

# Lecture #7

# Funding

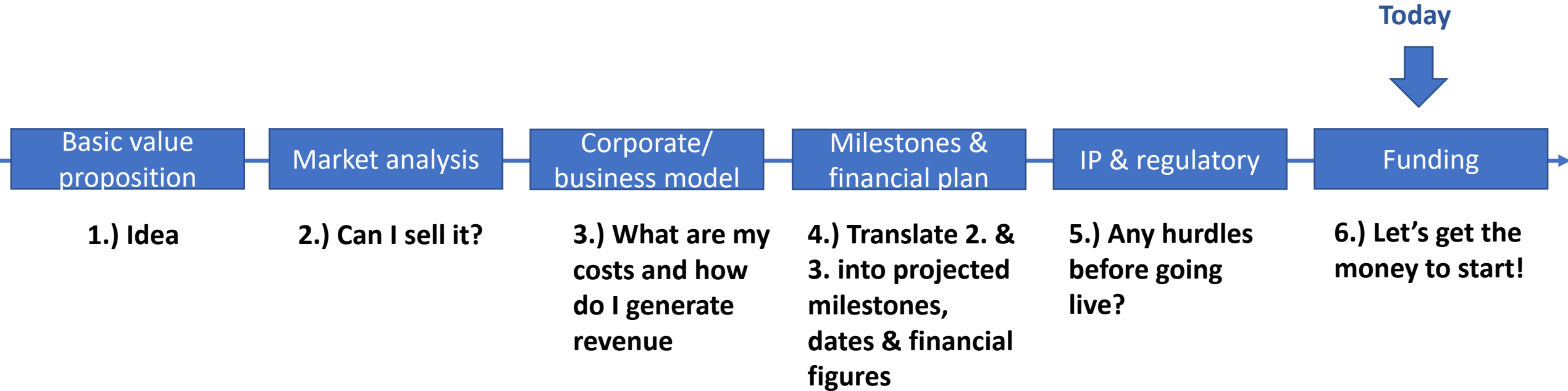
Aims:

- Learn about the different funding opportunities and the right timing for the company launch.

# Course content and schedule 2025

Lecture #/Date	Topic	Details	Seminar tasks
1/ 11.09	<b>General Introduction</b>	Aims of the course, expectations, tasks and assessments General proceeding	Watch Elisabeth Holmes Documentary (Theranos story)
2/ 18.09	<b>Roadmap from academic idea to startup</b>	template business example, Learn about all the steps needed to translate a scientific idea into a startup and what your pitch deck should include => Focus on Value proposition and Business model	Define customer value proposition, USPs and business model (= <b>business example</b> ) of Theranos <b>Grouping and assignment of individual presentations</b>
3/ 25.09	<b>Market analysis</b>	Market size, competitors, customer models, growth and scalability,	Introduction into ( <a href="#">GlobalData</a> ), Find market data on your business example & group innovation
4/ 02.10	<b>Corporate planning</b>	Business models, exit strategies, website & visibility,	Define business example of your group innovation, define markets and competitors
5/ 9.10	<b>Business examples</b>	<b>Business examples 1-4</b> , detailed feedback	
6/ 16.10	<b>Timelines &amp; initial steps, finance plan</b>	<b>Business examples 5-8</b> Milestones and finance plan from idea to startup/product	Prepare milestones and financial plan for your startup idea
<b>23.10 – no lecture!</b>			
7/ 30.10	<b>Intellectual property and other legal issues</b>	<b>Business examples 9-12</b> Patents – facts, data bases, examples Concept of freedom to operate, regulatory hurdles, etc.	Find & analyze patents in your field
8/ 06.11	<b>How to secure funding</b>	<b>Business examples 13-16</b> Public funding programs, investments, venture capital, EPFL programs	Finalize pitch deck
9/ 13.11	<b>Finalizing the pitch deck</b>	<b>Business examples 17-20</b> Recap: Detailed analysis of individual case studies, last year's best group pitch	
11/ 20.11	<b>Guest speaker Daniel Alpern (Alithea)</b>	<b>Business examples 21-24</b> Real-world EPFL startup insight	<b>Prepare Executive Summary and commercial potential in C4Lformat.</b>
12/ 27.11	<b>Guest speaker Luc Henry (Limula)</b>	Real-world EPFL startup insight	
13/ 04.12	<b>Pitches Groups A (e.g. 4-6)</b> <b>Feedback Groups B (e.g. 1-3)</b>	10min pitches with non-presenting students to provide written feedback	<b>Prepare written feedback on other group's pitches</b>
14/ 11.12	<b>Pitches Groups B (e.g. 1-3)</b> <b>Feedback Groups A (e.g. 4-6)</b>	10min pitches with non-presenting students to provide written feedback	
11.12 at 10:15 am	<b>Trophy Award &amp; Feedback</b>		

