SYLLABUS

TECHNOLOGY-BASED ENTREPRENEURSHIP

TÉCNICO LISBOA

2024 / 2025
(Alameda)

Miguel Amaral
Diogo Gonçalves

Challenge: "Developing innovative goods, services and/or business models to address the needs of Companies @ LISPOLIS Science & Technology Park"

LISPOLIS
PÓLO TECNOLÓGICO DE LISBOA

1 "Developing innovative goods, services and/or business models to address the needs of Companies @ LISPOLIS S&T Park"

- Entrepreneurship and innovation are considered central to knowledge creation/exploitation, value generation, competitiveness and overall socioeconomic development. Universities in general – and Engineering Schools in particular – all over the world have been developing mechanisms to boost technology transfer from academia to industry to apply scientific knowledge and new technologies to people's needs.
- Engineering Schools' focus have been mostly on generating scientific knowledge and enabling students to develop the skills needed to solve problems and identify opportunities within new and established organizations.

2 “Developing innovative goods, services and/or business models to address the needs of Companies @ LISPOLIS S&T Park”

- The Technology-Based Entrepreneurship Course at IST has been involving students in projects relating to tech product/business model development encompassing economic value, social impact and innovation.
- It is, therefore, fundamental for students to interact with technology-based companies and address real problems and challenges.
- It is also central for tech-based companies to interact with engineering students from IST Master Programs and to benefit from new and creative ideas coming from young, enthusiastic and well trained individuals who will soon enter the job market.

3

TBE-LISPOLIS CHALLENGE

- Students will work on specific challenges proposed by different different companies located at the LISPOLIS Science Science & Technology Park.
- The challenges can be connected to the development of new (*):
  - **PRODUCTS (GOODS/SERVICES)** and/or,
  - **PRODUCTION PROCESSES** and/or,
  - **BUSINESS MODELS** and/or,
  - **MARKETING OR ORGANIZATIONAL PRACTICES**...

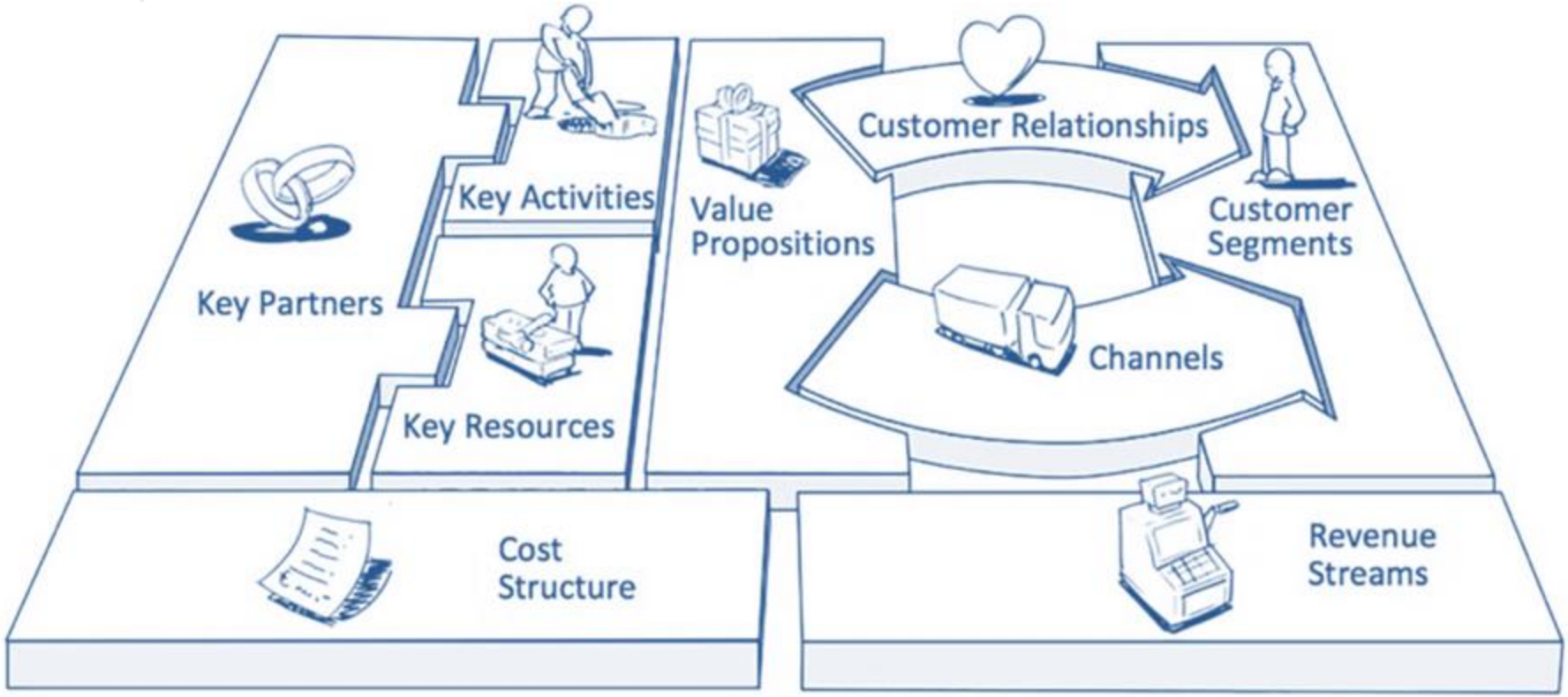
...that can advance the companies' activity and innovation routines.

