfeld supports start-ups from the cantons of St.Gallen, Appenzell Innerrhoden and Appenzell Auserrhoden - from free initial consulting to seed financing of CHF 300,000. This includes infrastructure, pitch workshops, supportive entrepreneurial courses and more. https://www.startfeld.ch/start-ups/	(X)	X		
Venture Kick	Competition for financing / structured entrepreneurial path to build a winning venture / 2-days kickers camps at each stage / support for execution, access to a network https://www.venturekick.ch/index.cfm?page=135380&cfid=23693352&cftoken=2a5d2a9e86d2372a-8C5C4360-A503-6574-5F77E97AEDB7E06D	X	X	(X)	X
STARTUPS.CH	Academy: Regularly offers webinars and courses for founders and self-employed people / https://www.startups.ch/de/academy	(X)	X		
Others	creapole: accompanies startups (not further specified): https://creapole.ch/fr/prestation/creation-d-entreprise/	X	X		
Offers with regional focus					
Startzentrum Zürich	Coaching: Offers individual coaching to all kinds of businesses from or in the canton of Zurich. https://startzentrum.ch/beratungen-fuer-gruendende-und-jungunternehmen/	(?)	X		

Provider	Description	Free of charge	Interdisciplinary	Start-up/business plan required	Modular structure
IGZ Zofingen	Innovations- und Gründer Zentrum: IGZ Academy: Online Courses for founders / idea check and founding support https://www.igz-zofingen.ch/gruenden/	(X)	X		
JUZ Ost-CH	Jungunternehmer Zentrum offers business and startup-up related coaching and different courses or workshops to companies younger than 5 years. https://www.jungunternehmerzentrum.ch/beratung	(X)	X		
Basel Area	Innovation and Acceleration: Consultation and connections; business accelerator programs: BaseLaunch Accelerator (therapeutics & biotech innovation), Day-One Accelerator (healthcare) and Industry 4.0 Challenge (industrial transformation). https://baselarea.swiss/services-business-success/innovate-and-accelerate/	X		(X)	(X)
	Entrepreneurial support: Startup acceleration, events and workshops, mentoring services, collaborative workspaces. https://innovate.baselarea.swiss/services/entrepreneurial-support/	(X)	(X)		
	Events: https://innovate.baselarea.swiss/services/network-events/	(X)	(X)		
Canton Vaud	Innovaud: Access to networks of certified coaches https://www.innovaud.ch/en/services/our-services/innovate-in-the-canton-of-vaud		X	(X)	
Canton Berne	Be advanced, Berne: Program consisting of three phases (challenge, evolve, highflyer) https://be-advanced.ch/fileadmin/redaktion/dokumente/Startup/Details_Startup-Programm_2022_de.pdf	X	X	X	(X)
Zünder, Central CH	Accelerator Program: Gives selected startup projects the opportunity to participate in a training series for 12 months and benefit from intensive support from mentors and experts with practical experience. https://www.zuender.ch/accelerator		X	(X)	(X)
Start-up Pilatus	Coaching https://startup-pilatus.ch/startup-pilatus/		X		
Start-up WE	Start-up Weekend is a three-day program where aspiring entrepreneurs can experience startup life https://startupweekend.ch/		X		
AIT STARTUPS	Supported by SBF1, cooperation of Switzerland with Latin Amerika / https://www.aitstartups.org/	X	X		

Table 11: Alternative training offers in Switzerland

5.3 International benchmarking

Almost all universities active regarding entrepreneurial trainings

The international benchmarking reveals that almost all universities in Germany, Austria, Finland, Sweden, UK, Israel, the Netherlands and the US offer education and training courses for students and increasingly also researchers. The offers are broad and range from short info events to professional MBAs. The international benchmarking shows that some universities have similar offers comparable to the Innosuisse modules targeting entrepreneurs along the different stages. The Programme can be considered as advanced in international comparison; it meets requirements of an internationally competitive modular education and training programme.

Providers of entrepreneurial education in other countries

Regarding providers of entrepreneurial trainings, a similar pattern can be observed as in Switzerland. Education and trainings are offered by specific entrepreneurship institutes which are often part of an economics, management, or business administration departments or of a business school. These institutes increasingly offer trainings across the entire university. In addition, specific entrepreneurship centres, TTOs or university incubators provide entrepreneurship training.

Pioneers of entrepreneurial education

The following countries can be characterised as pioneers of entrepreneurial education.

- *Israel* started early with systematically promoting entrepreneurial education at universities as part of the «Start-up Nation» philosophy. Already in 2013 scholars counted more than 200 entrepreneurship education offers in Israel.¹⁶ Many academic institutions do have entrepreneurship centers that offer lectures and courses, conferences, and workshops, offering entrepreneurs practical and professional guidance. In most recent years Israel pushed the idea of a broader diffusion of entrepreneurship education as an integral part of any study programme and hence as part of the core curriculum. In 2020, Hebrew University launched a process to integrate entrepreneurship education as element of any curricula. In Israel, entrepreneurship education is considered as an important but not as the only element to promote entrepreneurship. Thus, most universities also offer practical activities (e.g., business plan competitions) and provide service guarantee. In addition, the entrepreneurship trainings not only address students and researchers but also external actors such as investors or corporate innovators.
- *Singapore* as well has a very proactive strategy to promote entrepreneurship in universities. Singapore even has a university whose main mission is to produce the next

¹⁶ Almor and Heilbrunn (2014).

generation of entrepreneurs. The National University of Singapore (NUS) established NUS Enterprise, the entrepreneurial arm of the university promoting entrepreneurship and cultivating global talents by providing entrepreneurial education, active industry partnerships and systematic entrepreneurship support. Its initiatives and global connections support a range of different journeys and foster ecosystem building in new markets, too.

- *USA:* A closer look to the USA reveals the importance of public support for entrepreneurial trainings. Trainings in the USA offered by the universities are mostly provided for free or at a very low price. In this regard, the Small Business Administration (SBA) and the Small Business Development Centres (SBDC) can be mentioned. The Score Network, a voluntary mentoring network, is relevant too. However, traditionally, private funding, e.g., by foundations, philanthropic entities, is important. The Kaufmann foundation, for instance, is probably the most well-known example focusing on the state of Kentucky but also beyond. However, there is no data available whether either private funding or funding by specific public institutions has become relatively more important.

Funding of entrepreneurial trainings in other countries

Fostering entrepreneurship as well as the creation of start-ups are increasingly supported by public policies also in other countries. This allows to (co-)fund entrepreneurship education of students and researchers. The Startup-Innovationslabore NRW in Germany, the JumpStart Inkubatoren Programme in Austria or the ICURe Programme in the UK can be mentioned as examples. However, private institutions are of increasing importance to (co)fund entrepreneurship education and trainings at universities. The following examples underline this assessment: TU München (Germany), Chalmers University (Sweden), the NanYang Technical University (Singapore, Chua Thian Poh Entrepreneurship Education Fund) or the Tel Aviv University (Miles S. Nadal Philanthropy Funds). Regarding funding mechanisms, the following aspects can be summarized.

- *Public support* is an important funding source of entrepreneurial education and training programmes. This is also because private providers can rarely achieve direct effects of offering programs at a very low price.
- *Student fees:* There are student fees in private universities. However, students' willingness to pay for entrepreneurial training offers is rather limited. Some European countries charge fees for students from outside the EU.
- *Private sponsors:* In some countries private sponsors and foundations are important. The Kaufman foundation in the US can be mentioned as one of the best-known actor. However, also in Israel, the UK, and Singapore private funding and sponsoring is important as one element to (co)fund the programmes, which, though is related to the national strategy and culture of funding of universities and tertiary education.

The following table gives a short overview of the training offers of other countries. A more detailed table can be found in annex A-8.

Country	Description	Specifics (funding, fees, focus, modularity)
Germany	<ul style="list-style-type: none"> – Almost all German universities now offer entrepreneurship education, ranging from traditional lectures by entrepreneurship institutes to systematic promotion of entrepreneurship throughout the university. – TU Munich, LMU Munich, RWTH Aachen or TU Berlin can be mentioned amongst others as leading universities. – Many offer also a modular program, e.g. RWTH Aachen: 1. Learn & Connect, 2. Ideation, 3 Incubation. 	<ul style="list-style-type: none"> – Some national programs (e.g. EXIST, StartUpLab@FH, BMBF) and many regional programs exist supporting entrepreneurship (education) at universities and universities for applied sciences (FH), amongst others: HochschulStart-up-Initiative (Nordrhein-Westfalen), Gründungskultur in Studium und Lehre, Land Baden-Württemberg. – Most offers are provided for free.
Austria	<ul style="list-style-type: none"> – Most Austrian Universities offer entrepreneurship training programs, and many have incubators and TTO, with TU Wien and TU Graz offering the most comprehensive courses. – The goal that universities become more entrepreneurial is also part of the performance agreement between the public universities and the Federal Ministry. 	<ul style="list-style-type: none"> – Österreichische Forschungsförderungsgesellschaft (FFG) runs the Spin-off Fellowship programme open for applicants from universities (similar to the programme of the ETH9). – Austria Wirtschaftsservice GmbH (aws) support also Incubators at university, which offer a broad range of training and coaching programmes.
UK	<ul style="list-style-type: none"> – Many UK universities offer entrepreneurship training and education, with Imperial College or Cambridge University as well-known examples, some of them offer also modular programmes addressing the different stages. 	<ul style="list-style-type: none"> – Promotion of training and mentoring (by mentors) of university researchers with the aim of developing a business plan under the publicly funded ICURe program (Innovation to Commercialisation of University Research).
Finland	<ul style="list-style-type: none"> – Helsinki University and Aalto University offer the full range of entrepreneurship education covering the entire range of services. 	<ul style="list-style-type: none"> – Offers are usually free of charge. – Helsinki University Funds provides also seed money for promising start-ups.
Sweden	<ul style="list-style-type: none"> – Stockholm University, Uppsala University, Lund University and Chalmers University provide the most comprehensive offers 	<ul style="list-style-type: none"> – Swedish Agency for Economic and Regional Growth: In particular two programs, both with focus on tech start-ups. – National Bootcamps & Market Access Programs provides offer across the country.
Ireland	<ul style="list-style-type: none"> – Trinity Business School is the leading university offering various programmes. 	<ul style="list-style-type: none"> – New Frontiers is the national entrepreneurial development programme for ambitious early-stage entrepreneurs having the potential to scale and provide employment. – HPSU (High Potential Start-Up) Support offered by Enterprise Ireland .
Israel	<ul style="list-style-type: none"> – Entrepreneurial education is an important pillar for the universities, The Hebrew University of Jerusalem and Hebrew University Business School. – Hebrew University, for instance, launched a process to integrate entrepreneurship education as element of any curricula. 	<ul style="list-style-type: none"> – A number of programmes are also offered for international students.

Country	Description	Specifics (funding, fees, focus, modularity)
US	<ul style="list-style-type: none"> – Most universities offer some education and training programs for students, while some offer only traditional lectures others cover the full spectrum by providing educational offers for all stages of development but also other support services. – Many universities also offer online lectures. – Leading institutions are for instance MIT, Stanford, Draper University, or Babson College. 	<ul style="list-style-type: none"> – Offers are usually free of charge for enrolled students – Small Business Administration (SBA) is the national funding agency promoting SMEs which also supports entrepreneurship education for entrepreneurs; offers are often free of charge. – Many universities have specific training programs and other support offers for entrepreneurs with support of SBA and other State-based or regional associations. – SCORE, the largest network of free volunteer small business mentors in the US is an additional partner. – Private funding by foundations, sponsors, large companies etc. traditionally important to co-fund activities.
Singapore	<ul style="list-style-type: none"> – National University of Singapore with its Enterprise arm, Reactor School, and Singapore Polytechnic are well known universities offering a full range of programs and services 	<ul style="list-style-type: none"> – Startup SG from Enterprise Singapore is a national programme from supporting entrepreneurship at universities in different stages. – A number of programs are offered for international students.
Online offers	<ul style="list-style-type: none"> – Coursera presents 121 search results with the term Startup and 1,800 offers using the term entrepreneurship worldwide. 	-

Table 12: Training offers in other countries

5.4 General trends regarding entrepreneurial education and training

In the context of the international benchmarking some general trends in entrepreneurship education and training have been identified as well.

- *Going digital* There is a general trend to provide online services. This is not only driven by the COVID-19 pandemic but by new technological opportunities, e.g., MOOCs. MIT and Stanford offer online courses since several years. Specific platforms (udemy.com; edx.org) and tools (VR, virtual classroom) can be mentioned as well. Experience made during the last two years shows that distance learning can be effective but requires new measures for socialising and networking.
- *Diverse methods applied:* Methods used in entrepreneurial teaching and training are diverse, with lean start-up and Business Model Design being (still) the most important teaching and consulting approaches. In addition, there is increased importance of individual coaching and development of personal skills. Moreover, encouraging hands-on experience and learning is a common trend. Advanced entrepreneurial education programmes allow and require students to develop their own business plan, MVP, etc. Trainings also offer networking opportunities on the regional but also on the international level, e.g., with investors, companies, or research partners. Matchmaking events remain crucial (partly online, new formats required) for promoting entrepreneurship and

for offering opportunities for networking/matchmaking. Moreover, some universities organize hackathons and competitions allowing students to gain experience and to build up social capital. In this context also international excursions e.g., from the USA to Israel, from Germany to the USA, are offered.

- *Achieving societal goals*: Diversity, sustainability, and social entrepreneurship have been identified as international trends and a number of programs are offering specific courses to meet particular needs and interests of female entrepreneurs but also address societal and sustainability goals, e.g., as captured by the SDGs. Specific business models or funding strategies (e.g. crowdfunding) focussing on these themes are explicitly addressed in the curricula and taught by experienced trainers and coaches.
- *Peer-learning among entrepreneurship educators*: The entrepreneurship training community is increasingly sharing its knowledge both on the national and international level. In Israel (STARTAC network), Singapore or the US educators and trainings meet at workshop or conferences to share their experience. However, also on the international level, networking becomes an important movement. The most well-known is probably the Educators Summit organized by the Lean Startup pioneer Steve Blank from Silicon Valley where in 2000 and 2001 more than 1,000 educators discussed new trends in entrepreneurship training and shared how to teach during the pandemic.
- *Addressing international participants*: The international benchmarking reveals that some universities specifically address also foreign students – aiming at attracting entrepreneurial talents from abroad. Some universities offer specific courses in collaboration with other countries, MIT for example provides trainings in collaboration with CEE countries. There are also international conferences and workshops addressing entrepreneurship trainers and educators; thus, promoting networking and joint learning in entrepreneurship education. Steve Blank from Silicon Valley or the STARTAC network of Israel may be mentioned as examples.

Training is only one element of a functioning start-up ecosystem

Entrepreneurial education and training are important elements of a well-functioning start-up ecosystem; they must cover all stages from seed to growth. However, infrastructures, matchmaking, entrepreneurial culture, university strategies and IPR guidelines are just as important. A systematic promotion of the entrepreneurial university is also an element of such a strategy observed internationally. The interplay of all elements makes up for the strength of a start-up ecosystem and explains the success of specific universities or regions in generating internationally renowned science-based start-ups. While Innosuisse has been fast picking up trends towards digitalisation and online learning and also focuses on networking and matchmaking, other trends are addressed to a lesser extent, also partly due to governmental aims. Thus, Innosuisse could incentivise greater networking between trainers and coaches at the national level, but also initiate a debate within the Swiss higher education and startup ecosystem to more specifically attract international students to entrepreneurial education in Switzerland (e.g., also in collaboration with Swissnex).

