



UNIVERSITÀ DEGLI STUDI  
DI TRENTO

2016 1 MARCH - 25 MAY

**\* CRASH COURSE ON RESEARCH  
FUNDING, INTELLECTUAL PROPERTY  
AND START UP CREATION**

Open series of seminars organized by Research and Technology Transfer Support Division  
University of Trento - Polo Scientifico e Tecnologico Fabio Ferrari (POV1), via Sommarive 9 - POV0

# Academic Entrepreneurship and Start up Creation

**Crash Course on Research Funding, Intellectual  
Property and Start up Creation**

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University of Trento  
Trento, 16.03.2016**

# Start up creation: Definitions

The start up and research start up regulation of the University of Trento (July 2015) identifies two types of business entities:

- **Start up (maximum 5 years)**: any business entity in which the University may be a shareholder and **aiming at developing, producing and selling** goods and services that are the results of the University's research activities and to which the applicants gave their contribution (Technology Readiness Level 7-9 – higher Customer Readiness Level);
- **Research Start-up (maximum 3 years)**: any business entity in which the University may be a shareholder and aiming at developing **pre-competitive products and services** that are the results of the University's research activities and to which the applicants gave their contribution (Technology Readiness Level 5-7 – lower Customer Readiness Level).



# Technology Readiness Level

## Technology Readiness Levels (TRL) according to Horizon 2020 Framework

- TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies)
- TRL 8 – system complete and qualified
- 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 formulated
- TRL 1 – basic principles observed



# Customer Readiness Level

## Customer Readiness Level (CRL)

CRL 9 – Widespread product sales

CRL 8 – First product sold

CRL 7 - Customer in extended product testing and/or first test sales

CRL 6 – Benefits of the product confirmed through partnerships and/or first customer testing