(*) "New" to the company, and/or the industry, city, region, country, world levels

3

TBE-LISPOLIS CHALLENGE

Team's Projects , Individual Case-studies and The course Syllabus/weekly presentations will align with the following building blocks of the "**BUSINESS MODEL CANVAS**"



3

TBE-LISPOLIS CHALLENGE

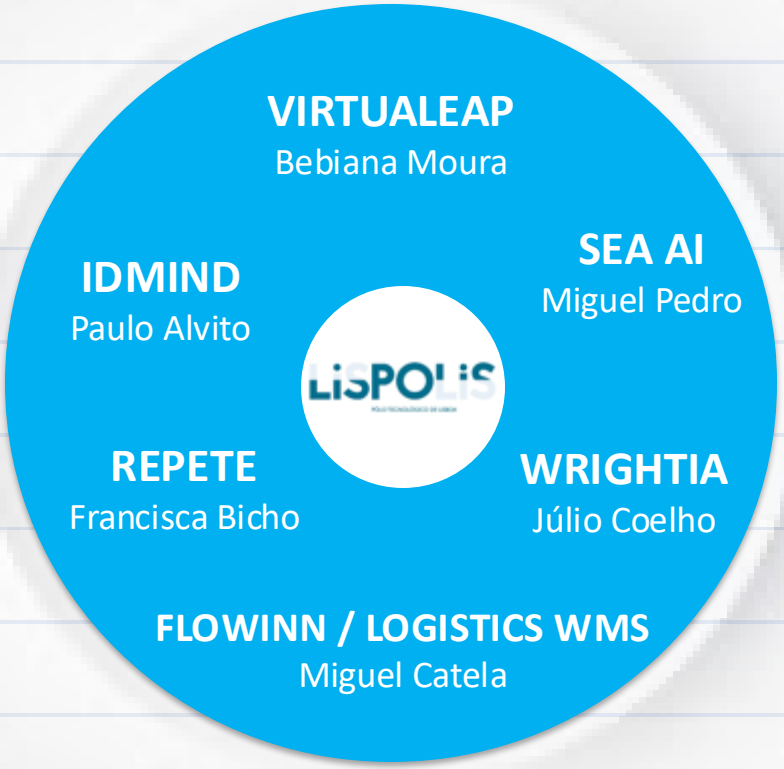
- In the end, teams will deliver a **TEAM POJECT** on new products (goods/services), production processes, business models, marketing or organizational practices aligned with the specific challenge proposed from a company. The research process involves the collection of evidence-based information (weekly interviews, use of statistics and documental data) test different hypotheses and scenarios and create/validate a realistic business model.
- Students will also prepare an **INDIVIDUAL CASE-STUDY** about one of the companies located at LISPOLIS (different from the company connected to the team's project). The case can focus on the development of a new product, process, etc, addressing one or several specific building blocks of the company's Business Model Canvas.