6 Conclusions and Recommendations

6.1 Answering the evaluation questions

Based on the various evaluation approaches, the following tables present short answers to the evaluation questions; details can be found in Annexes A-9, A-10 and A-11.

Short answers to summative and formative evaluation questions (part 1)

Summative and formative evaluation	Short answers
Design and implementation: To what extent is the Programme oriented towards its objectives and the needs of the target group? How is the Programme embedded in the national and regional entrepreneurial landscape? What alternative designs could be envisaged taking account the needs of the target group?	<ul style="list-style-type: none"> – The Programme achieves its objectives by putting individuals in touch with entrepreneurial world and walking them through a structured process. It is tailored to needs of science-based start-ups and aligned with expectations of highly skilled trainees. However, there is room for improvement regarding social entrepreneurship and other target groups.
Participants and their satisfaction: How can participants be characterised? To what extent are they satisfied with the modules? What was/is the influence of the Covid-pandemic and of an increase use of digital education on participants and their participation in the Programme?	<ul style="list-style-type: none"> – Participants can be characterised as young, well prepared, interesting, and interested highly qualified academics with some years of professional experience; mostly interested in technologies and engineering; mostly men. – There is a high level of satisfaction with all modules, with Module 3 achieving the highest overall rates. – Transition to digital was smooth and worked out well. Digital education can and should also in the future be used as complementary learning instruments, but it cannot replace the physical. Most still prefer training in presence.
Motivating factors: What are factors motivating individuals in the different modules/ different stages of their entrepreneurial projects?	<ul style="list-style-type: none"> – Motivation to participate in a training is multifaceted; participants are particularly looking for skills regarding launching and running start-ups as well as networking. The aspect of awareness raising looks less important from their side than from the side of Innosuisse, providers and experts.
Influence on entrepreneurial mind set: To what extent is the Programme able to influence the motivation to start a business / to run a business successfully?	<ul style="list-style-type: none"> – Modules 1 and 2 clearly motivated to further start-up plans and supported in concretizing idea as well as development.
Ecosystem: To what extent is the Programme integrated in the regional ecosystem? What is the overall impact of the Programme on local ecosystems?	<ul style="list-style-type: none"> – The Programme is well integrated in the start-up ecosystem, especially with university system. The Programme acts as a platform also for other activities. There is a strong cooperation with universities, to a lesser degree with transfer offices and business incubators. Thus, co-operations strongly depend on the interests and networks of regional providers.
Diversity and sustainability: To what extent does the Programme impact diversity and sustainability in the start-up ecosystem?	<ul style="list-style-type: none"> – The specific focus on gender succeeded in increasing the number of female participants. However, participants are still not diverse enough regarding gender, age, and industries. The sustainability factor could be expanded: results show that participants should be exposed to growth from an early phase onwards. In view of future societal and environmental challenges, a reconsideration of the equality between sustainability and economic growth might be adequate.
Coherence: To what extent does the Programme impact the participation of other Innosuisse support measures? To what extent are synergies exploited?	<ul style="list-style-type: none"> – There is coherence between the instruments. However, there is little use of other instruments – beyond coaching. Training providers do inform about the other Innosuisse offers, but obviously not very proactively. Thus, synergies that could be grasped more strategically.

Table 13: Short evaluation answers for part 1

Short answers to needs and trends (part 2)

Needs and trends	Short evaluation answers
Positioning and USP: What is the positioning of the training programme within the increased offering of entrepreneurship-related programmes of universities and of private providers?	– It is a competitive Programme with a national dimension, a mission-based approach, integrated in the regional university systems. The Programme sets benchmarks and thus is able to influence other training offers. There are different appreciations regarding the individual modules. Whereas experts tend to underline the importance of awareness raising, participants stress the importance of skills and networking opportunities.
Needs of (potential) participants: What are needs of potential participants according to the stage of their start-up? What are the different «customer journeys» entering the «entrepreneurial track»?	– Needs are multifaceted, from awareness raising, to specific skills with a particular focus on coaching. At an early stage networking opportunities are of a particular importance as well as strengthen perseverance, optimism, and resilience. On the other hand, start-ups have to be confronted with real world experience also as a reality check. At later stage, important to have more specific support.
Trends and dynamics of the ecosystem: What are trends and dynamics of the ecosystem that should be taken into account for future considerations?	– The start-up-ecosystem has strongly developed within the last years. Thereby serial founders as well as the aspect of intra-preneurship have to be underlined.

Table 14: Short evaluation answers for part 2

Short answers regarding the national and international benchmarking (part 3)

National and international benchmarking	Short evaluation answers
National benchmarking: What are other training offers provided by public and private organisations in Switzerland, including other programmes and instruments offered by Innosuisse? Who are key players and what are their target groups?	– There is a growing offer for start-up trainings, provided by universities as well as public/private providers with a specific interest in fostering the regional economy. Most of these offers are publicly supported. There are more than 70 other start-up training offers in Switzerland.
International benchmarking: What are the promising alternatives offered internationally by other governmental agencies that are comparable to Switzerland in terms of economic and innovation capabilities?	– The Programme with its modular structure is comparable to some offers provided by universities abroad. Learning more in terms of industrial policies and public investments in start-ups from the best in class countries, such as Israel could be advisable.

Table 15: Short evaluation answers for part 3

6.2 SWOT-Analysis of the Programme

A «SWOT-Analysis» addresses strengths (S) and weaknesses (W) of a project, programme, or institution in view of achieving specific objectives – as well as opportunities (O) and threats (T) for the project, programme, or institution. Strengths and weaknesses are considered as internal aspects (e.g. capacities, competencies, resources), while opportunities and threats are considered external (e.g. macroeconomic and/or scientific trends, legal changes). Looking at the SWOT-analysis of the Programme the following aspects may be highlighted.

- *Strength and opportunities:* The evaluation team identifies far more strengths and opportunities of/for the Programme than weaknesses or threats. This assessment is consistently supported by the results of all evaluation approaches.

- *Strategic and operational aspects:* The SWOT-analysis of the Programme distinguishes strategic as well as operational strength and opportunities. Regarding weaknesses and dangers, this subdivision is dispensed with.

The SWOT-analysis has been discussed with the supporting group of this project and then further developed and finalized.

Strengths of the Programme

The national dimension, the mission-based approach as well as the integration of the Programme in the Swiss university system are important USP of the Programme. With its comprehensive approach, walking people through a structured process, the Programme sets benchmarks and thus, impacts other training offers in Switzerland. It sometimes also functions as «seed money» for additional university training programmes.

Participants and target groups are congruent: young, well prepared, interested, and interesting academic individuals. The focus on high-tech start-ups supports a programme that is aligned with expectations of highly skilled trainees. Taken together, the Programme is a door opener into an entrepreneurial world – particularly for young academics. The motivation to join a training is multifaceted; trainees are particularly looking for skills regarding launching and running a start-up as well as for networking opportunities. Experts on the other hand underline the particular impact of the Programme regarding awareness rising.

The results both from the online survey as well as from the indepth expert interviews show a high level of satisfaction with the Programme. The modules are well structured and coherent regarding the maturity of the start-ups. The opportunity to grasp from the experience of practitioners is key – also in view of networking opportunities.

Weaknesses of the Programme

Inspite of particular efforts, participants are still not diverse enough regarding gender, age, and industries. Even if the approach of the Programme is deliberately comprehensive regarding disciplines, demands of different industries could be addressed specifically (i.e. IP for life sciences). Moreover, additional coaching opportunities would be appreciated.

Opportunities for the Programme

The program will remain important even if other offerings develop. This is the case not only because participation is free – an important aspect for industries with a long start-up period – but because of its mission oriented approach and its comprehensive and well structured offer. Moreover, as a national market leader, Innosuisse has the potential to take on even more leadership in a national start-up training strategy and thus impacting the quality of other offers. A greater visibility of the Programme, with its clear distinction from other offerings, could raise awareness of the importance of entrepreneurship.

The earlier the better – and this in a double sense: Fostering entrepreneurial skills as part of a university curriculum becomes mainstream, opening doors to entrepreneurial career

paths could even take place at the level of gymnasium. In addition, trainings should take place at an early stage of a start-up in order to enable a successful development.

On the other hand, addressing older experts in companies may be interesting too. However, their professional and personal experience has to be addressed accordingly.

Important elements of entrepreneurship to be strengthened are optimism, resilience, and perseverance. At the same time, participants should be encouraged to push their limits. Direct contacts with real world entrepreneurs offer role models as well as a reality check at an early stage of a start-up. In general, coaching opportunities are particularly welcomed – and this also already for Module 2. Finally, there are synergies with other Innosuisse offers that could be grasped more strategically.

Threats to the Programme

Threats for the Programme are more likely to be seen in the general start-up ecosystem of Switzerland, since Swiss startups tend to be both more risk averse and shy away from growth. On a similar note, women tend to underestimate their potential, whereas men may apply to the Programme without having a concrete project idea.

The table below summarizes this SWOT-analysis.

Strengths of the Programme	Weaknesses of the Programme
<i>Strategic level</i>	
<ul style="list-style-type: none"> – Positioning: The national dimension, the mission-based approach as well as the integration in the university system are important USP of the Programme. It's a door opener into an entrepreneurial world. Walking people through a structured process is a particular strength. – Benchmark: The Programme sets benchmarks and impacts other training offers. In some cases it functions as «seed money» for other university trainings. – Target groups: Target groups and participants are congruent: young, well prepared, interested, and interesting academic individuals. This helps creating a coherent offer addressing their specific needs. – Satisfaction: There is a high level of satisfaction with the Programme. The motivation to join a training is multifaceted; trainees are particularly looking for skills regarding launching and running a start-up as well as for networking opportunities. The focus on high-tech start-ups supports a programme that is aligned with expectations of highly skilled trainees. 	<p>Participants are still not diverse enough regarding gender, age, and industries.</p> <p>More coaching opportunities in Modul 2 would be appreciated.</p> <p>Specific coaching offers could bridge the gap between the training and funding processes.</p> <p>Even if the approach of the Programme is comprehensive regarding disciplines, demands of different industries must be addressed specifically (IP for life sciences).</p>
<i>Operational level</i>	
<ul style="list-style-type: none"> – Modules: The modules are well structured and coherent; the quality of trainers is key. – Trainees being well prepared, interested, and interesting academic individuals are an asset themselves particularly in view of networks. – Networking. The opportunity to grasp from the experience of practitioners is key – also in view of networking opportunities. 	
Opportunities for the Programme	Threats to the Programme
<i>Strategic level</i>	
<ul style="list-style-type: none"> – Go! The program will remain important even if other offerings develop, not only because participation is free – an important aspect for industries with a long start-up period – but because of its mission oriented approach and its comprehensive and well structured offer. – Distinction: A greater visibility of the Programme, with its clear distinction from other offerings, could raise awareness of the importance of entrepreneurship – National Strategy: As a national market leader, Innosuisse has the potential to take on even more leadership in a national start-up training strategy and thus impacting the quality of other offers.. 	<p>Swiss startups tend to be risk averse and shy away from growth.</p> <p>Women tend to underestimate their potential, whereas men also apply without having a concrete project idea.</p>
<i>Operational level</i>	
<ul style="list-style-type: none"> – Entrepreneurship: Important elements of entrepreneurship to be strengthened are optimism, resilience, and perseverance. At the same time, trainees should be encouraged to push their limits. Direct contacts with real world entrepreneurs offer role models as well as a reality check at an early stage. – Target groups: The earlier the better! Fostering entrepreneurial skills as part of a university curriculum becomes mainstream. On the other hand, addressing older experts in companies may be interesting too. However, their professional and personal experience has to be addressed accordingly. – Coaching: More coaching opportunities in Modul 2 would be appreciated. – Synergies: There are synergies with other Innosuisse offers that could be grasped more strategically. 	

Table 16: SWOT-Analysis

6.3 A further development of the Programme

The holistic analysis leads to a positive assessment of the Programme. The various results underline its high reputation among both former participants as well as national and international experts. The Programme has become an important cornerstone of Innosuisse's overall start-up support and is well embedded in the national start-up ecosystem.

As a national training programme anchored in the regional university systems, the Programme offers a national benchmark and at the same time ensures that specific aspects of the regional ecosystem are addressed. Moreover, it serves as a platform and thus, impacts training offers of other providers. On the other hand, the national approach is being nurtured by a diverse experience – also regarding other supporting instruments of Innosuisse. Moving away from this approach would therefore result in the loss of both a national quality benchmark as well as the option of learning from regional specificities.

Success and reputation achieved can be taken as starting points for further developments of the Programme. Based on the evaluation results, the following recommendations are designed to support decision-makers to further develop a complementary, future-oriented, and impactful offer addressing emerging needs in line with the subsidiarity principle and in synergy with all other offerings of Innosuisse, especially the start-up coaching programme.

Developing a national start-up training strategy

Based on the evaluation results, Innosuisse is well positioned to develop a national start-up training strategy. Thanks to its experience, its position as a market leader regarding the support for science-based start-ups, its strong integration in the national start-up ecosystems, as well as the comprehensive insight of Innosuisse regarding regional start-up ecosystems in Switzerland, Innosuisse is an ideal spot to collect and share best practices related to start-up trainings and to facilitate networks among trainers and coaches. Offering strategic benchmarks and best practice to other providers could even increase the impact of the Programme and of Innosuisse on the Swiss start-up ecosystem. Moreover, and according to the international benchmarking, investing public money in start-up trainings is a common strategy in the countries assessed.

A national start-up training strategy could also be a door opener to engage in dialogues with other countries about their best practices and to further promote the Swiss start-up ecosystem beyond Switzerland. A close cooperation with Swissnex could be an interesting avenue in that regard.

Maintaining a comprehensive and mission-based Programme

The Programme is well structured and comprehensive. The modular structure has proven to be successful and should be maintained. Covering all stages of the development of a start-up is one of the specifics of the Programme hardly any other provider is offering. Trainings are key to acquire knowledge, skills and know-how in terms of business and

market rules. Interdisciplinary groups, engaging among peers, learning from coaches, are essential elements and should be kept. Adaptions worth considering would be to offer additional coaching opportunities in Module 2. Industry-specialised courses within Module 3 and 4 have already been implemented, as requested by participants.

Enlarging target groups

The development of a national start-up training strategy could also serve to redefine the target groups of the Programme – while maintaining a focus on science and technology-based start-ups. In addition to the prevailing ETH and university graduates, graduates from universities of applied science become increasingly interesting as target group, since their research projects are mainly application oriented. However, this would mean a repositioning also in terms of the profile of universities of applied sciences, since fostering entrepreneurship has not been set as one of their specific goals by politics.

Moreover, various results of the evaluation lead to the assessment «the earlier the better» – and this in a double sense: both regarding the age of training participants as well as the development stage of the start-up. However, addressing high-school students needs different approaches than the science-based Programme offered by Innosuisse.

At the same time, the evaluation also highlighted the option of launching a start-up as a corporate employee, at least at the initial phase. Addressing this target group would however mean adjusting the courses to the professional experience that these participants have already had and expanding the network within the corporate sector.

