START-UP IN ICT SIMPLE (FOR REAL)

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Disclaimer

2 LESSON 1 – INTRODUCTION TO THE COURSE

The creators of tomorrow are between us; investing in young people bring startups, looking out for problems and then solving them in a new way. There can be *innovation vectors*, which are technologies improving the society and bringing new solutions. For example, there are:

1. IoT and beyond
2. Blockchain
3. Neural Networks/AI
4. Simulation / Digital Twins

These will be presented by startups themselves, talking about experiences and how to do money with them. Building a startup means finding a fit between *having big problems with stupid solutions*, becoming wrapped in a product then solved via the means of a company. There are many methodologies to do that; we don't care about those, we go out finding problems.

Theory lessons are held via talking, then laboratories are made with the idea of meeting new people (*and going outside of the building*, as you will hear many times during the course). We will have to present ourselves in front of the class then gathering idea of general problems to solve, betting on the best ones. Groups will be made by 3 people for the projects.

Consider the example of university, which is made up of *Three Missions*:

1. High education / Teaching
2. Scientific research
3. Bringing innovation/outcomes of research to the masses/market → <u>Progress</u>

Technically: "share culture, knowledge and transfer results of research outside of University, contributing to overall social growth and cultural path". In a word: *progress*. We're actors bringing this to the society itself (so called "third mission").

Consider the problem Amazon solves: bringing convenience to customers, even with the burden of higher prices, but with buying as fast as possible, with less clicks/taps as possible. There is an example of a startup building around services like Amazon to help local shops buying/purchasing stuff in as less clicks as possible.

A <u>start-up</u> is the innovation vector allowing to bring progress to the society and many big companies are doing this, e.g., Microsoft/Intel. There are different means of research (consider the comparison university vs startup):

- *fundamental research*, done with laboratories, papers, experiments
- *applied research*, crafting Proof of Concepts and demos to test the market
- *market uptake*, seeing what will happen in the market
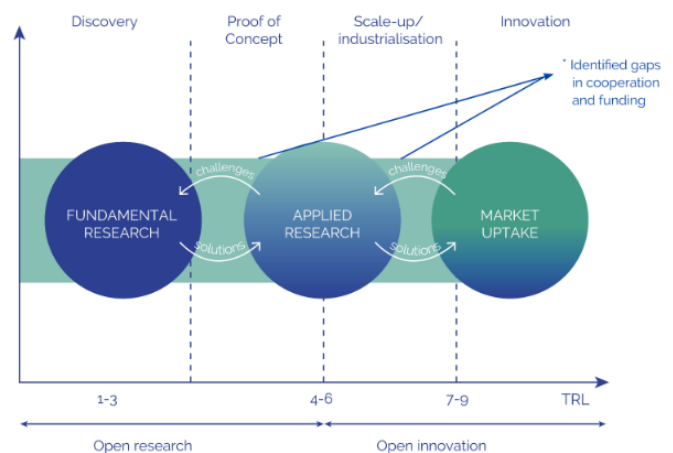
The above *research/innovation loop* tries to describe the connection between university and start-up.

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The switch between university and startup is us. The best way to transfer knowledge to the market is a *brain with a motivation* (know-how/IP/tech transfer). There will not be anybody else doing this: a driving force keeping you awake and motivated. Just do it: this is the fastest and most effective way possible. To drive change, we want to be uncomfortable, and drive change new ways.

There is direct interaction with the professor:

- Subscribe to his WhatsApp Group (all communications will be given there) – top priority
    o group changes every year and it's displayed via QR code within first slides of course
- Send him private WhatsApp messages whenever you need info / help on anything
    o he will reply asap
- Send him emails at fabio.dalessi@unipd.it – lower priority
- Setup a one-on-one meeting: contact him by WhatsApp

The exam is composed of two parts:

- Theory: Written exam (with math also, but not that difficult) – 0 to 30
    o 30 questions yes/no
    o 50% of the final mark
    o for particular reasons: can be oral (3 questions with the professor)
        ▪ happens 5% of cases
- Group work (startup) – 0 - 30
    o 50% of the mark
    o Result of a job done during the course
    o Teams – Pitch (done within investors) – Interviews with real people
        ▪ The interviews part depends on the problem to solve

These will be summed and then divided by 2 rounded by excess.