# Today's lecture



# Road to founding a startup

## Commercialization

1. What is the **USP**? Is there a **market** and how big is it?
2. How do I address my **customers**, what is the **business model**, is it **scalable**?
3. What is needed (**time, budget and resources**) to develop a minimal marketable product (**MMP**)?
4. Do I have **patent protection** and **freedom to operate**? Any other **legal or regulatory hurdles**?
5. **How to secure funding?**

**Which public funding opportunities exist?**

**When to involve external investors and how?**

**What support can I get from EPFL?**

**What do I have to prepare to pitch for funding?**



=> today's lecture on funding

# Funding sources for the different stages of a startup (or idea)

1. **Purely academic funding and grant schemes** such as Innosuisse, Bridge, ERC proof of concept grant
  - Particularly useful for early stage tech development
2. **Collaboration with Industry**
  - Useful for getting feedback on customer needs and for developing technology in the right direction. Also increases visibility
3. **Startup competitions and EPFL-internal funding schemes**
  - Relatively small amounts of money, but increased visibility and clear product focus
4. **Investments and Venture Capital**
  - Potential for large budgets, but useful only after a significant pre-money value has been reached

# Timing for choosing the right funding schemes

## NASA

TRL 9

•Actual system “flight proven” through successful mission operations

TRL 8

•Actual system completed and “flight qualified” through test and demonstration (ground or space)

TRL 7

•System prototype demonstration in a space environment

TRL 6

•System/subsystem model or prototype demonstration in a relevant environment (ground or space)

TRL 5

•Component and/or breadboard validation in relevant environment

TRL 4

•Component and/or breadboard validation in laboratory environment

TRL 3

•Analytical and experimental critical function and/or characteristic proof-of-concept

TRL 2

•Technology concept and/or application formulated

TRL 1

•Basic principles observed and reported

## EU

•TRL 9 – Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

•TRL 8 – System complete and operational

•TRL 7 – System prototype demonstration in operational environment

•TRL 6 – Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)

•TRL 5 – Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)

•TRL 4 – Technology validated in lab

•TRL 3 – Experimental proof of concept

•TRL 2 – Technology concept for development

•TRL 1 – Basic principles observed

*Funding through external investments (too expensive for academia, too slow in an academic environment)*

*Mostly academic funding (too early to get good investments)*

# 1.) Academic funding and grant schemes

## BRIDGE

### Bridge programme

[www.bridge.ch](http://www.bridge.ch)

**BRIDGE** is a joint programme of the Swiss National Science Foundation SNSF and Innosuisse - the Swiss Agency for Innovation Promotion. It offers funding at the **interface of basic research and science-based innovation**.

BRIDGE consists of two funding schemes:

**Proof of Concept** is aimed at **young researchers** who want to develop an application or service based on their research results.

- funding of up to 130k for up to 12(+6) months

**Discovery** is aimed at experienced researchers who want to explore and realise the innovation potential of research results.