Women and various minority groups are underrepresented not only but also in the start-up field. Due to socio-cultural aspects, women feel less addressed and welcomed in the start-up world and hence also in training courses. They tend to underestimate their potential, they are less confident and at the same time both, more risk aware and more risk averse. In view of strengthening entrepreneurial attitudes, start-ups and economic growth in Switzerland, their potential must be exploited through coaching, training, networking, and by offering role models.

Sustainability and social entrepreneurship

Becoming an entrepreneur or supporting a start-up financially is a powerful way to make a difference in this world. Thus, fostering entrepreneurial mind sets has a societal impact beyond the start-up ecosystem, particularly if embracing sustainability not only as a challenge but also as an important field of growth. Thus, Innosuisse should more actively follow trends and developments regarding sustainability, social entrepreneurship, and social responsibility, as observed in the EU-context and defined by the SDGs of the UN. There is a need for smart technologies, particularly to address Grand Challenges in the field of climate change, energy security, environmental degradation, or health. Innosuisse is well positioned to raise awareness around these topics and demonstrate how they could be inter-

linked with successful business ideas. With top-ranking universities and a strong relationship between the industry and academic research, Switzerland has the potential to take a leading role in this regard, also by integrating sustainability in any start-up strategy.

Maintaining the shared responsibility for the Programme

We recommend maintaining the established division of responsibilities between the national framework for the Programme and the operational responsibilities of regional providers integrated in the higher education system of Switzerland (ETH, universities as well as universities of applied sciences) – and to base this cooperation on a national start-up training strategy. Moving away from the current approach could result in the loss of both a national quality benchmark and thus ultimately of the quality identified as well as the option of learning from regional specificities. To foster and strengthen diversity within the start-up ecosystem, including more diverse and smaller training providers should be considered. Current requirements for training providers are relatively high, particularly in relation to financial resources and offering infrastructure. Providing a space where different training providers could offer courses would open opportunities for new people and attract different mindsets, which, in line with the argument provided above, may also attract additional international students and potential entrepreneurs.

Strengthening coaching opportunities

The results of the analysis indicate a particular interest and an additional need for coaching opportunities. In view of the structure of the programme, Module 2 is particularly suitable for this. Participants of Module 2 already have a basic project idea; however, they need an early reality check as well as specific guidance to successfully advance with their project. Furthermore, offering more coaching within the modules or at least linking participants to other coaching offers has the potential to bridge the gap perceived between Module 4 and the later stage of funding processes.

Digital is here to stay – but direct contacts remain important

Based on the experiences made during the Covid-19 pandemic, we recommend enhancing digital learning tools while keeping enough room for physical interactions. Trainings may use digital learning particularly regarding specific skills and competences such as IP or legal issues. Shifting some of the teaching to digital does not only allow participants to be more flexible regarding their scheduling and location during training session, but also leaves more time for hands-on exercises during in person sessions. However, direct contacts among peers as well as with experienced entrepreneurs during on-site training sessions remain crucial in view of early reality checks, finding potential business partners, networking and being exposed to an entrepreneurial environment. Thus, a blended learning approach, in which digital and physical learning sessions complement each other, could increase the overall impact and efficiency of the Programme.

Synergies with other Innosuisse offers

Innosuisse has a comprehensive and coherent set of support offers for start-ups. While some synergies between these offers are already being captured, there remains potential to use these synergies more strategically and effectively. Moreover, Innosuisse' support for start-ups should be translated into a proactive and comprehensive marketing. This would help providers to promote Innosuisse offerings in a targeted way and not just as one offer among others. At the same time, it could improve the experience of participants by raising their awareness for Innosuisse and its various support services.

Annexes

A-1 Overview of detailed evaluation questions including data collection and indicators/benchmarks

Summative and formative evaluation

Detailed evaluation questions		Indicators	Type of question	Assessment	Document analysis	Data analysis	Expert interviews	Online survey	Biographical interviews	Synthesis, suggestions	Workshop
Input (conceptual framework), implementation and output (focus on training modules)											
1	Structure, design, and implementation of the offering										
1.1	To what extent is the structure and the implementation of modules oriented towards the objectives of the Programme?	Description Assessment	evaluative	Coherence Description Scale 1 to 4							
1.2	To what extent is the design of the offering ¹⁷ tailored to the needs of target group?										
1.3	To what extent are modules and courses tailored to the needs of target group?										
1.4	How is the Programme embedded in the national and regional entrepreneurial landscape?				Description						
1.5	What alternative designs could be envisaged taking account needs of target group?		descriptive	Innovation							
2	Participants of the Programme and their segmentation										
2.1	How can programme participants be characterised?	Age/ Gender Training Background Maturity level	descriptive	Description Statistics							

¹⁷ 4 modules, 5-full day bootcamps for Modules 3 and 4, 10-week long courses for module 2 at the rate of one evening per week, on-line or in-presence, participation criteria etc.

Detailed evaluation questions		Indicators	Type of question	Assessment	Document analysis	Data analysis	Expert interviews	Online survey	Biographical interviews	Synthesis, suggestions	Workshop
2.2	What was/is the influence of the Covid-pandemic on participants and their participation in the Programme?	Description	descriptive evaluative	Negative Positive							
2.3	What was/is the influence of an increased use of the digital education format on the participation in the Programme? To what extent were participants lost or gained when the course offering switched online?		descriptive	No benchmark							
2.4	What is an ideal composition of programme participants (e.g. age, education, gender, maturity level, etc.)?	Age/ Gender Training Background Maturity level	descriptive	Description Statistics							
2.5	To what extent did participants make use of other instruments and programs of Innosuisse?	Use of other instruments	descriptive	Description Statistics							
3 Participants' satisfaction											
3.1	To what extent are participants satisfied with modules 1-4 (content, lecturers, organisation)?	Description Assessment	descriptive evaluative	Scale 1 to 4 Statistics							
Incomes / Outcomes (focus on programme participants)											
4 Motivating factors for an entrepreneurial path											
4.1	What factors motivate individuals in the different modules?	Description	descriptive evaluative	No benchmark							
4.2	What factors motivate individuals at different stages (idea, concept, creation, growth)?										
4.3	What are factors and «customer journeys» motivating participants to join the Programme?										
4.4	What are factors motivating participants to stick to/ to leave their entrepreneurial path?										
5 Impact of the modules on the entrepreneurial mind set and on the founding of a start-up											
5.1	To what extent do modules influence the intention and motivation to start a business?	Description Assessment	evaluative descriptive	Scale 1 to 4 Statistics							
5.2	To what extent are modules able to create an entrepreneurial mind set (spill-over effects)?										
5.3	To what extent do the modules impact the design and successful development of a newly founded business?										

Detailed evaluation questions		Indicators	Type of question	Assessment	Document analysis	Data analysis	Expert interviews	Online survey	Biographical interviews	Synthesis, suggestions	Workshop
Impact (focus on impact of training on other actors, the ecosystem and society)											
6	Integration in ecosystem and impact on ecosystem										
6.1	To what extent is the Programme integrated in the regional ecosystem?	Partnerships	evaluative	Number							
6.2	To what extent are there co-operations of the Programme with other programme partners such as universities, transfer offices, business incubators?	Partnerships Assessment	evaluative	Number Scale 1 to 4							
6.3	To what extent are there co-dependencies to the offering of the Programme offering?	Overlaps	evaluative	Number Description							
6.4	To what extent are there interdependencies of the offer with local ecosystems/ providers?	Interdepend.	evaluative	Description							
6.5	What is the overall impact of the Programme on local ecosystems?	Assessment	evaluative	Scale 1 to 4							
7	Diversity and sustainability										
7.1	To what extent does the Programme impact diversity in the start-up ecosystem?	Age/ Gender Training Background	descriptive evaluative	Increasing regarding indi- cators							
7.2	To what extent does the Programme impact the sustainability of start-up business models?	Lifespan Employees Business/CHF		Development regarding indicators							
8	Coherence										
8.1	To what extent does the Programme impact the participation of other Innosuisse support measures?	Description Assessment	descriptive evaluative	Coherence Scale 1 to 4							
8.2	To what extent are synergies exploited and deal-flows coordinated with other Innosuisse instruments (e.g coaching programme, innovation projects, Bridge)?			Numbers Scale 1 to 6							

Table 16: Detailed evaluation questions: summative and formative evaluation 17

Needs and trends

Analysis questions		Indicators	Type of question	Assessment benchmark	Document analysis	Data analysis	Expert inter-views	Online survey	Biographical interviews	Synthesis	Workshop with support group
9	Positioning, value proposition, USP										
9.1	What is the positioning of the training programme within the increased offering of entrepreneurship-related programmes of universities and of private providers (by module or maturity stage of an entrepreneur)?	Description Assessment	Evaluative								
9.2	Is the Programme still relevant?	Assessment	evaluative	Scale 1 to 6							
9.3	What is the value proposition of the current Programme (per module)?	Description	descriptive evaluative	Description							
9.4	What is the USP of the Programme and of each module?	USP									
9.5	What is USP of the Programme compared to similar offers?	USP									
9.6	How to differentiate the offers?	Description									
9.7	How to offer a complementary programme?	Input		Innovation							
9.8	How to collaborate and not compete?	Description	descriptive								
10	Needs of (potential) participants with regards to the Programme										
10.1	How can potential participants of the Programme be characterised?	Age/ Gender Training Background Maturity level	descriptive	Description Statistics							
10.2	What are needs of potential participants depending on their stage of maturity (idea, concept, creation, growth)?	Description	evaluative	No benchmark							
10.3	What are unmet needs/ sweet spots of potential participants depending on their maturity stage (idea, concept, creation, growth)?										
10.4	To what extent does the use of a digital education format correspond to needs of potential participants?	Assessment		Description Scale 1 to 6							
11	Needs of (potential) participants with regards to their entrepreneurial journey										

Analysis questions		Indicators	Type of question	Assessment benchmark	Document analysis	Data analysis	Expert inter-views	Online survey	Biographical interviews	Synthesis	Workshop with support group
11.1	What are the different «customer journeys» leading to enter the «entrepreneurial track»?	Description	descriptive	No benchmark							
11.2	What are (unmet) needs to guide entrepreneurship journeys towards more diverse and sustainable business ideas?										
12	Trends and dynamics of the ecosystem										
12.1	What are trends and dynamics of the ecosystem (more specifically: entrepreneurial path and activity, entrepreneurial skills/competencies needed according to industries/the economy, continuing education) that should be considered for future considerations?	Description	descriptive	No benchmark							

Table 17: Detailed evaluation questions: needs and trends

National and international benchmarking

Analysis questions		Indicators	Type of question	Assessment benchmark	Document analysis	Data analysis	Expert inter-views	Online survey	Biographical interviews	Synthesis	Workshop with support group
13	National mapping of offers										
13.1	What are other offers including complementary offerings and substitutes matching the mission of the Programme provided by public and private organisations in Switzerland?	Description	descriptive evaluative	No benchmark							
13.2	What is the positioning of the Programme modules in the start-up ecosystem of Switzerland?	Assessment		Description Scale 1 to 6							
14	National mapping of key players										
14.1	Who are key players with regarding comparable offers? How can they be characterized with regards to their concentration, market share and structure (private, public entity) as well as their target groups?	Description	descriptive	No benchmark							

Analysis questions		Indicators	Type of question	Assessment benchmark	Document analysis	Data analysis	Expert interviews	Online survey	Biographical interviews	Synthesis	Workshop with support group
14.2	Who is the customer or participant respectively, what are the target groups? What does each customer/participant segment want? What is the price point? What is the distribution channel for each segment?										
15	International mapping										
15.1	What are the promising alternatives offered internationally by other governmental agencies that are comparable to Switzerland in terms of economic and innovation capabilities?	Description	descriptive	No benchmark							

Table 18: Detailed evaluation questions: national and international benchmarking

A-2 Data and Documentation

The following list shows the data and the documentation that were used for the evaluation, the needs and trends analysis as well as for the benchmarking.

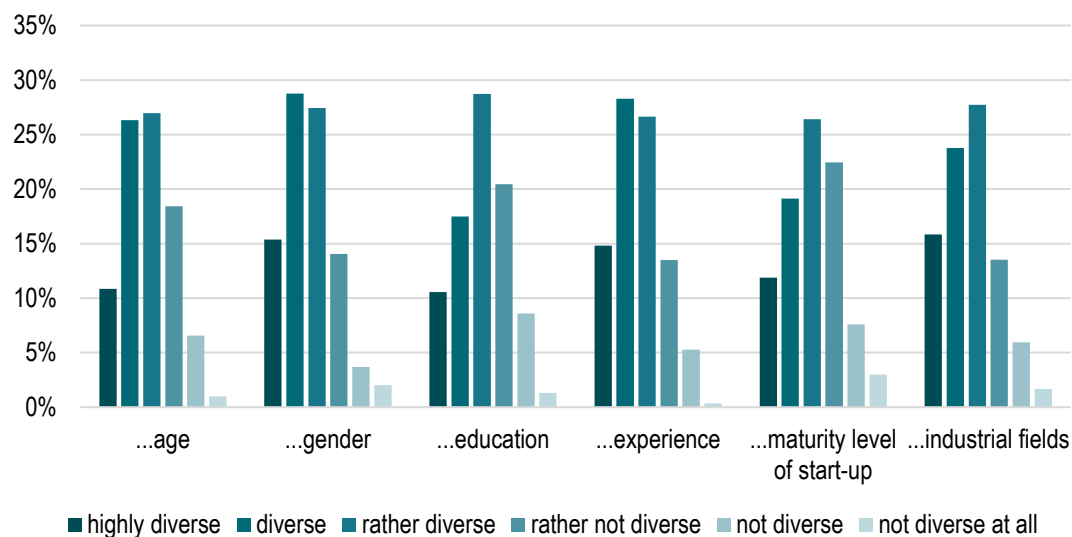
Documents	Evaluation	Needs & Trends	Benchmarking
Conceptual basis			
– Call for Tender: Holistic analysis of the Startup awareness-raising and training program	x		
– Call for Tender Q&A: Holistic analysis of the Startup awareness-raising and training program			
– Federal Act on the Promotion of Research and Innovation (RIPA)	x		
– Verordnung zum Bundesgesetz über die Förderung der Forschung und der Innovation (V-FIFG)			
– Federal Act on the Swiss Innovation Agency (Innosuisse Act)			
– Ordinance of the Swiss Innovation Promotion Agency on its Funding and Other Support Measures (Innosuisse Funding Ordinance)			
– Strategische Ziele des BR für die Schweizerische Agentur für Innovationsförderung 2021–2024			
– Rasch wachsende Jungunternehmen in der Schweiz Bericht des Bundesrates in Erfüllung des Postulates 13.4237 Derder vom 12. Dezember 2013 (Entrepreneurship Study)		x	x
– Global Entrepreneurship Monitor Report on Switzerland, 2017-2021			
– SWISS STARTUP RADAR Vol. 4, startupticker.ch, 2021/2022			
Performance and Impact			
– Innosuisse multi-year program 2017-2020	x	x	
– Innosuisse multi-year program 2021-2024			
– Innosuisse Geschäftsberichte 2018-2020			
– Insights of 2018-2020 with Innosuisse			
– Innosuisse Zahlen und Fakten Ende 2018, 2019 und Mitte 2021			
– Innosuisse Startup training webpage	x		
– Start-up training – procurement process PPT			
– Evaluation «KTI-Initiative Entrepreneurship, Education and Training (Programm venturelab)», Schlussbericht Dezember 2007	x	x	
– Wirkung der Innovationsförderung Webpage (all documents)			
– Monitoring report 2016 CTI Entrepreneurship			
– Wirkungsanalyse der F&E Projektförderung Follow-up Sondermassnahmen und F&E-Projektförderung, 2017			
– Wirkungsanalyse der F&E Projektförderung – Phase II Ergebnisbericht, 2019			
– CTI Entrepreneurship: Wirkungsanalyse und Evaluation, 2019			
– Zusammenfassung CTI Entrepreneurship: Wirkungsanalyse und Evaluation, 2019			
– Wirkungsanalyse der F&E-Projektförderung – Phase II Materialienband zur Befragung der Wirtschaftspartner, 2019			
– Wie die Förderung der Innosuisse wirkt: Diskussion ausgewählter Ergebnisse der Wirkungsanalysen aus Phase II, 2019			
– Wirkungsanalyse CTI Start-up Coaching, econcept und Koch consulting, 2019			
– Zusammenfassung Wirkungsanalyse CTI Start-up Coaching, econcept und Koch consulting, 2019			
– Materialienband zur Wirkungsanalyse CTI Start-up Coaching, econcept und Koch consulting, 2019			