CRL 5 – Established relations with target customers/users

CRL 4 – Confirmed needs from several customers and/or users

CRL 3 – First market feedback established

CRL 2 - Identified specific needs in market

CRL 1 – Hypothesizing on possible needs in market

Source: *Appendix 3 FAQ – EIT Raw Materials 2016 Kava Call*





# Academic startups in University of Trento

## Green tech Renewable energy



## Biotech



## Civil engineering



## Mechatronics



## ICT



## Risk management



## Materials science



## Forecast/ Foresight



# Academic start ups

## Some Examples:

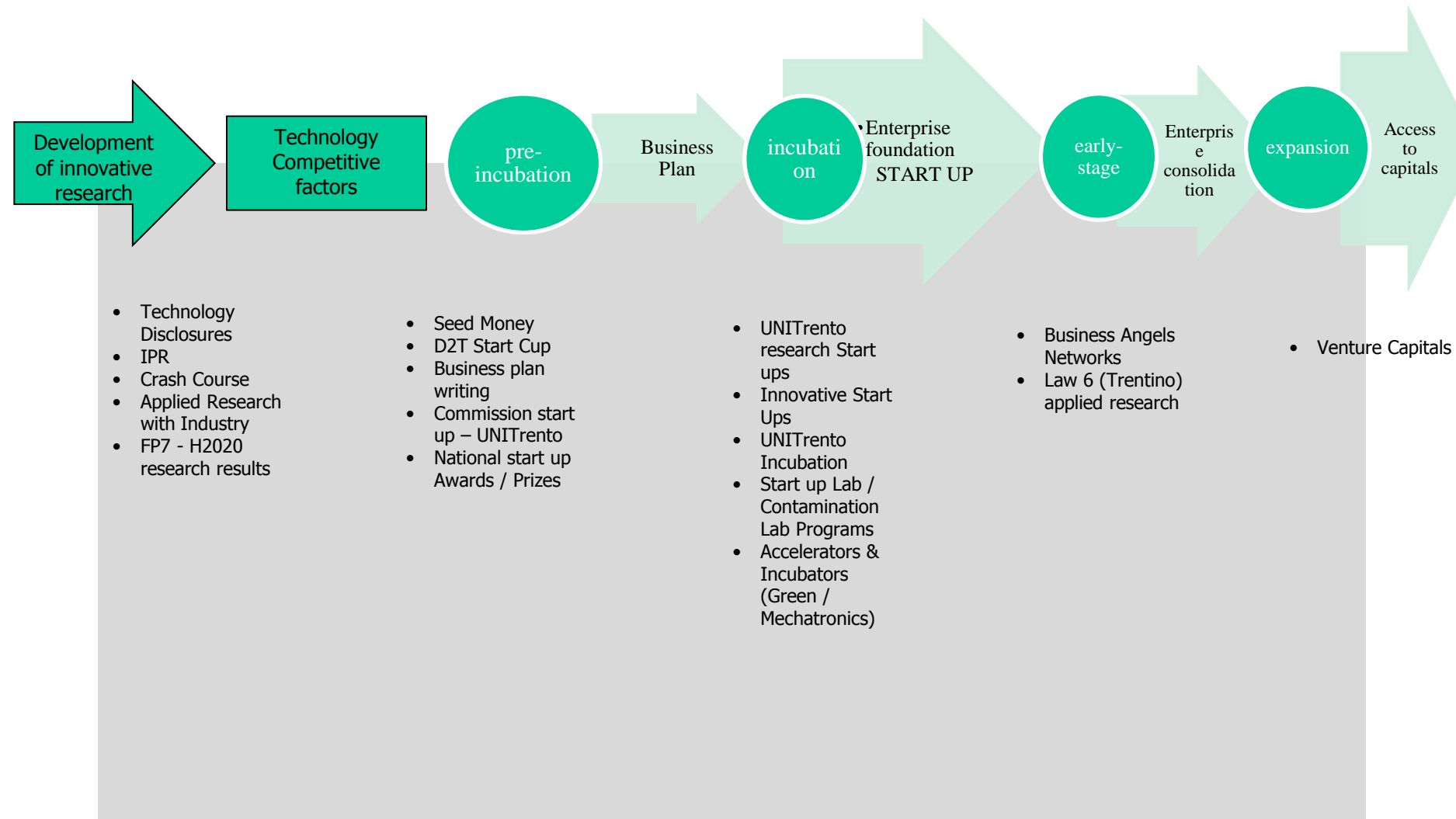
**RoboSense - [www.robosense.it](http://www.robosense.it) (research start up ) @ Crash Course May 4**