4

TBE-LISPOLIS CHALLENGE

- LISPOLIS will guarantee the connection between students, professors and companies (2 meetings at IST + 2 meetings at LISPOLIS) and will actively follow the development of the projects

Examples of companies involved in the the present edition of the course



4

TBE-LISPOLIS CHALLENGE

LISPOLIS & Affiliated Companies will promote the following (mandatory) meetings with students throuhgout the semester:

- **28/02/2025 | TOUCHPOINT 1** – Companies/LISPOLIS present the challenges in class at IST-Alameda Campus. Students will define their topics/companies for the team Project during the next week
- **31/03/2025 | TOUCHPOINT 2** – Students meet with companies at LISPOLIS and Companies share a mid-term evaluation/feedback of the projects with Professors
- **23/05/2025 | TOUCHPOINT 3** – Students meet with companies at LISPOLIS and Companies to fine tune the final projects
- **06/06/2025 | TOUCHPOINT 4** – Companies/LISPOLIS attend the final presentations in class, at IST-Alameda

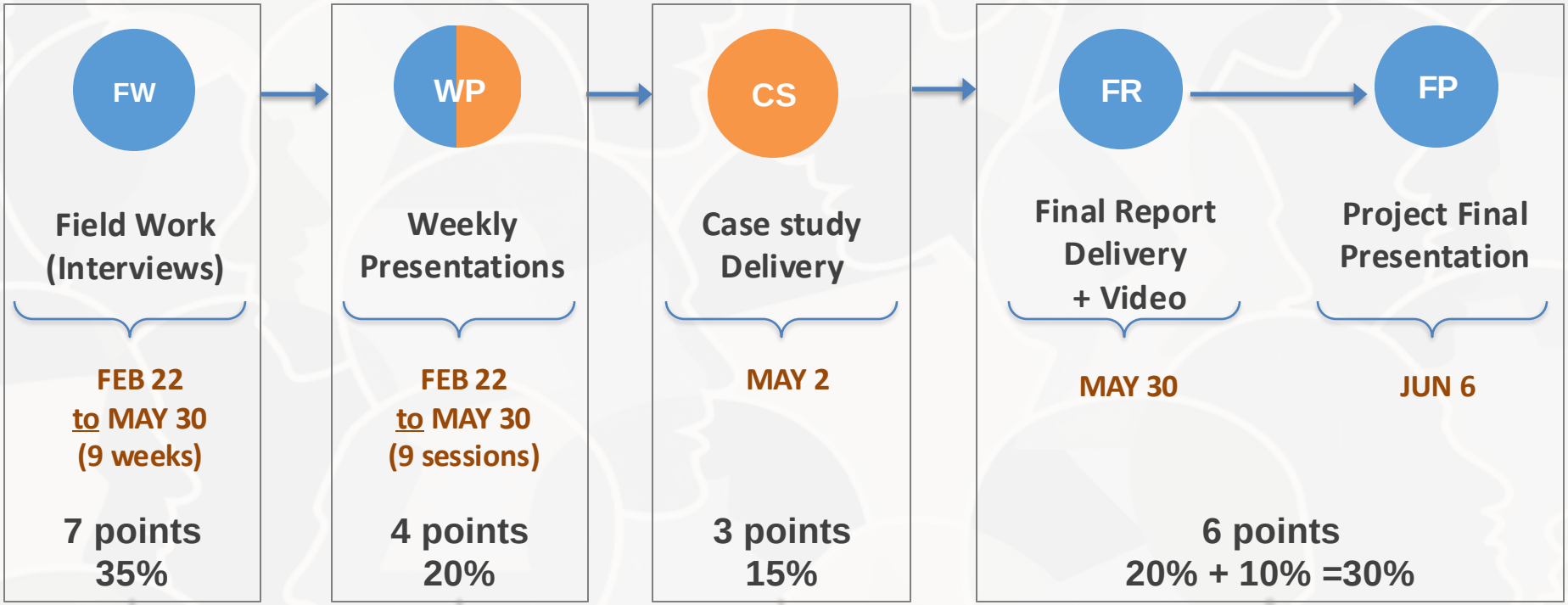
PROGRAM

CHAPTER	TOPIC
1.	Introduction
2.	LISPOLIS Community Challenges
3.	Opportunity Assessment
4.	Value Proposition Canvas
5.	Customer Segments
6.	Channels
7.	Customer Relationships
8.	Revenue Model
9.	Partners
10.	Resources, Activities and Costs
11.	Storytelling/Pitch

EVALUATION: TASKS, DATES & WEIGHTS

TEAM WORK: Students (in a team of up to 5 members) have to prepare and present a Project based on real problems, technologies and data, leading to the development of a tech-based product (good or service) and/or business model. Focus will be on specific challenges from a group of companies from the LISPOLIS community.