Documents	Evaluation	Needs & Trends	Benchmarking
Benchmarking			
<ul style="list-style-type: none"> – SME and Entrepreneurship Policy in Canada (2017), Ireland (2019) and Israel (2016), OECD Study – Entrepreneurship Education at School in Europe, Eurydice Report, 2016 – Supporting Entrepreneurship and Innovation in Higher Education, HEInnovate reports (e.g. Supporting Entrepreneurship and Innovation in Higher Education in Austria, 2019 The Netherlands, 2018 and Ireland, 2017) – The Startup Europe Ecosystem, European Commission, 2018 – Case Studies heinnovate, e.g. University of Turku, Finland – 2020 Global Startup Ecosystem Report – Startup Genom Project Website (Reports on different start-up ecosystems, incl. the USA) – Global Entrepreneurship Monitor GEM 		x	x
<p><i>Singapore:</i></p> <ul style="list-style-type: none"> – A-STAR: Innovation Program (Website) – Singapore Management University: Advanced Certificate in Entrepreneurship: Building your First Startup – Temasek Polytechnic: Innovation and Entrepreneurship Training Programs – Nanyang Technological University: Technopreneurship Centre Trainings 			

Table 19: Documents analysed

A-3 Additional survey results

Diversity of participants in terms of...



econcept

Illustration 22: Diversity of participants in terms of participants' characteristics. Question: «To what extent was the composition of participants diverse in terms of age, gender, educational experience, maturity level of start-up, other?» (n=304).

Main needs of potential participants

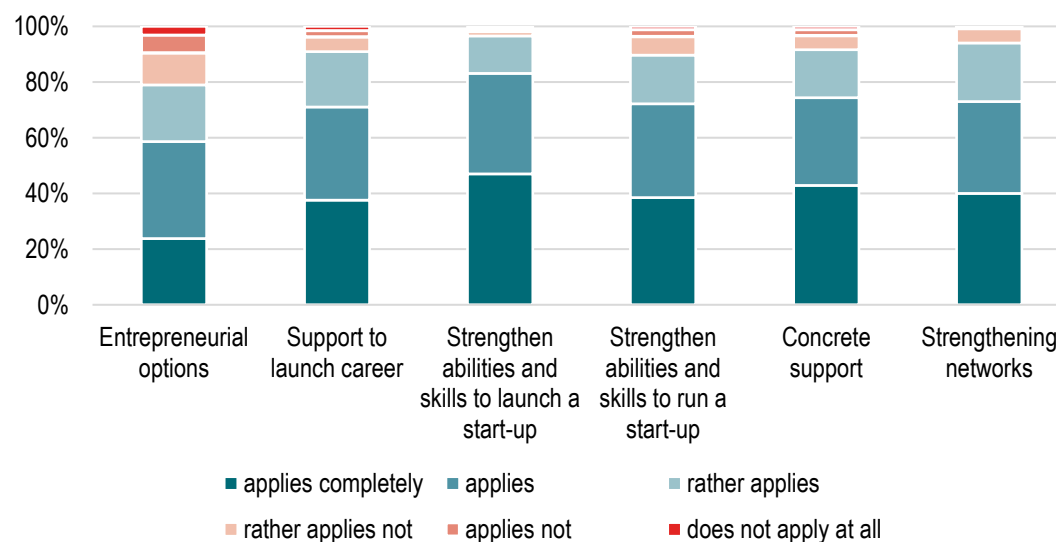


Illustration 23: Main needs of potential participants. «If you think of potential participants: What could be their main needs? Looking for entrepreneurial options/ Looking for support regarding their intention to launch an entrepreneurial career/ Strengthening abilities and skills to launch a start-up/ Strengthening abilities and skills to run a start-up/ Concrete support regarding their start-up/ Strengthening networks» (n=299).

Experience of alignment of Innosuisse instruments

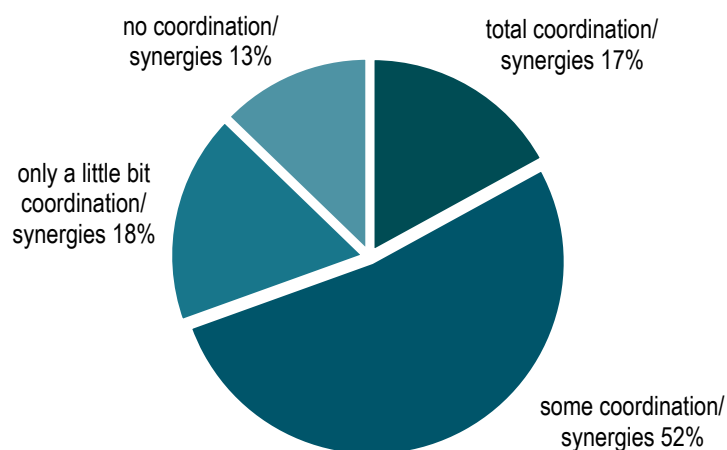


Illustration 24: Experience of alignment of Innosuisse instruments. «Did you experience an alignment of Innosuisse instruments?» (n=141).

Participation in other training offers

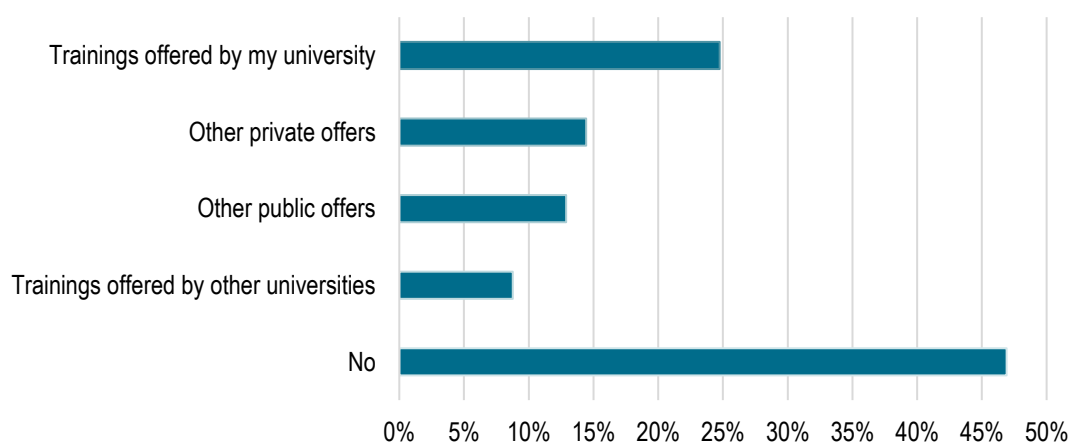


Illustration 25: Participation in other training offers. «Have you taken advantage of other training offers?» (n=194).

A-3.1 Module 1

Importance of Module 1 for entrepreneurial path

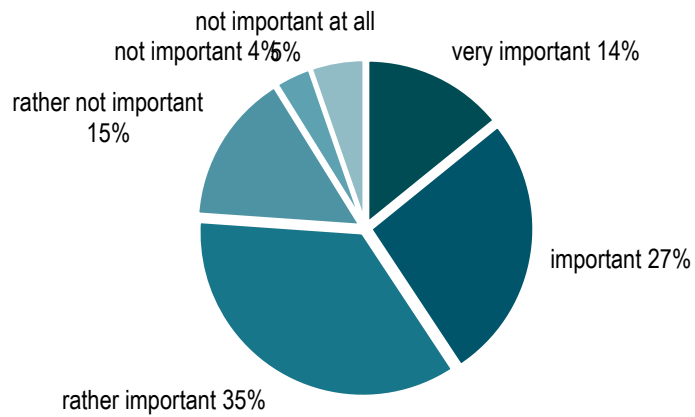


Illustration 1: Importance of Module 1 for entrepreneurial path. « How important was the participation in Module 1 for your entrepreneurial path? » (n=126)

Motivational aspects of Module 1

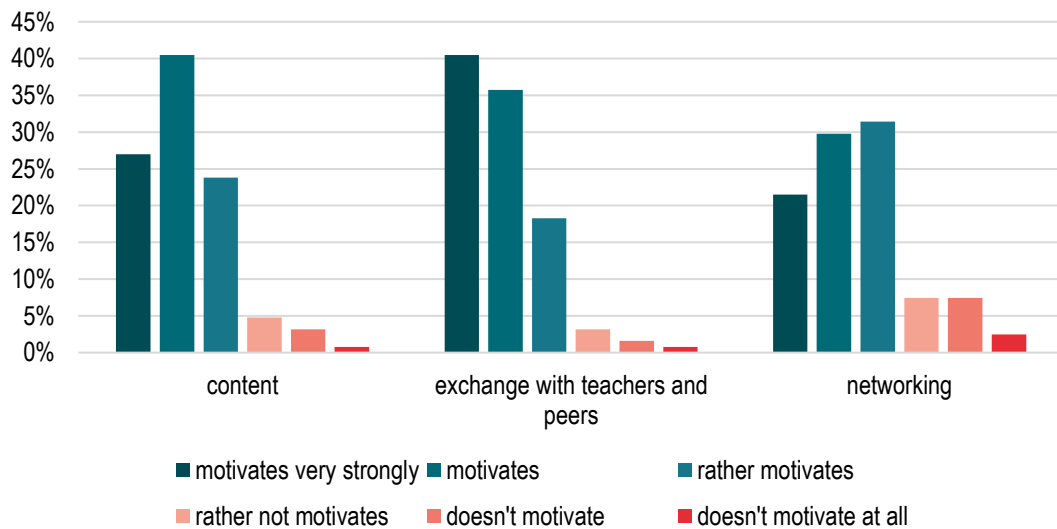


Illustration 27: Motivation in Module 1. «What motivated you in Module 1?» (n=126)

Age at time of participation

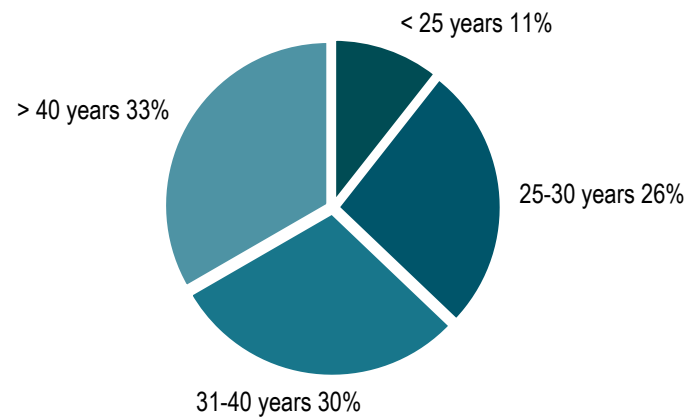


Abbildung 28: Age at time of participation. «Could you please tell us at what age you participated in Module 1?» (n=126)

Start-up stage at time of participation

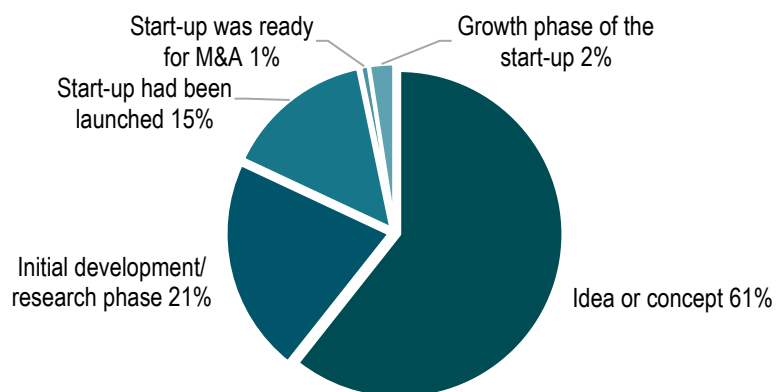


Illustration 29: Start-up stage at time of participation. «At what stage was your start-up when you participated in Module 1?» (n=126)

A-3.2 Module 2

Importance of Module 2 for entrepreneurial path

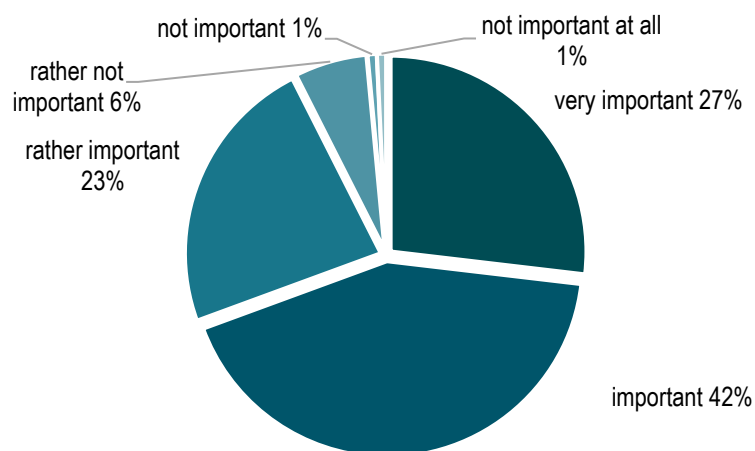


Illustration 30: Importance of Module 2 for entrepreneurial path. «How important was the participation in Module 1 for your entrepreneurial path?» (n=131)