**Mountain-eering - [www.mountain-eering.com](http://www.mountain-eering.com) (ended start up phase)**

**Timber tech - [www.timbertech.it/en](http://www.timbertech.it/en) (ended research start up)**



# Tools for Research Start up Development (all sectors)



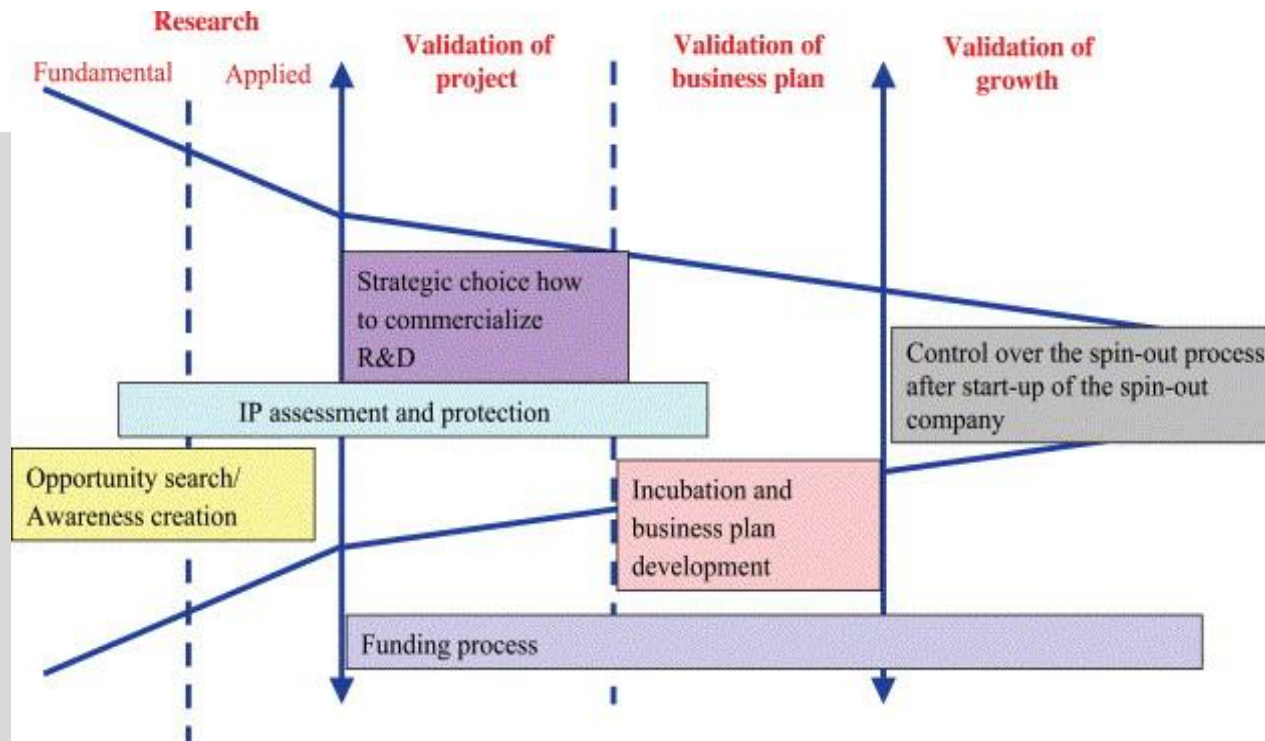
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**Process of technology disclosure and start up creation –  
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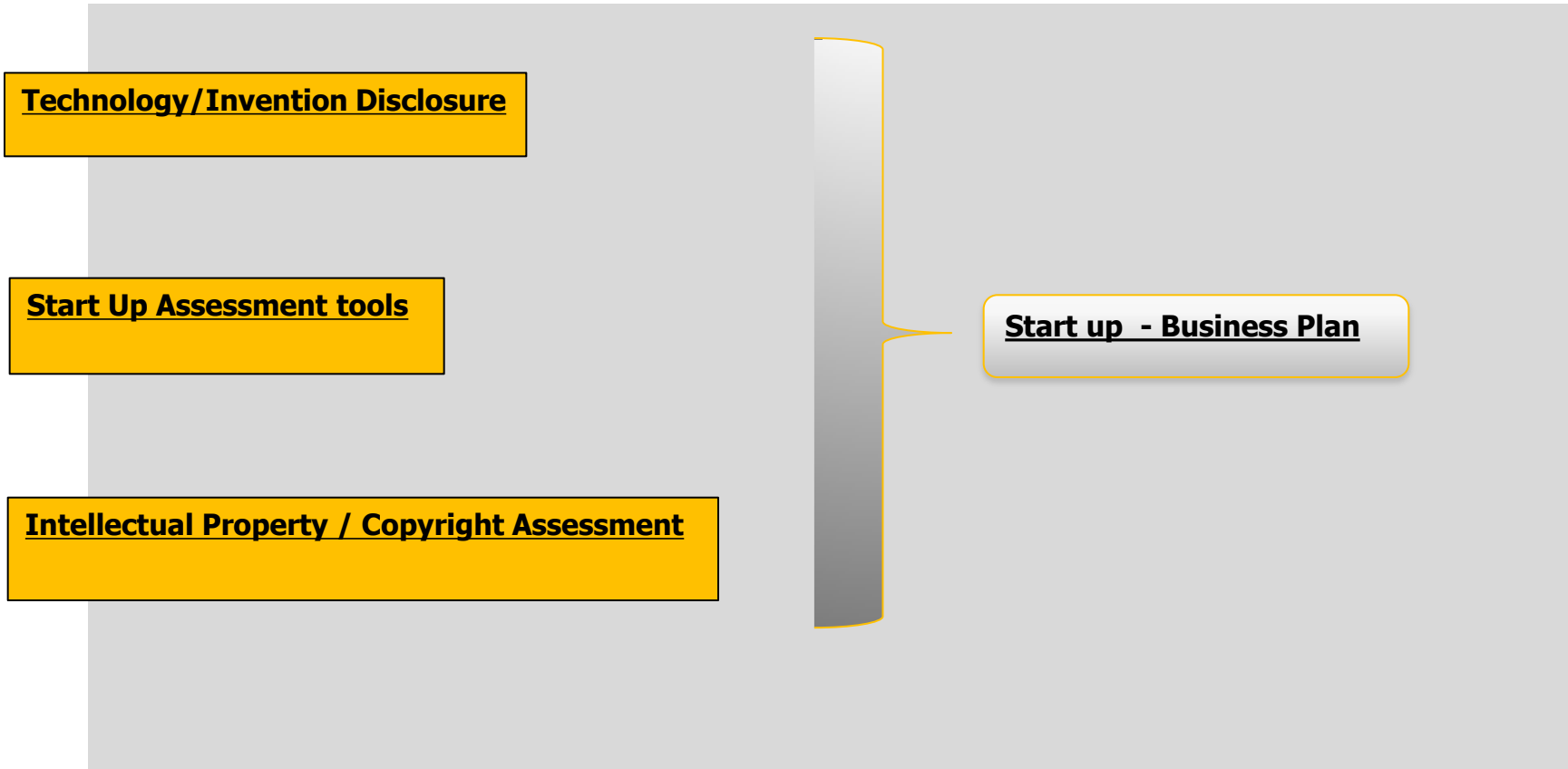