INDIVIDUAL WORK: Each student has to prepare a Case Study based on a real case (innovation/ product development) within any company from the LISPOLIS community.



CALENDAR

2º Sem. P3

WEEK	DATE	SUMMARY	TASKS	LISPOLIS CHALLENGE
1	**21/02/2025**	**A. Introduction** • EBT Presentation • Team formation		Students receive a summary of companies' challenges + list of companies for the individual case-study
2	**28/02/2025**	**B. TBE-LISPOLIS CHALLENGE**		**Touchpoint 1** Companies from LISPOLIS will present their challenges/problems at IST (15 minutes each) followed by a Q&A period (5 minutes each)
3	**07/03/2025**	**1. Opportunity Assessment** 1.1 Market types and Market sizes 1.2 What is the MVP?	**Team Presentation 1**	
4	**14/03/2025**	**2. Value Proposition Canvas** 2.1 Customer Profile 2.2 Value Map 2.3 Problem Solution Fit	**Team Presentation 2**	Students define and propose the company (from LISPOLIS) and topic to develop their individual case-study
5	**21/03/2025**	**3. Customer Segments** 3.1 Customer Development 3.2 Rules for Interviewing 3.3 One-sided and multi-sided markets 3.4 Personas and customer workflow 3.5 MVP Validation	**Team Presentation 3**	
6	**28/03/2025**	**4. Channels** 4.1 Roller Coaster 4.2 Physical Channels 4.3 Web/Mobile Channels	**Team Presentation 4**	
7	**4/04/2025**	**5. Customer Relationships** 5.1 Get, keep, grow customers 5.2 Customer Relationships Funnel 5.3 CAC, Churn and LTV	**Team Presentation 5**	**Touchpoint 2** Students meet with companies at LISPOLIS and Companies share feedback on the projects with Professors
8	7-11 April	Preparation Week		
9	14-17 April	Evaluation: Normal Season		
10	21–24 April	Easter Holidays		

CALENDAR

2º Sem. P4

WEEK	DATE	SUMMARY	TASKS (FOR EVALUATION)	TOUCHPOINTS LISPOLIS
11	02/05/2025	**6. Revenue Model** 6.1. Revenue models 6.2. Pricing models	**Team Presentation 6** **Case-Study Delivery**	
12	09/05/2025	**7. Partners** 7.1. Need for partners 7.2. Types of partners 7.3. Partnership risks	***Team Presentation 7***	
13	16/05/2025	**8. Resources, Activities and Costs** 8.1 Financial, physical, human and intellectual resources 8.2 Key activities 8.3 Fixed and variable costs 8.4 Financial/operational timeline	***Team Presentation 8***	
14	23/05/2025	IST – DAY - No Lecture		**Touchpoint 3** Students meet with companies at LISPOLIS and Companies to fine tune the final projects
15	30/05/2025	**9. Storytelling** **9**.1 The 3-act structure 9.2 The hero's journey	***Team Presentation 9*** ***Team Project Delivery PPT+Video***	
16	06/06/2025		***Final Presentations & Discussion***	**Touchpoint 4** Companies/LISPOLIS attend the final presentations in class, at IST-Alameda
18-21		Holidays / Preparation Week / Evaluation Period		
22	18/07/2025	Grades release (2nd semester) Until July 18, 2025		