Motivational aspects of Module 2

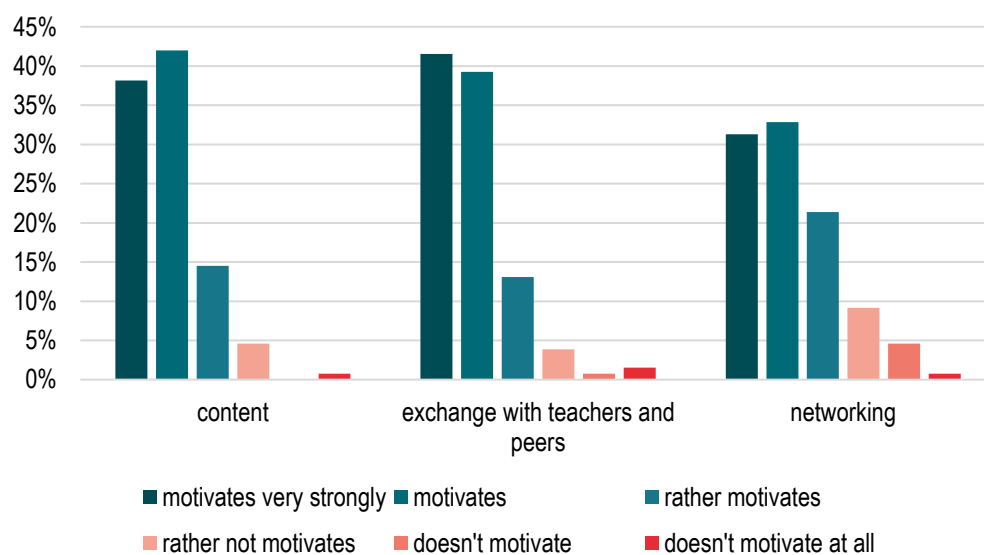


Illustration 31: Motivation in Module 2. «What motivated you in Module 2?» (n=131)

Age at time of participation

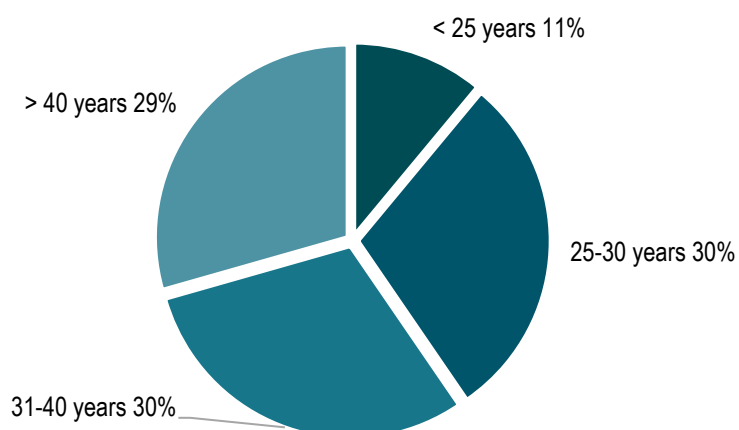


Illustration 32: Age at time of participation. «Could you please tell us at what age you participated in Module 2?» (n=131)

Start-up stage at time of participation

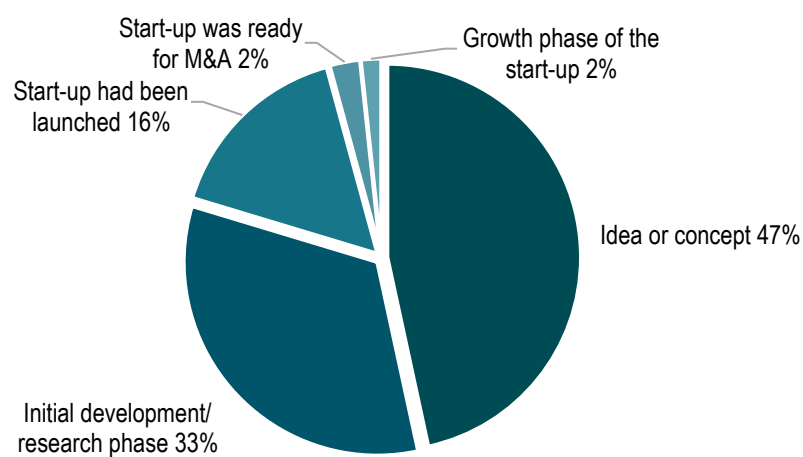


Illustration 33: Start-up stage at time of participation. «At what stage was your start-up when you participated in Module 2?» (n=131)

A-3.3 Module 3

Importance of Module 3 for entrepreneurial path

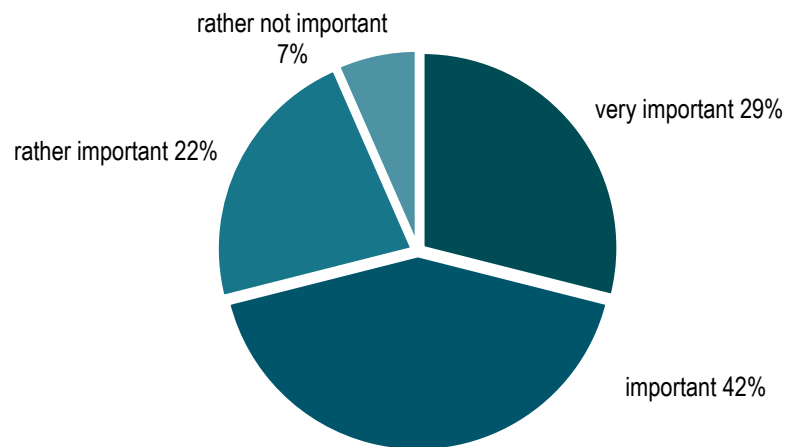


Illustration 34: Importance of Module 3 for entrepreneurial path. «How important was the participation in Module 1 for your entrepreneurial path?» (n=69)

Motivational aspects of module 3

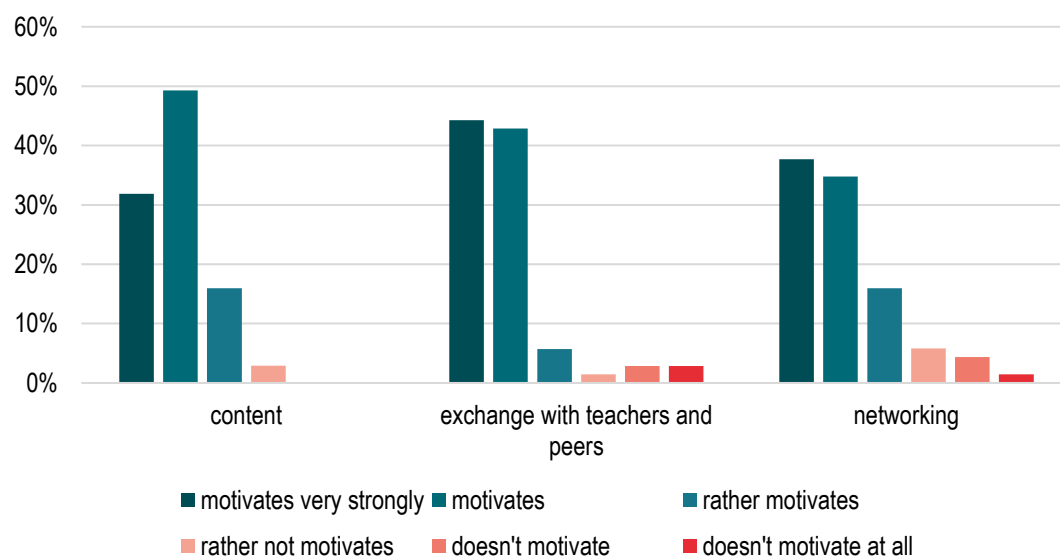


Illustration 35: Motivation in Module 3. «What motivated you in Module 1?» (n=69)

Age at time of participation

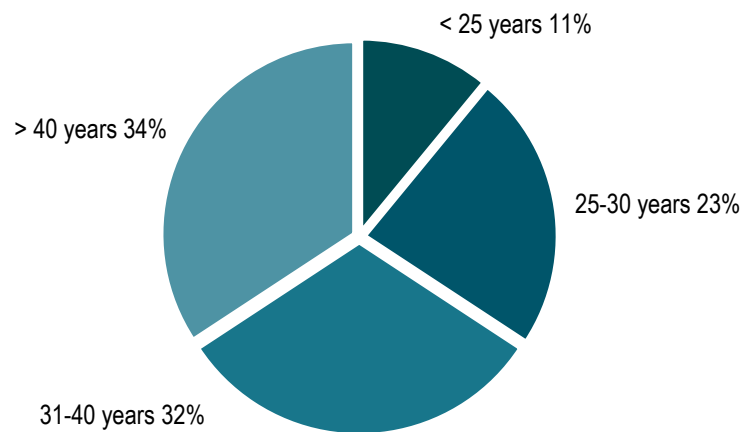


Illustration 36: Age at time of participation. «Could you please tell us at what age you participated in Module 1?» (n=126)

Start-up stage at time of participation

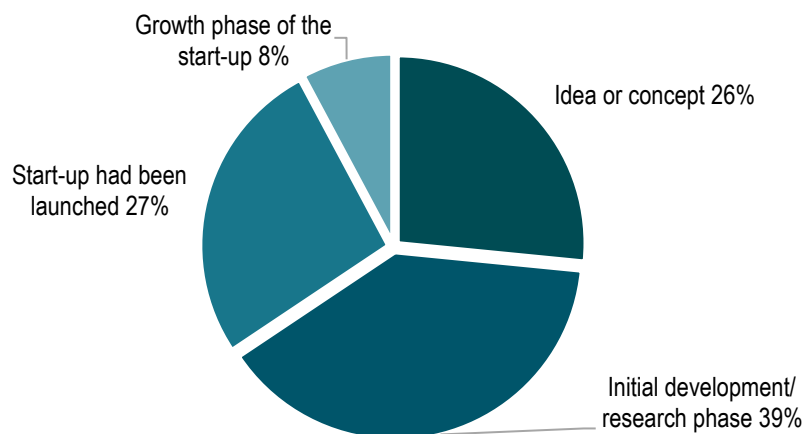


Illustration 37: Start-up stage at time of participation. «At what stage was your start-up when you participated in Module 3?» (n=69)

A-3.4 Module 4

Importance of Module 4 for entrepreneurial path

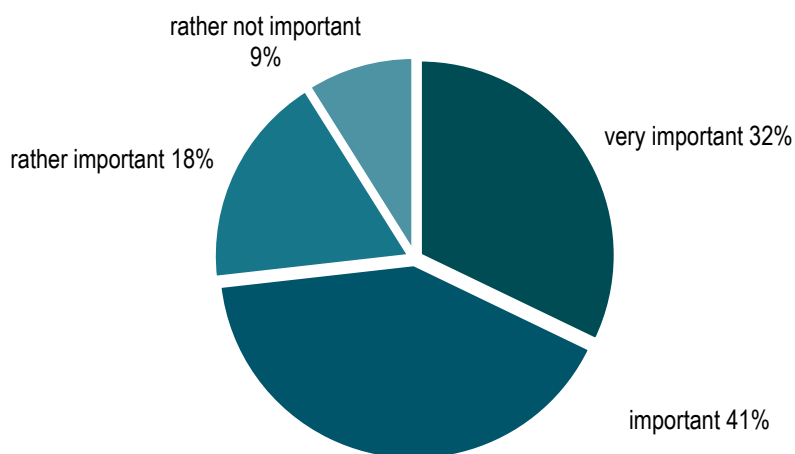


Illustration 38: Importance of Module 4 for entrepreneurial path. « How important was the participation in Module 4 for your entrepreneurial path?» (n=54)

Motivational aspects of module 4

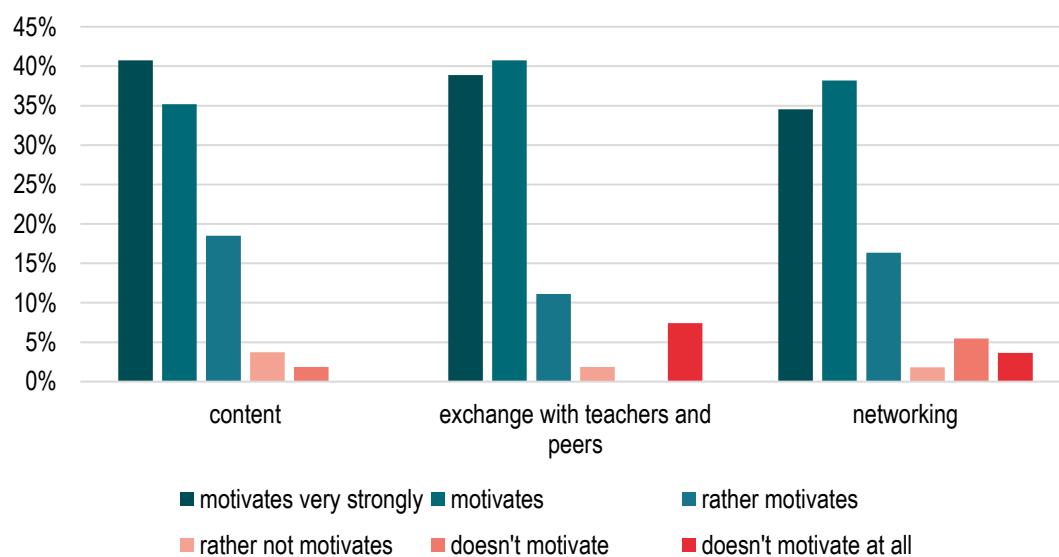


Illustration 39: Motivational aspects of Module 4. «What motivated you in Module 4?» (n=54)

Age at time of participation

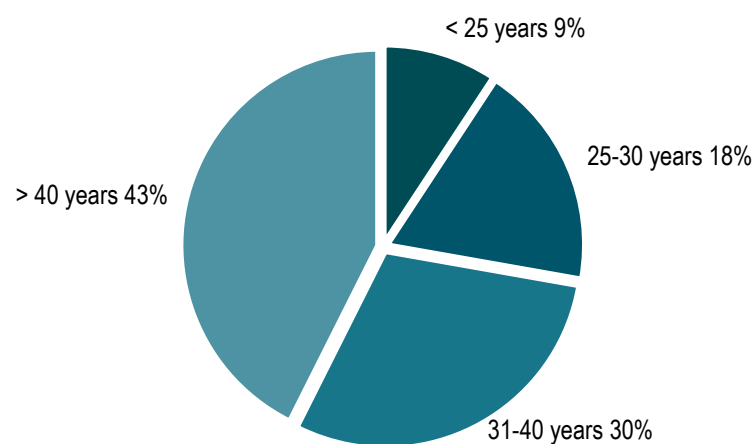


Illustration 40: Age at time of participation. «Could you please tell us at what age you participated in Module 4?» (n=54)

Start-up stage at time of participation

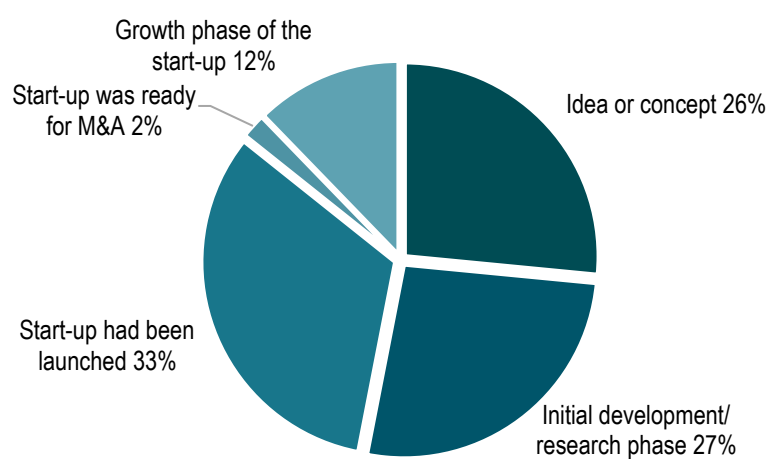


Illustration 41: Start-up stage at time of participation. «At what stage was your start-up when you participated in Module 4?» (n=54)

A-4 Literature

The following literature supported needs and trend analysis as well as the benchmarking.