- funding of up to >500k CHF

# 1.) Academic funding and grant schemes



## Innosuisse programme

[www.innosuisse.ch](http://www.innosuisse.ch)

**Funding of >500k CHF** either with an exploitation (industry) partner OR without a partner, but a clear focus on founding a startup

Does not only provide funding, but as well offers **coaching and trainings** for startups

Also provides a **network of experts** and opportunities for many relevant aspects for founding a startup

Provides discounts for participating at international **business conferences**

Compared to the Bridge programme, Innosuisse focusses on projects that are already at a **more translational level**

# 1.) Academic funding and grant schemes



## ERC proof-of-concept programme

<https://erc.europa.eu/funding/proof-concept>

**Funding of up to 150k Euro** for projects that are related to an existing ERC grant (basically translational efforts branching off from the ERC grant)

**Only available for ERC investigators** (holding a starting, consolidator, advanced or synergy grant)

**Since 2025 researchers from CH are again eligible for application!**

## 2.) Collaboration with industry

E.g. **funding of a postdoc** plus consumables, typically for no more than 2(+1) years. Note that **IP shares** have to be defined!

Can e.g. be initiated at **scientific conferences** in your particular research field that are **attended by industry people** (good examples are PEGS for Biopharmaceuticals). Note that many of these conferences offer to **schedule meetings** with other participants prior to the meeting

Might be **based on** follow-up (by industry) after a **publication** of yours or after launching your **website**. It's all about visibility!

Can be initiated through your **TTO/industry contacts** (let them know what you have – they might now matching partners)

**Can also be requested for by you**, but this might look a bit “aggressive and desperate”. How can you get in touch with a company CEO that you have never met before?

## 2.) Collaboration with industry

To: [customerserviceinfo@unilabs.com](mailto:customerserviceinfo@unilabs.com)  
Subject: Personalized Cancer Therapy

--- please forward this Email to Jos Lamers ---

Dear Jos Lamers,

I am running a research group at EPFL developing novel diagnostic solutions for personalized cancer therapy ([www.besttherapyforme.com](http://www.besttherapyforme.com)). In brief, we have developed an approach allowing to determine the best therapy option for each patient by directly testing 50+ drugs and combinations thereof on patient material. The results are available within 24h after taking a biopsy or after resecting the primary tumor, at internal consumables cost of less than 150 US\$. The approach is entirely target agnostic, does not require any biomarkers and can in principle be applied to all kinds of tumors. Furthermore, using our approach we have already shown an improved outcome in animal models bearing human tumors (Eduati et al., Nature Communications 2018).

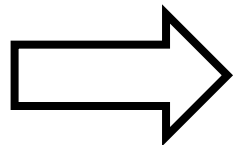
We are now planning to exploit this platform commercially. For this we have already been in touch with several diagnostic companies in Germany, but after my move to Switzerland (in January 2020) it seems useful to team up with local partners. Please let me know if you would be available for a quick phone call to discuss this further.

Many thanks and best,  
Christoph

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[www.epfl.ch/labs/lbmm](http://www.epfl.ch/labs/lbmm)

### 3.) Startup competitions and EPFL-internal funding schemes

- Imagine IF!: <https://inno-forum.org/accelerator/>
- Startup champions Seed night: <https://www.venturelab.swiss/startup-champions-seed-night>
- Venture competition: <https://www.venture.ch/>
- Business Growth Biotech: <https://www.startupticker.ch/en/events/business-growth-biotech-%282%29>
- Start Lausanne competition : <https://startlausanne.ch/>
- Business Creation Medtech: [https://innosuisse.venturelab.ch/index.cfm?page=135529&event\\_id=8033](https://innosuisse.venturelab.ch/index.cfm?page=135529&event_id=8033)
- Medtech Innovation Event: <https://medtech-innovation-event-2021.b2match.io/home>
- Swiss Medtech Day: <https://www.swiss-medtech.ch/en/swissmedtechday>
- Innovation by Design Challenge: <https://innovationbydesignchallenge.ch/#home>
- W.A. de Vigier Award: <https://devigier.ch/devigier-application/>
- Swiss Medtech Award: <https://www.swiss-medtech.ch/en/swiss-medtech-award>
- Venture kick: <https://www.venturekick.ch/>
- GEW InQprize: <https://inqbator.ch/applygew/?cn-reloaded=1>
- Starseed: <https://www.seedstars.com/>
- Venture leader Medtech: <https://www.venturelab.swiss/venture-leaders-life-sciences>
- Prix PERL: <https://www.lausanneregion.ch/entreprises-economie/perl/perl-prix-entreprendre-region-lausanne/>