EVALUATION: GENERAL GOALS AND FORMATS

	TASK		CRITERIA
CONTINUOUS WORK	FW	**FIELD WORK**	• Each team will conduct **at least 10 interviews per week** focused on a specific block of the Business Model Canvas (BMC) in order to validate current hypotheses and put new hypotheses forward.
	WP	**WEEKLY PRESENTATIONS**	• Detailed presentation with **up to 10 slides / 10 minutes** of what the team did in each week. Teams' order and presenters will be randomly selected. Students will engage in discussions and peer-to-peer (individual) assessment/comments every week.
FINAL WORK	FR	**FINAL REPORT**	• Detailed Final Report in the form of a **PowerPoint presentation file up to 20 slides**. Important concepts and ideas can be included in the slides as a footnote. All the BMC topics should be properly covered in the project. Quality of the value proposition and the solution. Robust assumptions and estimations. Different scenario analyses. Social impact assessment. Technical and financial feasibility of the project. The **video should have the duration of around 5 minutes** and should summarize / advertise the team's final value proposition and solution/proposal.
	FP	**FINAL PRESENTATION**	• Team final presentation and video assessed by a panel of examiners. Quality of presentation. Team dynamics and engagement. Critical thinking and capacity to describe and discuss the required topics. (**up to 10 slides / up to 10 minutes**).
	CS	**CASE STUDY**	• **Deliver a word document with 5 pages (excluding references and annexes) about a real case (innovation/ product development) within a start-up @ LISPOLIS**. It is fundamental to go beyond the description and propose alternative solutions/scenarios

EVALUATION: DETAILED CRITERIA

	TASK		CRITERIA
CONTINUOUS WORK	FW	**FIELD WORK** (35% of the final Grade = 7 points)	• Number of Interviews every week • Quality and use of Primary information (relevance/adequacy of the respondents) • Detailed description of interviews and characterization of interviewees • Quality of tested hypotheses about the week's topic • Explain how the insights from interviews connect with the week's topic and validate or not the hypotheses • Show/Explain the final week's topic • Propose experiments/data collection to test the hypotheses and points addressed
	WP	**WEEKLY PRESENTATIONS** (20% of the final Grade= 4 points)	• Use of robust and relevant secondary data • Quality of presentation • Team dynamics and engagement • Critical thinking and capacity to discuss the topics, defend the key arguments • Students' peer-to-peer (individual) assessment/comments every week
FINAL WORK	FR	**FINAL REPORT** (20% of the final Grade= 4 points)	• Quality of the value proposition and of the proposed solution • Robust assumptions and estimations • Different Scenario analyses • Social impact assessment • Technical and financial feasibility of the project • Quality /engagement of the video
	FP	**FINAL PRESENTATION** (10% of the final Grade= 2 points)	• Capacity to cover in detail all the BMC building blocks • Robust assumptions and estimations. • Different Scenario analyses. • Social impact assessment • Quality of presentation • Team dynamics and engagement • Critical thinking and capacity to describe and discuss the required topics
	CS	**CASE STUDY** (15% of the final Grade= 3 points)	• Use of Secondary and/or Primary data • Quality of Critical opinion/discussion of extensions, adaptations & different scenarios • Technical/ Scientific rigour (variety and quality) of references • Correct formats, citations, references, tables and figures' captions

Complementary information

- ***Presentations:*** *If possible, all group members should present and participate in the discussions. Specific questions can be made to each group member during the discussion. The presentation files (up to 15 slides with minimum font size 15) should be delivered in PowerPoint (or similar) format before the presentations' date. Any additional information on the business idea or detail deemed to be relevant should be included as a footnote in the PPT presentation.*
- ***Definition of mandatory activities:*** *Throughout the semester, compulsory attendance/delivery is required for the following tasks in order to finish the course:*

TASK	MANDATORY ACTIVITIES AND PENALTIES
WEEKLY INTERVIEWS	• Absence of interviews in 2 or more sessions = students involved fail the course • Detection of fake weekly interviewees / interviews = students involved fail the course
WEEKLY PRESENTATIONS	• Late delivery of the slides = 20% of the maximum grade for this component is deducted • Absence of the team in 2 or more sessions = students involved fail the course
FINAL SLIDES	• Late delivery = 50% of the maximum grade for the session is deducted • Absence and/or non-delivery and/or plagiarism = 100% of the maximum grade for this component is deducted and students involved fail the course
FINAL PRESENTATION	
CASE STUDY	• Late delivery = 50% of the maximum grade for the session is deducted • Plagiarism or non-delivery = 100% of the maximum grade for the session is deducted

Complementary information

- ***Complaints and appeals:*** *All formal enquiries or complaints related with grades or evaluation system must be made in writing (which can include e-mail) up to one week after grades are published. The instructor will acknowledge the formal complaint in writing; respond within one week; deal reasonably and sensitively with each complaint; take action where appropriate.*