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- Sontag, K. (2018): *Mobile Entrepreneurs. An Ethnographic Study of the Migration of the Highly Skilled*, Opladen, Berlin, Toronto: Budrich UniPress Ltd.
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A-5 Expert Interviews

The following table shows the list interviewees that were contacted for the purpose of the holistic analysis. The crossed-out interviewees did not respond to our request.

Name	Institution, function	Remark	Workshop 08.03.22	Meeting 23.03.22
<i>Biographical interviews with successful entrepreneurs who participated in an Innosuisse training or awareness-raising activity (n=6)</i>				
N.N.	<i>Tbd according to feedback online survey program</i>			
<i>Interviews with Innosuisse and support group (n=6)</i>				
Christoph Falk	Innosuisse, Deputy Head Start-ups and Next-Generation Innovators Division, Adjunct Researcher, University of Bergen	Support Group		x
Michel Bénard	Self-employed, expert and consultant	Support Group	x	x
Nicoletta Casanova	FEMTOprint SA, CEO, President, BRIDGE, President Steering Committee (<i>Ticino</i>)	Innosuisse, Innovation Council		
Prof. Philippe Renaud	EPFL, Professor	Innosuisse, Innovation Council		
Alois Zwinggi	Innosuisse, Chair of the innovation council, World Economic Forum, Member of the Managing Board	Innosuisse, Innovation Council		
<i>Interviews with providers and lecturers</i>				
<i>Criteria for selection: regional representation, fields, gender, strategic and operational level</i>				
Prof. Arthur Baldauf	University of Bern, Director of the Department of Management	Representative of current training providers		
Lan Zuo Gillet	Science 2 Market (EPFL), Program Director	Representative of current training providers		
Jordi Montserrat	Venturelab, Co-Founder and managing partner	Representative of current training providers		
Virginia Schumacher	University of Basel, former Project Lead (fempreneurs)	Representative of current training providers		
Olga Dubey	AgroSustain AG, CEO (Foodtech)	Trainer		
Ben Graziano	STARTUP CAMPUS, Head of the Innosuisse Business Concept Course	Trainer		
Sarah-Maria Nordt	Talentkick, Program Integration HSG	Representing support outside Innosuisse		

Name	Institution, function	Remark	Workshop 08.03.22	Meeting 23.03.22
<i>Interviews with experts</i>				
<i>Criteria for selection: regional representation, fields, gender, strategic and operational level</i>				
<i>National Experts</i>				
Salome Aggeler	Seiler Käserei, Head of Marketing, Communication and Programs (Former Venture Lab)	Coaching		
Ulf Claesson	ETH Zurich, External Lecturer for Chair for Technology Entrepreneurship	Teaching		
André Catana	EPFL, Head of the Startup Unit	Teaching		
Johann Schlieper	Business Angels Switzerland, President	Investor		
Pascale Vonmont	Gebert Rüt Stiftung, Director	Funding		
<i>International Experts</i>				
Corine Thommen	Swissnex San Francisco, Head of Impact Programs	Networking, USA		
Kirsten Tangemann	Social Business Hub Styria, Board member	Incubator, Austria		

Table 20: Persons interviewed and/or participating in the validation workshop and the final meeting.

A-6 Generic Questionnaire

Remark: The generic questionnaire was tailor-made regarding the target group.

Introduction

- 1 **Your position and function:** Could you please briefly introduce yourself as well as describe your position and function.
- 2 **Your connection to Innosuisse:** What is your connection and engagement with regards to Innosuisse and its Start-up Training Programme?

Objectives, target group and design of the offering

- 3 **Objectives of the Programme:** How would you describe the main objectives of the Start-up Training Programme?
 - 3.1 To what extent are the structure and the implementation of modules oriented towards these objectives?
 - 3.2 What is the USP of the Start-up Training Programme compared to other programmes?
 - 3.3 Where do you see the major challenges and opportunities for the future of the Programme?
- 4 **Target groups of the Programme:** How would you describe the target groups of the Start-up Training Programme provided/ supported by Innosuisse?
 - 4.1 What are main characteristics of the target groups?
 - 4.2 What factors motivate individuals in general at different stages of their projects (idea, concept, creation, growth)?
 - 4.3 What factors motivate individuals to stick to or to leave their entrepreneurial path?
 - 4.4 What factors motivate individuals at different stages of their projects to participate in a Start-up Training Programme in general?
 - 4.5 To what extent would these individuals also be interested in other offers of Innosuisse?
 - 4.6 What are potential further target groups? To what extent would they benefit from the offer? What would be the impact of addressing additional target groups?
- 5 **Design of the Programme:** To what extent is the design of the offering tailored to the needs of the target group? What alternative designs of the offering could be envisaged taking better into account the needs of the target group?
- 6 **Coherence of the Programme with other Innosuisse instruments:** To what extent are the Innosuisse instruments coherent? To what are synergies exploited with other Innosuisse instruments (e.g. coaching programme, innovation projects, Bridge)?

Participants and their satisfaction

- 7 Participants of the Programme:** How would you characterise the participants of the Start-up Training Programme?
- 7.1 To what extent do the participants correspond to the target group?
- 7.2 What factors and «customer journeys» motivate participants to join the programme? The different modules?
- 7.3 Is there an ideal composition of participant groups (e.g. age, education, gender, maturity level, etc.)?
- 7.4 What factors motivate participants to stick to or to leave their entrepreneurial path?
- 8 Content of the modules:** To what extent are the contents of the modules and courses tailored to the needs of the participants? Are there different appreciations according to the different modules?
- 8.1 To what extent are the modules able to create an entrepreneurial mind set (spill-over effects)?
- 8.2 To what extent are the individual modules able to influence the intention and motivation to start a business?
- 8.3 To what extent do the modules impact the design and successful development of a newly founded business?
- 8.4 Could you envisage other forms of course formats that would benefit the needs of the participants?
- 9 Satisfaction of participants:** To what extent are participants satisfied with the modules (content, lectures, organisation, communication, etc.)? Are there different appreciations according to the different modules?

Integration in the ecosystem and impacts

- 10 Ecosystem:** How would you describe the regional ecosystems of the Start-up Training Programme? Where are overlaps, complementarities and duplications?
- 10.1 To what extent is the Programme integrated in the regional ecosystem?
- 10.2 To what extent are there co-operations, co-dependencies and interdependencies of the Programme with
- universities?
 - transfer offices?
 - business incubators?
 - other providers?
- 11 Impact of the Programme:** How would you assess the overall impact of the Programme on the regional ecosystems?

- 11.1 To what extent does the Programme impact the participation of other Innosuisse support measures?
- 11.2 What is the impact of the Programme on the businesses of providers?
- 11.3 To what extent does the Programme foster diversity in the start-up ecosystem?
- 11.4 To what extent does the Programme impact the sustainability of start-up business models?
- 11.5 What is the added value of the Programme? What would get lost if the Programme ceased to exist?

Specific aspects

- 12 Impact of Covid:** How would you assess the influence of the Covid-pandemic on participants and their participation in the Programme? With regards to different modules?
- 13 Impact of digital education:** How would you assess the influence of an increased use of the digital education format on the participation in the Programme? To what extent were participants lost or gained when the course offering switched online?
- 14 Other aspects:** Are there additional aspects you would like to mention with regards to the Programme? What could an Innosuisse Start-up Training Programme look like in 2030?

Thank you for sharing your time and expertise!

A-7 Online-Questionnaire

Questionnaire Online-Survey of Participants 2018-2021

Introduction, Start, Information

Ladies and Gentlemen

On behalf of Innosuisse, econcept evaluates the Innosuisse Start-up Training Programme. Thereby, your experience as a former participant of a start-up training will be important. Your answers, impressions and assessments will provide a crucial basis for this evaluation.

Thank you for taking 15 minutes to complete this survey and for assisting us in this evaluation. Your answers will be anonymized and kept confidential, they will be used for this holistic analysis only. Thus, it will not be possible to draw conclusions about individual persons, start-ups or other organisations.

If you have any questions or comments about the evaluation or the survey, please do not hesitate to contact vorname.name@econcept.ch.

Best regards from the econcept evaluation team!

Reminder

Dear Sir or Madam

econcept evaluates the Innosuisse Start-up Training Programme on behalf of Innosuisse.

Two weeks ago, we contacted you to invite a member of your core management team to participate in this online survey. Completing the questionnaire should take approximately 20 minutes.

We kindly remind you to fill in the questionnaire **by DAY, DATE** at the latest. Please use the following link to access the questionnaire: [LINK](#)

In view of answering the evaluation questions a high and representative response rate will be important. Your experience matters for future start-up training programmes! Thank you for your participation!

Your answers will be anonymized and kept confidential; they will be used for this holistic analysis only. The results of the evaluation will not permit any association with you or your start-up company.

If you have any questions or remarks, please do not hesitate to contact vorname.name@econcept.ch, project manager at econcept AG.

Best regards from the econcept evaluation team!

Frontpage Online-Survey

Welcome!

We would greatly appreciate your participation in this survey. We rely on a high response rate to be able to come up with significant results.

econcept and Innosuisse thank you for participating in this survey!

Notes on question types

SA: Single answer, MA: Multiple answers, open: Open answer, MQ: Mandatory question

Questions highlighted in grey correspond to the online survey on start-up funding 2018The holistic analysis

Personal information

Could you please tell us at what age you participated in a start-up training programme? (SA, MQ)

<25

< 25-30

31-40

41-50

> 50

May we ask you about your gender? (SA, MQ)

Female

Male

Other

No answer

Please inform us about your educational degree. (SA, MQ)

BA

MA

PhD

Professor

other (open)

No answer

Please inform us about the sector, in which you are predominantly active. (SA, MQ)

Biotech & Pharma

Medtech & Diagnostics

Energy & Green-Tech

Engineering
 Micro- und Nanotech
 Information and Communications Technologies (ICT)
 Interdisciplinary High-Tech
 other (open)

At what stage of development is your start-up today? (MA)

Idea or concept
 Initial development / research phase of product(s)/service(s)
 Testing phase of product(s)/service(s)
 Product(s)/service(s) ready for sale or delivery
 Start-up ready for M&A or sale of product rights
 Start-up is in the process of being sold.
 No answer

Are you still involved in this start-up? (SA, MQ)

Yes, I am owner or member of the core management team.
 No, I am not involved anymore. The start-up does not exist anymore.
 No, I am not involved anymore. The start-up has been sold.
 No, I am not involved anymore. I left the start-up.
 Other: (open)

How would you rate the success of your start-up? (SA)

Very successful
 Successful
 Rather successful
 Rather not successful

Is your start-up a spin-off from a higher education and research institution? If so, from which of the following? (SA, MQ)

No spin-off
 Universität Basel
 Universität Bern
 Universität Fribourg
 Université de Genève
 Université de Lausanne
 Universität Luzern
 Université de Neuchâtel
 Universität St. Gallen
 Universität Zürich
 EPF Lausanne
 ETH Zürich
 Research institution of the «ETH-Domain» (Eawag, WSL, Empa, PSI)

CSEM

Berner Fachhochschule BFH

Fachhochschule Nordwestschweiz FHNW

Fachhochschule Ostschweiz FHO

Hochschule Luzern HSLU

Zürcher Fachhochschule ZFH

Haute école spécialisée de Suisse occidentale HES-SO

Scuola universitaria professionale della Svizzera italiana SUPSI

Kalaidos Fachhochschule

Pädagogische Fachhochschule / Haute école pédagogique

Other publicly funded research institutions

University outside Switzerland

None of these

No answer

Start-up Training Modules

What motivated you to participate in the program? (MA)

I was looking for entrepreneurial options

I had a desire to take on an entrepreneurial career

I was looking for support regarding my business idea

I wanted to strengthen my abilities and skills in view of an entrepreneurial path

I wanted to strengthen my knowledge and knowhow regarding an entrepreneurial path

I wanted to strengthen my networks

I was looking for support regarding my intention to launch an entrepreneurial career

I was looking for support regarding my behaviours

Something else motivated me (open)

Which modules did you attend? (MA)

Modul 1: Sensitization / Awareness, Desire / Attitude / Business Idea

Modul 2: Abilities, Skills, Knowledge, Networks

Modul 3: Intention

Modul 4: Behaviour

In what areas have you benefited from attending the Programme? (MA)

It made me aware of entrepreneurial options

It supported my desire to take on an entrepreneurial career

It supported my business idea

It supported my abilities and skills in view of an entrepreneurial path

It supported my knowledge and knowhow regarding an entrepreneurial path

It supported my networks

It supported my intention to launch an entrepreneurial career

It changed my behaviours

It supported me in other ways (open)

How important was the participation for your entrepreneurial path? (SA)

(1=not important, 4=very important)

Modul 1: Sensitization / Awareness, Desire / Attitude / Business Idea**How satisfied were you with the content of Module 1? (SA)**

(1=total dissatisfaction, 4=total satisfaction)

How satisfied are you with form and organisation of Modul 1? (SA)

(1=total dissatisfaction, 4=total satisfaction)

What motivated you most in Module 1? (MA)

The content of the module

The organisation of the module

The exchange with teachers and peers

Other

Modul 2: Abilities, Skills, Knowledge, Network**How satisfied were you with the content of Modul 2? (SA)**

(1=total dissatisfaction, 4=total satisfaction)

How satisfied were you with form and organisation of Modul 2? (SEA)

(1=total dissatisfaction, 4=total satisfaction)

What motivated you most in Module 2? (MA)

The content of the module

The organisation of the module

The exchange with teachers and peers

Other

Module 3: Intention**How satisfied were you with the content of Modul 3? (SA)**

(1=total dissatisfaction, 4=total satisfaction)

How satisfied are you with form and organisation of Modul 3? (SA)

(1=total dissatisfaction, 4=total satisfaction)

What motivated you most in Module 3? (MA)

The content of the module

The organisation of the module

The exchange with teachers and peers

Other

Module 4: Behaviour

How satisfied were you with the content of Modul 4? (SA)

(1=total dissatisfaction, 4=total satisfaction)

How satisfied were you with form and organisation of Modul 4? (SA)

(1=total dissatisfaction, 4=total satisfaction)

What motivated you most in Module 4? (MA)

The content of the module

The organisation of the module

The exchange with teachers and peers

Other

What format did you prefer? (MA)

Full-day bootcamps

10-week long courses / one evening per week (in-presence)

10-week long courses / one evening per week (on-line)

other (open)

To what extent could the offer be better adapted to your needs? (MA)

Regarding the content of the offer: (open)

Regarding the form and organisation of the offer (open)

Influence of the Covid-pandemic

How did the pandemic impact the quality of the training? (SA)

Not at all

Only a little bit

Rather strongly

Strongly

In what way did you lose or gain when the offering switching to online?

Lost (open)

Gained (open)

Needs of (potential) participants

If you think of potential participants: What could be their main needs? (MA)

Sensitization / Awareness,

Desire / Attitude

Business Idea

Knowledge and knowhow

Abilities and skills

Network
 Intention
 Behaviour
 other (open)

Diversity

To what extent was the composition of participants diverse in terms of age, gender, education, maturity level, background? (SA)

(1=not diverse, 4= highly diverse, I can't say)

If 1 or 2: In which areas was diversity lacking? (MA)

Age
 Gender
 Education
 Maturity level
 Background
 Industrial fields

Additional support offers

Have you taken advantage of other support offers of Innosuisse? (MA)

BRIDGE programme
 Start up coaching
 Camps
 International exhibition
 Patent search
 other (open)
 none

Did you experience an alignment of Innosuisse instruments? (SA)

(1=no coordination/synergies, 4= total coordination / synergies, I can't say.)