**Most of these competitions award prizes with a volume of >>100k, but you can gain visibility and establish networks**

## 3.) Startup competitions and EPFL-internal funding schemes

### EPFL Ignition Grant

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#### What is the purpose of the grant? ▲

The Ignition grant is early stage funding, giving you a chance to validate your technology and develop a first prototype or find your right market fit.

The **CHF 30K** can be in the form of a salary and/or of consumables and/or outsourcing needs. The grant is for a maximum of **6 months**. You will need be hosted in an EPFL Lab where you will be incubating your spinoff.

\* Cannot be combined with other financial support from the EPFL Startup Unit at the same time

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#### What are the prerequisites to apply? ▲

You have a startup vision based on a novel technical solution.  
You have demonstrated your technology in a lab OR you have market traction.

You have a strong connection to a hosting EPFL lab.

**Funding volume = 30k per project!**

### 3.) Startup competitions and EPFL-internal funding schemes

# EPFL

Enable GRANT

FROM LAB TO LICENSE

The **enable** grant is open to all EPFL researchers to help them move their ideas out of the lab.

**enable** awards grants to a maximum amount of **CHF 30'000** for projects in the early stages of development.

The eligible expenses are:

- Designing and making of prototypes
- Development of software applications and user interfaces
- Feasibility studies (PoC)
- Performing pre-clinical studies
- Commercial strategy validation
- Showcasing technology
- Hiring of interns or student assistants

Funding volume = 30k per project!

# 3.) Startup competitions and EPFL-internal funding schemes



<b>Project Title:</b>		<b>TTO Technology Number or Patent Reference Number if Available</b>
<b>Researcher name (s) and contacts (Faculty/ies), Institute(s)</b>		
<b>Technology Transfer manager</b>	<b>Your contact at the TTO</b>	
<b>Catalyze4Life manager</b>	<b>Gautam Maitra</b>	
<b>Supporting PI Authorizing Application</b>		
<b>Project type and requested funding:</b> (please, indicate the amount of funding per category)	Preclinical Proof of Concept/Validation (CHF); Clinical Proof of Concept (CHF):	<b>Comments</b>
<b>Executive Summary</b> (Brief description of technology/invention; maximum 200 words describing the novelty of the technology and the main differentiator against a market benchmark):		
<b>Brief description of commercial potential of project</b> (few lines referring to specific application/s and market)		
<b>How Catalyze4Life will facilitate the technology transfer of your technology:</b> Indicate tangible and applicable deliverables previewed post Catalyze4Life support (e.g. New IP, facilitate Licensing-partnerships-Start up, etc)		



## TANGIBLE MILESTONES (Milestone Descriptions: 500 characters maximum including spaces)

Present the project as a sequence of milestones, with clear tangible and applicable deliverables (ie; Patents, Prototype, Validation with animal model, etc). The milestones will be used, based on deliverables reports, to track the progress of the project over the course of the funding period. Only successful completion, and approval, of the milestone deliverables report, based on a Go/No Go decision by the C4L Scientific and Industrial Committee, will trigger the release of the next funding tranches. **C4L shall be responsible only for the approved milestone costs and shall not pay any or next milestone costs without approval of the previous milestone report.**

<b>Milestone 1 Description</b>	
Milestone Duration (ex: 01.11/2018 to 04/2019)	
Milestone Budget	
Milestone Deliverables	
<b>Milestone 2 Description</b>	
Milestone Duration (ex: 05/2021 to 10/2021)	
Milestone Budget	Tangible Deliverable: Prototype and assay read outs, Validation with animal model, etc
Milestone Deliverables	

