

**“Studying and promoting
Entrepreneurship at the NTUA:
A brief account”**

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Studying Entrepreneurship

- Research on Knowledge Intensive Entrepreneurship and Technology Entrepreneurship.
 - AEGIS FP 7 Project (2008-2011).
 - CRE8TC. EU Project (20012-2016).
 - Surveys on NTUA graduates (2008, 2015).
- Book: Malerba, Caloghirou, McKelvey, Radosevic (Routledge, 2016).
- Research and Conference papers.

Some key-initiatives

- Technology and Entrepreneurship Project (2000-2010)
- The Innovation and Entrepreneurship Unit (2012-2015)
- The incubator EPI.noo (ICCS, NTUA I&E U, Municipality of Athens).
- Four annual Entrepreneurship Weeks (co-working with S.O. Kwadraat (Johan Van den Bosche).
- Two Entrepreneurship Surveys (2008, 2015)
- INVENT ICT programme (2016-2017).

The role of education in supporting entrepreneurial culture

- The need to strengthen the culture of entrepreneurship and risk-taking by fully mobilising human resources - through **the improvement of entrepreneurship education**- is acknowledged among **top policy priorities** worldwide (OECD, 2010; European Commission 2013).
- In this respect, the role of educational systems can be decisive in increasing the prevalence and **quality of entrepreneurial learning** and thus in creating entrepreneurial mindsets that help entrepreneurs transform ideas into action.

The survey: concluding remarks

- NTUA engineering graduates can be assessed as a group of people of increased capacity that can potentially undertake knowledge-based entrepreneurial activity.
- 1 out of 3 young NTUA graduates undertake some kind of entrepreneurial activity.
- Among those that pursue entrepreneurial activity:
 - in their majority, they are **self-employed** (72%)
 - some others undertake entrepreneurial activity in a more organized way (mainly **micro** firms)
 - some **continue** an already existing **family business** (1 out of 3 of these firms have a considerable size)

The survey: concluding remarks

- A special focus in the analysis:
 - **Larger firms in terms of sales**
 - More **organized**, but still **micro** or **very small** firms
 - Market knowledge, previous entrepreneurial experience, and family entrepreneurial tradition appear to be crucial to founding
 - They have **better innovative and export performance** related to the smaller sample firms
 - **Firms founded by young graduates holding PhDs**
 - Most **promising ventures** in terms of growth and innovation potential
 - **Closely related to technological and research knowledge** acquired during studies
 - **Mainly active in ICTs, energy/environment and other engineering services and much less in traditional construction activities.**

Main results and challenges

- In general terms, the entrepreneurial activity undertaken by young NTUA graduates is rather **conventional**, although there are some **interesting promising cases** .
- Despite the knowledge content of the specific activities undertaken and the knowledge background of founders, it appears to be dependent:
 - on the **existing production trajectory** that have been followed by the Greek economy
 - i.e. a **pattern of self employment and micro firms related to the traditional professional practice of engineering and technology activity**
- Entrepreneurial activity of young engineering NTUA graduates **cannot be considered as a mere quantitative issue**, i.e. encouraging more engineering graduates to set up a firm, although numbers still matter provided they reflect an increased quality of new entrepreneurial activity.
 - Nevertheless, having a critical mass of knowledge-intensive entrepreneurs might be important to raise the probability of ending up with some successful, high-potential firms with significant impact on economic growth and industrial upgrading .

Main results and challenges

- The focus on the promotion of Entrepreneurial activity of young engineering graduates is rather a **qualitative issue**, i.e. it is largely related to the **type** of newly-established ventures that emerge from the specific selection pool of these high-capacity graduates. Specifically, it is an issue of:
 - promoting high-growth knowledge intensive, innovative entrepreneurship, either in the **form of newly-established ventures** or by **contributing to corporate entrepreneurship and the technological upgrading of existing firms**;
 - upgrading the **average level of engineering practice in the productive system**, in order to become more innovative and more responsive to changes at the technological, institutional and market level.

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Invent ICT Incubation Programme

- A joint initiative between the incubator EPI.noo (ICCS & NTUA I&E Unit), EEKT (the Association of mobile industry firms) and the Industry Disruptors in cooperation with S.O. Kwadraat.
- An individualised coaching programme.

The participating teams

First Phase (Call):

63 teams



35 teams



**Second Phase
(Selection process)**

35 teams



25 teams



**Third Phase
(Incubation phase)**



25 teams



The implementation stages of the program

1. First Phase (Call) / Oct 2016 – Jan 2017:
 - Call for expressions of interest
2. Second Phase (Selection process) / Feb 2017 – May 2017 :
 - Evaluators both from academia and public sector
 - The teams presented their ideas in front of an Evaluation Committee.
3. Third Phase (Incubation phase) / Jun 2017 – Noe 2017:
 - Intensive individualized coaching for 6 months,
 - Implementation of the business idea,
 - Complete the necessary tests on the feasibility of the product/service and the development of different variants.
4. Final Phase (Establishment of the business) Dec 2017:
 - Startups are ready to become autonomous from the incubator.
 - Dissemination and publicity to highlight the results of the program
 - Pitching to potential investors

Characteristics of the 25 teams that jointed the InventICT Program

- The business ideas are
 - **technology-driven,**
 - providing **innovative solutions** in areas such as environment, health, sports, gaming, food, tourism, shipping, commerce.
- **57%** of the ideas are **software-based**
- Average of **4 persons** per team
- **Young high-level scientists**
 - 25% holders of doctorate degrees
 - 6% PhD Candidates
 - Most participants have a postgraduate degree
- Most of which come from the schools of the **NTUA (~75%)**