Have you taken advantage of other training offers? (MA)

No, I did not participate in other trainings
 I attended trainings offered by of my university
 I attended trainings offered by other universities
 I attended other offers (open)

Final remarks

Would you be interested in an in-depth interview regarding your career path?

If so: Please provide us with your email-address (open)

Would you like to add any additional remarks / feedback? (open)

A-8 Biographical Interviews

Introduction

The interviewer explains the context of the holistic analysis of the Innosuisse startup programmes and the setting of the biographical interviews with start-up founders who are former participants of the Programme:

1. Thank you for participating in this interview and for agreeing to share your story.
2. For a start, could you please present yourself and your start-up (size, industry etc.)?

Entrepreneurial path

3. What made you become a startup founder in the first place? Please, elaborate on how you decided to take an entrepreneurial path. How would you describe the journey from having the first idea to funding your start-up?
4. How did you found your start up? What were crucial moments, both successes and backlashes.

Training and support

5. Did you attend any trainings events or participated in awareness-raising activities? To what extent were they pivotal for you as a startup founder and for your startup? How did you benefit? Please, elaborate on knowledge, skills, network, other.
6. If no, what other moments or aspects helped you become a startup founder?
7. In retrospective, what would you have needed to have pursued a smoother path towards becoming a startup founder?

Wrap up

8. Do you have additional thoughts regarding an ideal set of environment/ context, support, network, skills, knowledge etc. someone needs when aiming at creating a startup?

A-9 International benchmarking – details

Provider	Description	Free of charge	Interdisciplinarity/	Start-up/ business plan required	Modular structure
MIT	Different Entrepreneurship/ Startup Courses: https://executive.mit.edu/course-finder?prefn1=courseTopics&prefv1=Entrepreneurship&start=0&sz=12		X		(X)
	Free Online Courses (9 relating to entrepreneurship): https://www.edx.org/school/mitx , i.a. «Becoming an Entrepreneur»	(X)	X		(X)
	MIT Global Startup Labs: aims to provide for students from all over the world design and management skills needed in the process of creating a technology startup / https://gsl.mit.edu/mit-global-startup-labs MIT Enterprise Forum CEE: provides financial, legal and consultancy support to startup founder from the CEE region / https://mitefcee.org/#tab2-section	X	X	(X)	
Stanford	Entrepreneurship courses including Startup Fundamentals Courses https://www.gsb.stanford.edu/experience/learning/entrepreneurship/courses Startup Garage: Startup Garage is an intensive, hands-on, project-based course in which student teams design and test new business concepts that address real-world needs / https://www.gsb.stanford.edu/experience/learning/entrepreneurship/courses/startup-garage	(X)	(X)		X
Draper University, USA	Program 01: Fundamentals of Entrepreneurship: The Program is delivered through online lectures by Silicon Valley Experts and Founders and includes 5 sessions of 1-1 Mentoring with Worldwide industry experts, mentors and investors committed to supporting you on your entrepreneurial journey https://www.draperuniversity.com/fundamentals-of-entrepreneurship		X		
	Program 02: Hero Training Program: Intensive, immersive five-week entrepreneurship program. You'll develop the essential startup skills you need to launch and sustain a successful venture, gain exposure to industry experts and network with other like-minded entrepreneurs who share your vision of changing the world. https://www.draperuniversity.com/hero-training-entrepreneurship-program-in-silicon-valley		X		
US Universities/ U.S. SBA	Small Business Administration is the national funding agency for the support of SMEs which also supports entrepreneurship education for entrepreneurs. Free business council is amongst is the offered particularly for entrepreneurs (https://www.sba.gov/local-assistance/find) Many universities offer specific training programs and other support offers for entrepreneurs with support of SBA and other State-based or regional associations; Often, SCORE, the largest network of free volunteer small business mentors in the US is an additional partner. For example, Kutztown University in collaboration with SBA and other funding partners offers an Online Learning Programs for entrepreneurs. (https://www.kutztown.edu/about-ku/administrative-offices/small-business-development-center/resources/free-online-learning-programs.html)	(X)	-	-	-

Provider	Description	Free of charge	Interdisciplinarity/	Start-up/ business plan required	Modular structure
HELSEED, Helsinki University	HELSEED is a student startup programme encouraging students to entrepreneurial path. Programme also aims to support and provide information to startup teams at different stages. Helsinki University Funds will make €10,000–€50,000 seed investments to most promising startups. The programme is organised by the University of Helsinki and Helsinki Think Company. Students can also earn 1-3 ECTS credits. 4 workshops in fall (1 day each): Creating a business plan / Investor's insights/ Startup legalities + Q&A / Pitch clinic https://www.helsinki.fi/en/about-us/strategy-economy-and-quality/university-finance/helseed	X	X		
Aalto University, Finland	Starting Up online course : Starting Up online course covers the fundamentals of startup entrepreneurship. The course is free for all. https://www.aalto.fi/en/study-at-aalto/starting-up-online-course https://courses.reaktor.education/en/courses/startingup/	X	X		
Uppsala University, Sweden	Entrepreneurship module: This course prepares participants for a future career as entrepreneurs and founders of new companies. They gain practical insights into those aspects of running a business that are particularly salient during the early development of a new company. https://www.uu.se/en/admissions/freestanding-courses/course/?kKod=2FE105&lasar=18/19&typ=1		X		
Stockholm University, Sweden	Execution - Running Your Own Company: The course focuses on supporting you in your decisions and other action in the new business venture. It is assumed that you will formulate a business idea to be realized, and have a genuine interest in potentially pursuing this business idea. The course will focus on strategy, people and operational work. / https://www.su.se/english/search-courses-and-programmes/fe6602-1.412062	(X)	X		
Lund University,	Sten K. Johnson Centre for Entrepreneurship: Master's Program and various courses in entrepreneurship https://lusem.lu.se/entrepreneur/education	(X)	(X)		
Coursera	Startup (121 results): https://www.coursera.org/search?query=startup&utm_source=gg&utm_medium=sem&utm_campaign=93-BrandedSearch-BidTest-ROW&utm_content=B2C&campaignid=1599063752&adgroupid=58953588405&device=c&keyword=corsera&matchtype=b&network=g&deviceid=&adpostion=&creativeid=303554599587&hide_mobile_promo=&gclid=EAlaIqobChMlyfy236fy9QIVD6h3Ch1sfAADEAAYASAAEgJMyyD_BwE Entrepreneurship (1800 results): https://www.coursera.org/search?query=Entrepreneurship&utm_source=gg&utm_medium=sem&utm_campaign=93-BrandedSearch-BidTest-ROW&utm_content=B2C&campaignid=1599063752&adgroupid=58953588405&device=c&keyword=corsera&matchtype=b&network=g&deviceid=&adpostion=&creativeid=303554599587&hide_mobile_promo=&gclid=EAlaIqobChMlyfy236fy9QIVD6h3Ch1sfAADEAAYASAAEgJMyyD_BwE	-	-	-	-
Startup Experience	Workshops for startups at different American universities (Stanford, NYU, Johns Hopkins University, UCLA etc.) / 3 options: Launch, Accelerate und Canvas https://www.startupexperience.com/college/ Online Kurse: https://www.startupexperience.com/store	-	-	-	-

Provider	Description	Free of charge	Interdisciplinarity/	Start-up/ business plan required	Modular structure
Startup Sweden,	Swedish Agency for Economic and Regional Growth: In particular two programs, both with focus on tech startups. / National Bootcamps & Market Access Programs / https://tillvaxtverket.se/english/startup-sweden.html				
FFG	Österreichische Forschungsförderungsgesellschaft FFG -offers support and services ranging from idea development (Spin-off Fellowship, innovation check, patent check, Impact Innovation), product development (Projekt.Start, Startup-Förderung) to market introduction (Markt.Start). / https://www.ffg.at/startups	X	X		
aws	Austria Wirtschaftsservice GmbH JumpStart Inkubatoren: Support for 20 incubators in 4 calls between 2015 and 2020, offering a wide variety of services. Funding for startups (20,000.-) to use services at JumpStart incubators, Typical services offered: Training on business models, pitching, team building, IP consulting, funding, partly very specific offers such as coaching on a personal level, serious gaming, VR glasses, and partly operational support (sales, design, marketing). / https://www.aws.at/aws-jumpstart/	X	X		
Wirtschaftskammer Österreich	Various services, including: WIFI Entrepreneur Service - coaching for young entrepreneurs / rocket science - the WKW Startup Academy (workshop series) Workshops for founders / Founder Service / https://www.wko.at/service/w/innovation-technologie-digitalisierung/startup.html	X	X		
TU Wien	The Competence Center for Entrepreneurship and Innovation offers various support services for researchers and students of TU Vienna: Pitching Events, Conferences, StartAcademy, etc. For students, a separate Diploma Supplement in Innovation and Entrepreneurship is offered (2 semesters, 30 ECTS). / https://i2c.tuwien.ac.at/	X	X		
Großbritannien	Promotion of training and mentoring (by mentors) of university researchers with the aim of developing a business plan under the publicly funded ICURE program (Innovation to Commercialisation of University Research), a team is formed, consisting of researcher/, business advisor (mentor) and contact person from the university side (from TTO), the program is funded by Innovate UK. The program consists of the following components: Bootcamp Training / 3 months of Market Validation / Customer fit bootcamp / Route to Market Bootcamp / Pitch training / Options Roundabout Pitches / Commercialisation planning Support / https://www.ukri.org/councils/innovate-uk/	X	X		
New Frontiers Programme, Enterprise Ireland & Irish Government	New Frontiers is the national entrepreneurial development programme for ambitious early-stage entrepreneurs with innovative business ideas which have the potential to scale and provide employment. It offers a combination of practical and interactive workshops, personalised mentorship, co-working space, and funding. / https://www.newfrontiers.ie/about	X	X		X

Provider	Description	Free of charge	Interdisciplinarity/	Start-up/ business plan required	Modular structure
HPSU (High Potential Start-Up) Support, Enterprise Ireland	https://www.enterprise-ireland.com/en/Start-a-Business-in-Ireland/Supports-for-High-Potential-Start-Ups/ SPRINT Investor Ready Programme Program for acquisition of financing through investors https://www.enterprise-ireland.com/en/management/learn-skills-to-start-and-develop-your-business/hpsu-sprint-programme.html Enterprise START Programme / Workshops / https://www.enterprise-ireland.com/en/Events/OurEvents/EnterpriseSTART-Programme/EnterpriseSTART-Programme.html	X	X		
Startup SG, Enterprise	Various programs for startups in different stages https://www.startupsg.gov.sg/programmes/				
National University of Singapore	Various programs for startups offered by the business school and the NUS Enterprise arm of NUS ; NUS Enterprise promotes entrepreneurship and cultivates global mind-sets and talents through the synergies of experiential entrepreneurial education, industry partnerships, entrepreneurship support and outreach. / e.g. "Be an Entrepreneur: Steps to a Successful Business" / https://business.nus.edu.sg/programmes/be-an-entrepreneur-steps-to-a-successful-business/ https://enterprise.nus.edu.sg/about-us/about-nus-enterprise/		X		X
Reactor School, Singapore	Business School focused on Entrepreneurship with the slogan: #1 Startup School for Student Entrepreneurs Age 18-24 in Southeast Asia https://www.reactor.school/about-us		X		X
Singapore Polytechnic	The course is designed to help students build an entrepreneurial mindset. / https://www.sp.edu.sg/pace/courses/course-type/short-modular/open-for-roi/entrepreneurship		X		
The Hebrew University	The Hebrew University Executive Innovation and Entrepreneurship Program / http://bschool-8-21.huji.ac.il/bs/Innovation/		X		
Hebrew University Business School	The International StartUp 360° MBA / https://imba.huji.ac.il/startup		X		
AIT STARTUPS	Gefördert durch SBFI (Sponsor), Fokus Zusammenarbeit CH mit Lateinamerika https://www.aitstartups.org/	X	X		

Table 21: International benchmarking

Germany

Germany, Focus in largest and most well-known activities

For an overview see also: <https://www.fuer-gruender.de/wissen/existenzgruendung-planen/selbststaendig-machen/universitaet/>

For Berlin: <https://www.berlin-partner.de/unsere-services/innovation-service/transfer-allianz/gruendungszentren>

Provider	Description	Free of charge	Interdisciplinarity	Start-up/ business plan required	Modular structure
TUM	TUMentrepreneurship, Technische Universität München Different offers (e.g. knowledge, networking, advice by experienced founders, qualification, etc.) for different target groups (from interested individuals to founders)./ https://www.tum.de/innovation/entrepreneurship/ StarTUM - The Integrated TUMentrepreneurship Education Approach / https://www.tum.de/innovation/entrepreneurship/fuer-gruendungsinteressierte/education	(X)	X		X
RWTH Aachen	RWTH Innovation Entrepreneurship , 3 Steps; 1 Learn & Connect 2 Ideation Programm 3 Incubation Program Plus Co-Gründerbörse https://www.rwth-aachen.de/cms/root/Studium/Nach-dem-Studium/~iibzo/Start-up-gruenden/	(X)	X		X
LMU	LMU Innovation & Entrepreneurship Cente , Ludwig-Maximilians-Universität München Wide range of offers from exchange to workshops incl. incubator / https://www.iec.uni-muenchen.de/index.html	(X)	X		X
Universität Mannheim	Mannheim Center for Entrepreneurship and Innovation, Universität Mannheim Wide range of offers, e.g. Startup Sparring, and DesignLAB and various events / https://www.mcei.de/startup-support/mcei-support/startup-sparring	(X)	X		X
TU Berlin	Technische Universität Berlin : Broad offering: StarTUP Inkubationsprozess, Workshops & Events, StarTUP School (qualification) funding and competitions/ https://www.tu.berlin/entrepreneurship/startup-support/	(X)	X		X
BRIDGE	BRIDGE - Gründen aus Bremer Hochschulen : Coures, Workshops, Competitions https://www.uni-bremen.de/kooperationen/uni-wirtschaft/wissens-und-technologietransfer/existenzgruendung	(X)	X		X