- ***Special Season:*** *Working-students and other students eligible for the special season (officially registered at IST Secretariat) have the possibility to deliver and present a 20 pages Final Report (excluding references and annexes) developed individually. The Project should be significantly different of any business idea/report submitted during the semester by the student or his/her colleagues). The contents cover the same topics than non-working students. The Final Report will account for 60% and the Presentation/defence 40% of the final grade.*

BIBLIOGRAPHY

- *Blank, S. (2013). Why the Lean Start-Up Changes Everything. [online] Harvard Business Review. Available at: https://hbr.org/2013/05/why-the-lean-start-up-changes-everything*
- *Blank, S. G., & Dorf, B. (2012). The startup owner's manual: The step-by-step guide for building a great company. Pescadero, Calif.: K&S Ranch, Inc..*
- *Byers, T. H., Dorf, R. C., & Nelson, A. J. (2011). Technology ventures: from idea to enterprise (Vol. 3). New York: McGraw-Hill.*
- *Fitzpatrick, R. (2013). The Mom Test: How to talk to customers & learn if your business is a good idea when everyone is lying to you. Robfitz Ltd.*
- *Innovation and Entrepreneurship, John Bessant, Joe Tidd, Wiley; 2nd Edition, 2011.*
- *Osterwalder, A. and Papadakos, T. (2014). Value proposition design. Hoboken, NJ: Wiley.*
- *Osterwalder, Alexander; Pigneur, Yves (2013). Business Model Generation Hoboken, NJ: Wiley*
- *Ries, E. (2011). The Lean Startup. New York, NY: Crown Business Division. Available at: https://ia801206.us.archive.org/31/items/TheLeanStartupErickRies/The%20Lean%20Startup%20-%20Erick%20Ries.pdf*
- *Seizing the White Space: Business Model Innovation for Growth and Renewal, A. G. Lafley and Mark W. Johnson, Harvard Business Press; 1st edition, 2010.*

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Miguel Amaral holds a PhD in Industrial Engineering and Management; a MSc in Engineering Policy and Technology Management from the University of Lisbon, a degree in Economics and an Advanced Diploma in Communications Science. Miguel Amaral presently works as a tenured Assistant Professor at the Instituto Superior Técnico – Universidade de Lisboa and as a Research Associate at the Center for Innovation, Technology and Policy Research, IN+/IST, where he integrates the Laboratory of Technology Policy and Management. He is also a Research Associate at The Observatory for Living and Working Conditions and a Co-founder of the Social Innovation Lab at IST. His research interests and teaching focus mainly on Technological change, Entrepreneurship, Innovation, Industrial Dynamics and Social Impact.

TÉCNICO LISBOA

IN+ CENTER for INNOVATION, TECHNOLOGY and POLICY RESEARCH

SILAB Social Innovation Lab

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Diogo Gonçalves holds a B.A. in Social Psychology, from ISPA Institute, a MSc. in Data Science from IMS-NOVA; and he was a PhD student in Behavioral Economics, at Tilburg University in the Netherlands. He is an Invited Professor at DEG-IST, and the Founder of Nudge Portugal, a start-up dedicated to the development of economic and social behavioural change interventions.

TÉCNICO LISBOA

nudge Portugal

SCHEDULE 2024/2025 2º Semester

Hour	Monday	Tuesday	Wednesday	Thursday	Friday
8:00-8:30					
8:30-9:00					
9:00-9:30					
9:30-10:00					
10:00-10:30					
10:30-11:00		TBE – Office Hours			
11:00-11:30					
11:30-12:00					
12:00-12:30					
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13:00-13:30					
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14:30-15:00					
15:00-15:30					
15:30-16:00					TBE-T VA5
16:00-16:30					
16:30-17:00					
17:00-17:30					TBE-PB V1.10 / TBE-PB V1.15
17:30-18:00					
18:00-18:30					
18:30-19:00					
19:00-19:30					
19:30-20:00					

OFFICE-HOURS
F2F or ONLINE (ZOOM)
Please confirm 12 hours in advance

THEORY & PRACTICE: FACE-TO-FACE LECTURES

TECHNOLOGY-BASED ENTREPRENEURSHIP

2024 / 2025

Miguel Amaral
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TÉCNICO LISBOA