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# Pre-incubation assessment Methods and Tools

## IP and Start up Creation (UniTrento tools)



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# Pre-incubation assessment Methods and Tools

## IP and Start up Creation (UniTrento tools)

### **Technology/Invention Disclosure**

1. Technology Scouting (Disclosure Form)
2. Technology competitive analysis
3. Time to market / commercial contacts
4. TRL analysis

### **Start Up Assessment tools**

1. Link/Connection with research from UNITrento
2. Entrepreneurial Idea and Team (Business Model Canvas)
3. Minimum Viable Product (MVP) Analysis and Lean Start up
4. Market potential evaluation
5. Access to preincubation funding / prizes
6. Need for incubation spaces

### **Intellectual Property / Copyright Assessment**

1. Questel – Patent competitive intelligence
2. Google Patents / Espacenet
3. Freedom of use of research results
4. CA Analysis (Transfer of Foreground / Joint Ownership)
5. Analysis of ownership of research results
6. Copyright analysis (software)

### **Start up - Business Plan**

1. Business Plan format for **research start ups**
2. Market feasibility check
3. Financial feasibility check
4. Clients feasibility check
5. Product feasibility check
6. Start up ownership check

# Research Start up – Business Plan

## **Business Plan Format (available on line) – Table of Contents**

- 1.Executive Summary**
- 2.Entrepreneurial Idea**
- 3.Market**
- 4.Start up Project**
- 5.Marketing and commercial strategies**
- 6.Financial Projections**

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# Start up creation: pre-seed

Support to spin-off and start up creation since 2007, from the technology disclosure to the business idea and the final approval

- National and internal regulation of the University of Trento (revised in 2015)
- 6 steps of implementation:
  1. Technology disclosure
  2. Start Up Commission
  3. Academic Senate
  4. Council of Administration (CDA)
  5. Company foundation
  6. Closing phase



# Funding / Incubation Schemes

D2T Start Cup - [www.premiod2t.it](http://www.premiod2t.it)

Trentino Sviluppo - [www.trentinosviluppo.it](http://www.trentinosviluppo.it)

Progetto Manifattura - [www.progettomanifattura.it](http://www.progettomanifattura.it)

Polo Meccatronica - <http://polomeccatronica.it>





# Areas of ACtivity

Technology Disclosure  
Technology Scouting  
Education on entrepreneurship and Intellectual Property  
Research dissemination and public engagement

IPR strategies (in research contracts and Consortium Agreements)  
Patenting  
Open Data and Copyright of research results

Start up creation  
Business planning  
Venture & START UP financing  
Financing schemes for Technology and Knowledge Transfer

Industry – Academia relationships  
R &D projects between Industry and university  
Industrial Problem Solving with Physics (IPSP) – 2° edition  
Crash Course on Research Funding, Intellectual Property and start up  
Creation (7° edition)

## Areas of Activity – Knowledge Transfer University of Trento

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