Provider	Description	Free of charge	Interdisciplinarity	Start-up/ business plan required	Modular structure
SUPRA	The Start-up-Manufaktur of the Bonn-Rhine-Sieg University of Applied Sciences is the first point of contact for people interested in starting a business and offers a comprehensive range of services in the form of advice, events and courses on the topic of start-ups. https://www.h-brs.de/de/start-up-manufaktur//ueber-uns	(X)	X		X
StartUP NORD°OST°,	Universität Greifswald Neubrandenburg und Hochschule Stralsund ., Association of the University of Greifswald and the universities in Neubrandenburg and Stralsund. StartUP NORD°OST° provides practical assistance to students and researchers at universities and scientific institutions in the region in implementing their business ideas and transferring research results to start-ups. https://www.hochschule-stralsund.de/forschung-und-transfer/wissens-/technologie-transfer/gruendungsagentur-stapellauf-nordost/	X	X		X
Universität Bonn	enaCom : Different types of funding, also coaching and counselling as well as idea check or co-working spaces https://www.uni-bonn.de/de/forschung-lehre/transferecenter-enacom/gruenden	X			X
Universität / HTWG Konstanz	Kilometer1 is the joint start-up initiative of the University of Konstanz and HTWG Konstanz. Kilometer1 is funded with the EXIST-Potentials programme. Offer of advice, workshops, toolbox, events and network. Particularly interesting: Road to StartUp (1. Idea Village 2. Teamalp 3. Customer Pass 4. Start-up Tip) https://kilometer1.de/	X	X		X
Uni Tübingen	Startup Center : Broad services https://uni-tuebingen.de/forschung/innovation/startup-center/	X	X		X
Neue Gründerzeit NRW	Wide range of offers, from advice to financing /Offer from the Ministry for Economic Affairs, Innovation, Digitalisation and Energy of the State of North Rhine-Westphalia https://gruenden.nrw/	(X)	X		X
HochschulStart-up-Initiative (Nordrhein-Westfalen)	Startup-Innovationslabore (Land Nordrhein-Westfalen) : The innovation labs are designed to support founders of technology and knowledge-based companies as well as young start-ups for one year in preparing, implementing and successfully bringing their business idea to the market. https://www.land.nrw/pressemitteilung/land-foerdert-ausgruendungen-aus-hochschulen-und-forschungseinrichtungen-fuenf Exzellenz Start-up Center (Land Nordrhein-Westfalen) : Six startup centers: RWTH Aachen, Ruhr-Universität Bochum, TU Dortmund, Universität zu Köln, Westfälische Wilhelms-Universität Münster, Universität Paderborn. / https://gruenden.nrw/gebote/ex-zellenz-start-centernrw	(X)	X		X
Gründungskultur Studium, Lehre, Baden-Württemberg	Financial support of universities: https://mwk.baden-wuerttemberg.de/de/service/presse-und-oeffentlichkeitsarbeit/pressemitteilung/pid/mwk-programm-zur-foerderung-von-gruendungskultur-an-hochschulen-geht-in-die-naechste-runde/ See also: https://www.startupbw.de/start-ups-partner/hochschulen/				

Provider	Description	Free of charge	Interdisciplinarity	Start-up/ business plan required	Modular structure
StartUpLab@FH, BMBF	As part of the Research at Universities of Applied Sciences programme, the BMBF is funding the establishment and operation of open research spaces with the measure "StartUpLab@FHH" with the aim of creating necessary structures and strengthening the internal networking of all stakeholders with regard to the individual promotion of entrepreneurial thinking and business start-ups at universities of applied sciences. https://www.forschung-fachhochschulen.de/fachhochschulen/de/uebersicht-massnahmen/startuplab-fh/startuplab-fh_node.html https://www.forschung-fachhochschulen.de/fachhochschulen/de/uebersicht-massnahmen/startuplab-fh/alle-startuplabs-im-ueberblick/alle-startuplabs-im-ueberblick.html;jsessionid=6188942100D029A1AE92FC8BD5536D21.live721	X	X		X
EXIST	Existenzgründungen aus der Wissenschaft, Bundesministerium für Wirtschaft und Klimaschutz Primär finanzielle Unterstützung, aber auch Unterstützung für Infrastruktur an Hochschulen zur Förderung von Startups. https://www.exist.de/EXIST/Redaktion/DE/Dossier/Ueber-Exist/Ueber-EXIST.html				
Studies in Entrepreneurship	Bachelor: Leuphana Universität Lüneburg, B.Sc. Internationale BWL & Entrepreneurship /DHBW Karlsruhe , B.A. Unternehmertum/ Alanus Hochschule Bonn, B.A. Philosophy, Arts and Social Entrepreneurship Master: Universität zu Lübeck, M.Sc. Entrepreneurship in digitalen Technologien /RH Hochschule Berlin, M.A. Entrepreneurship /Universität Siegen, M.Sc. Entrepreneurship and SME Management /TU Berlin & University of Twente & Warsaw School of Economics, Double Degree in Innovation Management and Entrepreneurship / HS Hamm-Lippstadt, M.Sc. Technical Entrepreneurship and Innovation / MBA: FH Mittelstand (Bielefeld), MBA Entrepreneurship & Management / WR Berlin, MBA Entrepreneurship /TU München, Executive MBA in Innovation & Business Creation / Zeppelin Universität, Executive Master for Family Entrepreneurship / https://www.fuer-gruender.de/wissen/existenzgruendungsplanen/selbststaendig-machen/universitaet/	-	-	-	-
Others	Georg-August-Universität Göttingen: Göttinger Startup-Ökosystem, https://www.uni-goettingen.de/de/startup+%C3%96kosystem/649908.html Technische Hochschule Ulm: THU Startup Center, https://studium.hs-ulm.de/de/research/Seiten/Gruendung.aspx Berliner Hochschule für Technik, BHT Startup Hub, https://www.bht-berlin.de/startup TH Köln, Gateway/ StartUpLab: https://www.th-koeln.de/forschung/gruendungen_719.php enaCom, Universität Bonn: https://www.uni-bonn.de/de/forschung-lehre/transfercenter-enacom/gruenden Johannes Gutenberg-Universität, Startup Center: https://forschung.uni-mainz.de/startup-center/				

Table 22: International benchmarking: the case of Germany

A-10 Answers to the detailed evaluation questions (part 1)

Detailed evaluation questions		Answers
Input (conceptual framework), implementation and output (focus on training modules)		
1	Structure, design, and implementation of the offering	
1.1	To what extent is the structure and the implementation of modules oriented towards the objectives of the Programme?	The Programme achieves objectives of awareness-raising by putting individuals in touch with entrepreneurial world and walking them through a structured process. <i>Scale 1-4: 4</i>
1.2	To what extent is the design of the offering ¹⁸ tailored to the needs of target group?	Particularly tailored to needs of science-based start-ups. Aligned with expectations of high skilled trainees. Room for improvement for social entrepreneurship and other target groups. <i>Scale 1-4: 3</i>
1.3	To what extent are modules and courses tailored to the needs of target group?	Particularly tailored to needs of highly qualified academics. Able to tailor modules and courses to needs of target group because chose target group accordingly. Some more specialised modules and courses could be an option. <i>Scale 1-4:3</i>
1.4	How is the Programme embedded in the national and regional entrepreneurial landscape?	Well integrated, especially with university system
1.5	What alternative designs could be envisaged taking account needs of target group?	Addressing demands of different industries more specifically has been mentioned several times.
2	Participants of the Programme and their segmentation	
2.1	How can programme participants be characterised?	Young, well prepared, interesting, and interested highly qualified academic individuals with some years of professional experience; mostly interested in technologies and engineering; mostly men.
2.2	What was/is the influence of the Covid-pandemic on participants and their participation in the Programme?	Different assessments by the participants and providers and lecturers: about half felt that they have missed out and the other half felt that gained from it.
2.3	What was/is the influence of an increased use of the digital education format on the participation in the Programme? To what extent were participants lost or gained when the course offering switched online?	Transition to digital was smooth and worked out well. Digital education can and should also in the future be used as complementary learning instruments, but it cannot replace the physical. Most still prefer training in presence.
2.4	What is an ideal composition of programme participants (e.g. age, education, gender, maturity level, etc.)?	Generally, participants benefit from diverse composition especially regarding educational background, professional background as well as maturity level of start-ups. This also in view of the need to have diverse teams and many trainees use Programme to find future business partners
2.5	To what extent did participants make use of other instruments and programs of Innosuisse?	Coaching offer was used or planned to be most prominently. Otherwise, very limited use of other instruments.
3	Participants' satisfaction	
3.1	To what extent are participants satisfied with modules 1-4 (content, lecturers, organisation)?	High level of satisfaction with all modules, with Module 3 achieving the highest overall rates.
Incomes / Outcomes (focus on programme participants)		
4	Motivating factors for an entrepreneurial path	
4.1	What factors motivate individuals in the different modules?	Motivation is multifaceted; participants are particularly looking for skills regarding launching and running start-ups as well as networking. The aspect of awareness raising looks less important from their side than from the side of Innosuisse, providers and experts.
4.2	What factors motivate individuals at different stages (idea, concept, creation, growth)?	
4.3	What are factors and «customer journeys» motivating participants to join the Programme?	Particularly interesting for first time founders. Important factors are networking opportunities, acquiring specific knowledge (e.g. business models) and strengthening confidence
4.4	What are factors motivating participants to stick to/ to leave their entrepreneurial path?	Passion for creating something new, perseverance, optimism, and resilience. Hindering factors are risk as well as financial resources
5	Impact of the modules on the entrepreneurial mind set and on the founding of a start-up	

¹⁸ 4 modules, 5-full day bootcamps for Modules 3 and 4, 10-week long courses for module 2 at the rate of one evening per week, on-line or in-presence, participation criteria etc.

Detailed evaluation questions		Answers
5.1	To what extent are modules able to influence the intention and motivation to start a business?	Modules 1 and 2 clearly motivated to further start-up plans and supported in concretizing idea as well as development. <i>Scale 1-4: 3</i>
5.2	To what extent are modules able to create an entrepreneurial mind set (spill-over effects)?	Modules 2 and 3 supported entrepreneurial thinking as well as formulation of business and finance strategies. <i>Scale 1-4: 3</i>
5.3	To what extent do the modules impact the design and successful development of a newly founded business?	To some extent but hard to measure.
Impact (focus on impact of training on other actors, the ecosystem and society)		
6	Integration in ecosystem and impact on ecosystem	
6.1	To what extent is the Programme integrated in the regional ecosystem?	The Programme is well integrated in the regional ecosystems and acts as a platform also for other activities.
6.2	To what extent are there co-operations of the Programme with other programme partners such as universities, transfer offices, business incubators?	There is a strong cooperation with universities, to a lesser degree with transfer offices and business incubators. Thus, co-operations strongly depend on the interests and networks of regional providers.
6.3	To what extent are there interdependencies of the offer with local ecosystems/ providers?	
6.4	What is the overall impact of the Programme on local ecosystems?	Thanks to the subsidiarity principle the Programme can strengthen local ecosystems. However, there seems to be room for improvement. <i>Scale 1-4: 3</i>
6.5	What is the impact of the Programme on the businesses of the providers?	The Programme serves as seed money also for other offers of the providers.
7	Diversity and sustainability	
7.1	To what extent does the programme impact diversity in the start-up ecosystem?	Focus on gender and the Programme succeeded in increasing number of female participants. However, participants are still not diverse enough regarding gender, age, and industries.
7.2	To what extent does the Programme impact the sustainability of start-up business models?	The sustainability factor could be expanded: results show that participants should be exposed to growth from an early phase onwards. In view of future societal and environmental challenges, a reconsideration of the equality between sustainability and economic growth might be adequate.
8	Coherence	
8.1	To what extent does the Programme impact the participation of other Innosuisse support measures?	There is coherence between the instruments, However, there is little use of other instruments – beyond coaching. Training providers do inform about the other Innosuisse offers, but obviously not very proactively. Thus, synergies that could be grasped more strategically.
8.2	To what extent are synergies exploited and deal-flows coordinated with other Innosuisse instruments?	<i>Scale 1 to 4: 2</i>

Table 23: Short answers of summative and formative evaluation questions

A-11 Answers to questions addressing needs and trends (part 2)

Detailed evaluation questions		Answers
9	Positioning, value proposition, USP	
9.1	What is the positioning of the training programme within the increased offering of entrepreneurship-related programmes of universities and of private providers?	Competitive Programme that sets benchmarks and is thus able to influence other training offers
9.2	Is the Programme still relevant?	Yes, and it will remain important, particularly for start-ups in industries with a long start-up period. <i>Scale 1 to 6: 6</i>
9.3	What is the value proposition of the current Programme (per module)?	There are different appreciations regarding the individual modules. Whereas experts tend to underline the importance of awareness raising, participants stress the importance of skills and networking opportunities.
9.4	What is the USP of the Programme and of each module?	National dimension, mission-based approach as well as integration into the university system.
9.5	What is USP of the Programme compared to similar offers?	National dimension with regional implementation and mission-oriented approach.
9.6	How to differentiate the offers?	Make use of subsidiary principle. Maintaining a clear distinction remains important.
9.7	How to offer a complementary programme?	Modular, and process-like structure. Serving as benchmark for others
9.8	How to collaborate and not compete?	Make use of national dimension and act as platform for different actors
10	Needs of (potential) participants with regards to the programme	
10.1	How can potential participants of the Programme be characterised?	Target groups and trainees are congruent. Potential target groups are younger and older cohorts, intrapreneurs, individuals without their own IP
10.2	What are needs of potential participants depending on their stage of maturity (idea, concept, creation, growth)?	At early stage important to have networking opportunities, strengthen perseverance, optimism, and resilience. At later stage, important to have more specific support (e.g. coaching or master classes)
10.3	What are unmet needs/ sweet spots of potential participants depending on their maturity stage (idea, concept, creation, growth)?	More coaching, stronger links to other Innosuisse instruments
10.4	To what extent does the use of a digital education format correspond to needs of potential participants?	Corresponds well: digital learning tools allows trainees to prepare for modules, while leaving more time for coaching and hands-on exercising. <i>Scale 1 to 6: 4</i>
11	Needs of (potential) participants with regards to their entrepreneurial journey	
11.1	What are the different «customer journeys» leading to enter the «entrepreneurial track»?	Multifaceted, from vocation to concrete ideas
11.2	What are (unmet) needs to guide entrepreneurship journeys towards more diverse and sustainable business ideas?	Matchmaking between people with different backgrounds, particularly idea owners (social) with individual's tech background, or individuals with MINT-background with trainees who have commercial savvy
12	Trends and dynamics of the ecosystem	
12.1	What are trends and dynamics of the ecosystem (more specifically: entrepreneurial path and activity, entrepreneurial skills/competencies needed according to industries/the economy, continuing education) that should be considered for future considerations?	Intrapreneurship, serial founders

Table 24: Short answers to analysis of needs and trends

A-12 Answers regarding benchmarking (part 3)

Detailed Evaluation Questions		Answers
13	National mapping of offers	
13.1	What are other offers including complementary offerings and substitutes matching the mission of the Programme provided by public and private organisations in Switzerland?	There are more than 70 other start-up training offers in Switzerland.
13.2	What is the positioning of the Programme modules in the start-up ecosystem of Switzerland?	Leading Programme regarding comprehensive set up / Scale 1 to 6: 5
14	National mapping of key players	
14.1	Who are key players with regarding comparable offers? How can they be characterized with regards to their concentration, market share and structure (private, public entity) as well as their target groups?	There is a growing offer for start-up trainings, provided by universities as well as public/private providers with a specific interest in fostering the regional economy. Most of these offers are publicly supported.
14.2	Who is the customer or participant respectively, what are the target groups? What does each customer/participant segment want? What is the price point? What is the distribution channel for each segment?	
15	International mapping	
15.1	What are the promising alternatives offered internationally by other governmental agencies that are comparable to Switzerland in terms of economic and innovation capabilities?	The Programme with its modular structure is comparable to some offers provided by universities abroad. Learning more in terms of industrial policies and public investments in start-ups from the best in class countries, such as Israel could be advisable

Table 25: Short answers to national and international benchmarking