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3   LESSON 2 – BASICS: ENTREPRENEURS

Startups are not about lectures and entrepreneurship is not about grades. This is reality: nobody teaches what to do and how. Do it your own way, just like happens in life. *Go outside and discover*.

- We will not use a reference textbook
- Our course is about learning how to act "Outside the Building"
    - o   and where to focus in building our startup
- A good reference for the course contents: SteveBlank.com

Consider MIT = Center of Technology Engineering:

- they have 10000 students and 6000 of them are PhD
- 25% of them founded a startup
    - o   Consider UniPD: 63000 and only 6% of students are PhD
- In Italy a PhD is thought to be only about teaching; in USA, it's useful to open a company

Some data about them:

- MIT Alumni launched
    - o   30.200 companies
    - o   that employ 4.3 mln people
    - o   and generate revenues for 1.9 trillion US $ per year
        - ▪   these are higher than states themselves
- Innovation comes from unknown people in unknown places
- Some data about MIT Impact on Economy
    - o   11% of the Alumni who graduated from the 2010 decade launched a company compared to 8% of the previous decades
    - o   the median age of the alumni launching a company has been steadily declining and in the 2010 decade dropped to 27 from 30 years old of the previous decade
    - o   80% of the companies launched by the alumni survived for more than 5 years

The Italian problem is simple: static mentality and will to avoid change. Students are more understood as resources in other states (e.g. USA). Movement is a constant and dynamism is what is needed in order to improve and make a change. Our problem is the "sofa effect": getting the habit of being in the comfort zone and avoid changing. In entrepreneurship, we definitely want to avoid that.

Overtime, in MIT:

- companies have increased in number over decades
- participation rate have been increasing overtime
- serial entrepreneurs have increased in number and companies
- median ages have been decreasing slowly

We define <u>entrepreneurs</u> means taking the risk of what nobody has done before, meaning doing something new or was never tried before.

- It can be "any person who doesn't know how will come out, taking a risk"
- That brings *progress*
    - o   Means believing in people and resources enough to bring new things

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Some more textbook-like definitions:

- "entrepreneurs are individuals who exploit market opportunity through technical and/or organizational innovation" – Schumpeter (1965)
- "entrepreneurship is about taking risk" – Drucker (1970)
- "an entrepreneur is a person who habitually creates and innovates to build something of recognized value around perceived opportunities" – Bolton and Thompson (2000)
- "an entrepreneur is a person who sets up a business or businesses, taking on financial risks in the hope of profit" – Dictionary
- "Entrepreneurship is the creation or extraction of value; [...] entrepreneurship is viewed as *change*, generally entailing risk beyond what is normally encountered in starting a business, which may include *other values* than simply economic ones" – Wikipedia
- "Entrepreneur is "a Hero"... one that accepts risks to pursue a bigger value, often "destroying" what is known" – prof. definition

Money is a measure of how much value it's actually created: it can be cultural, social, mental, economic, etc. Progress is a consequence of a few: only 4% survive while others 96% die badly.

Where to start then? Consider the <u>Monomyth theory</u> (also called "hero's journey")– the stories of religion, movies, adventures always revolve around a hero who goes on an adventure, is victorious in a decisive crisis and comes home changed and transformed.