### Has this project been submitted to other funding sources?

(the technology and/or the field of the application for the technology should not be already partnered or otherwise subject of technology transfer activities)

**Please add any comments/information (including issues and/or conflicts), important for your application**

### 3.) Startup competitions and EPFL-internal funding schemes

# EPFL

## NEW: Innogrant for Biotherapeutics (i4L)

### *Accelerate Your Research Toward Clinical Impact*

The School of Life Sciences, in collaboration with the Vice Presidency for Innovation and Impact (VPI), is launching a new grant through its Innovate4Life program: the **Innogrant for Biotherapeutics (i4L)**.

This new fellowship supports scientists who are ready to translate EPFL-based research into impactful clinical solutions for the society. This one-year program provides funding, mentorship, and strategic resources to help transform your health innovation from proof-of-concept to clinical validation and potential startup development. It is designed for researchers working at the intersection of life sciences and medicine.

**Funding volume = 100k per project!**

**Finding a host lab for your project shouldn't be difficult, if it's good!**

### 3.) Startup competitions and EPFL-internal funding schemes

**Brief exercise** (as a preparation for written funding applications and pitches):

- Prepare a short **abstract summarizing your group startup idea** and your assets. **Max 5-8 sentences!**
- Start introducing yourself with a simple and clear take-home message, e.g. “We are [Project Name] and we aim at revolutionizing cancer therapy”
- Describe problem, market size and YOUR solution
- Avoid being vague – present numbers and facts

Please send your abstract to [christoph.merten@epfl](mailto:christoph.merten@epfl) within the next 15min!

## 4.) Investments and Venture Capital

**How and where do you get in contact with possible investors?**

- startup competitions
- network of your local TTO
- business developers of key companies which you can e.g. meet at specialized conferences such as:

[www.bio.org](http://www.bio.org)

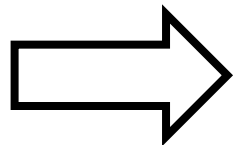
<https://informaconnect.com/bioeurope/>

[www.medica.de](http://www.medica.de)



# How to determine the pre-money value of your startup (or idea)?

- **Sum up all academic grants that have resulted in tangible deliverables (IP, tech prototypes, specialized knowledge, etc.). In our case this comprised:**
  - 120k Euro Tech Development Grant
  - 820K Euro EXIST
  - 678k CHF Innosuisse
  - 734k CHF PHRT
  - **Total = about 2.4M CHF**
- **Add all intramural funding that has enabled tangible deliverables (IP, tech prototypes, specialized knowledge, etc.). In our case this comprised:**
  - **> 2M CHF intramural EMBL/EPFL funding** for personnel having worked on the project (5 scientists over 10 years) and consumables.
- **Tangible deliverables**
  - **Two granted patents** plus two pending patents
  - **Clear product prototype and business model**
  - Successful **proof-of-concept** in xenograft mouse models
  - Successful **processing of human tumor samples**
  - **Competitive product price**
  - Multiple companies (pharma & diagnostics – provide names) and investors **have already shown potential interest in partnering** prior to ANY marketing!
  - **Clear scientific excellence**, based on host institute and publications
- **Market potential**
  - Product potential can be estimated when looking at Foundation Medicine (within 10 years from startup to takeover by Roche for **3.4 billion US\$**). Of course we believe our product has advantages beyond the state-of-the-art.



Based on the above facts (emphasis on facts!) a proposed pre-money value of 5-6M CHF seems to be a good starting point



# BIO-490 students tasks for today/ this week

- **Prepare a funding plan for your startup idea**
  - What size of investment is needed and how are the timelines (see financial plan from lecture 5)?
  - What public and private funding can be targeted and how does this match the needs in terms of volumes and timelines (see financial plan from lecture 5)?
  - Propose and justify the pre-money value of your startup
  
- **Have a first look at the C4L application form and identify what info is needed**

# Questions?