This theory comes from Joseph Campbell from "The Hero with a Thousand Faces" and was used by him to compare religions.
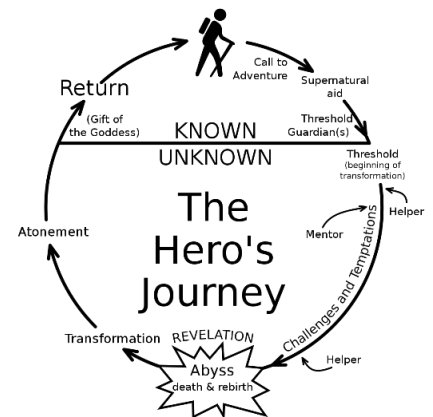

It works this way:
- In the *departure* part of the narrative, the hero or protagonist lives in the ordinary world and receives a call to go on an adventure
    o The hero is reluctant to follow the call but is helped by a mentor figure
- The initiation section begins with the hero then traversing the threshold to an unknown or "special world", where he faces tasks or trials, either alone or with the assistance of helpers
    o The hero eventually reaches "the innermost cave" or the central crisis of his adventure,
    o He must undergo "the ordeal" where he overcomes the main obstacle or enemy, undergoing "apotheosis" and gaining his reward (a treasure or "elixir")
- In the return section, the hero must return to the ordinary world with his reward
    o He may be pursued by the guardians of the special world, or he may be reluctant to return and may be rescued or forced to return by intervention from the outside.
    o The hero again traverses the threshold between the worlds, returning to the ordinary world with the treasure or elixir he gained
    o The hero himself is transformed by the adventure and gains wisdom or spiritual power over both worlds

The hero will come to a point in which the known and the unknown come to a *threshold*. When you go across from this border you go to the unknown. All of sudden you die or you are going to die: this point is the *abyss*, where transformation occurs after the realization of change, getting to what he wants.

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All of us have common principles and common ideas which drive the actions of human beings when studies psychologically (Jungian analysis), compared to the previous one:
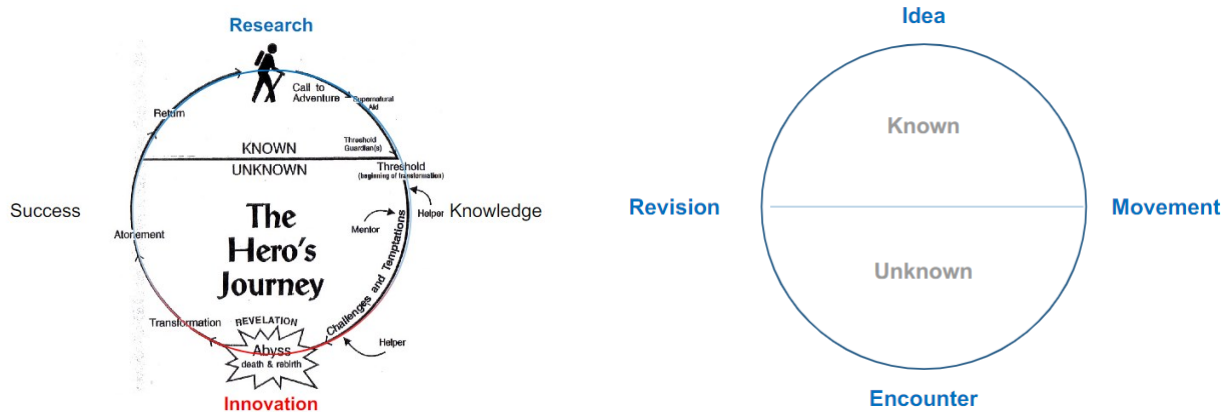
Linking Jung with the previous concept, we might briefly characterize the following:

- *Idea*: The initial spark of inspiration or realization, often arising from the unconscious mind
- *Movement*: The active pursuit or exploration of the idea, which involves engaging with it consciously
- *Encounter*: Confrontation with the unknown or shadow aspects of the self, representing challenges and obstacles
- *Revision*: Integration and transformation resulting from the encounter, leading to personal growth and understanding

Trying and insisting continuously is what actually drives us towards goals: consider gold miners in California. That is the place where most of innovation and startups are present, because there is the most risk-taking mindset there.

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