SUPPORTING MATERIALS

Complementary information

What is required in your weekly presentations (following our Syllabus) *is: Detailed presentation (up to 10 slides / up to 10 minutes) of what the team did each week. Key evaluation criteria: Capacity to follow the assigned topics to be covered each week as outlined in the syllabus. Capacity to perform around 10 interviews with different stakeholders every week. Use of robust and relevant secondary and primary data. Quality of presentation. Team dynamics and engagement. Critical thinking and capacity to discuss the topics, defend the key arguments/premisses. Peer-to-peer feedback (quality of comments to other colleagues' work). Teams' order and presenters will be randomly selected*

•

Please, do not forget that your project should be ***Evidence-based entrepreneurship (not "faith-based")***

- *Students need to "get out of the building"*
- *Time management: intense and fast*
- *Community: every class member must actively comment the other teams*

Teams should upload their slides in Fenix before the presentation (until Friday @ 14:00h)

PRESENTATION #1: OPPORTUNITY ASSESSMENT

SUMMARY

Market types and Market sizes

What is the MVP?

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

Slide 4: Discuss the insights from interviews, using direct citations and its connections with the hypotheses (i.e., which citation validates or not each hypothesis)

Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #1: OPPORTUNITY ASSESSMENT

SUGGESTED MATERIALS

Death by Demo 1 http://vimeo.com/groups/204136/videos/76390080

Death by Demo 2 http://vimeo.com/groups/204136/videos/76172223

Death by Powerpoint http://vimeo.com/groups/204136/videos/76171146

Understanding the problem http://vimeo.com/groups/204136/videos/76173388

Attention to Outliers http://vimeo.com/groups/204136/videos/76177672

PRESENTATION #2: VALUE PROPOSITION CANVAS

SUMMARY

Customer Profile

Value Map

Problem Solution Fit

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

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Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #2: VALUE PROPOSITION CANVAS

SUGGESTED MATERIALS

3 m Video Presentation https://www.youtube.com/watch?v=ReM1uqmVfP0

10 Steps Guide – https://www.garyfox.co/canvas-models/value-proposition-canvas-guide/

Customer Profile: 15m read - https://cieden.com/value-proposition-canvas-customer-segment-explained

Value Map: 3m read - https://medium.com/the-abcs-of-creating-a-value-proposition-canvas/the-elements-of-a-value-map-7af0d00a682e

Problem Solution Fit: Helpful to Prepare Interviews - https://www.strategyzer.com/blog/achieve-product-market-fit-with-our-brand-new-value-proposition-designer-canvas

PRESENTATION #3: CUSTOMER SEGMENTS

SUMMARY

Customer Development

Rules for Interviewing

One-sided and multi-sided markets

Personas and customer workflow

MVP Validation

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

Slide 4: Discuss the insights from interviews, using direct citations and its connections with the hypotheses (i.e., which citation validates or not each hypothesis)

Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #3: CUSTOMER SEGMENTS

SUGGESTED MATERIALS

- 7:49m Explanatory Video
- How to use the Customer Segments Building Block

Customer Development

- 2:41m Video by Steve Blanck
- 5m Read - Steve Blanck Post

Rules for Interviewing

- 5m Read With Video

One vs. Multi-sided Markets

- 5m Read – 10 types of Business Models
- 2m Read – What is a Multi-Sided Business Model

Personas & Customer Workflow

- The Persona Canvas
- 10 Steps to Create a Persona

MVP Validation

- What is a MVP?

PRESENTATION #4: CHANNELS

SUMMARY

Channels

Roller Coaster

Physical Channels

Web/Mobile Channels

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

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Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #4: CHANNELS

SUGGESTED MATERIALS

- Introduction (2m)
- Description of the channels building block (7m)
- Roller Coaster (7 slides)
- Physical Channels (5m read)
- Web/Mobile Channels (5m read)

PRESENTATION #5: CUSTOMER RELATIONSHIPS

SUMMARY

Customer Relationships

Get, keep, grow customers

Customer Relationships Funnel

CAC, Churn and LTV

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

Slide 4: Discuss the insights from interviews, using direct citations and its connections with the hypotheses (i.e., which citation validates or not each hypothesis)

Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #5: CUSTOMER RELATIONSHIPS

SUGGESTED MATERIALS

- 2m introduction
- 5m description of the customer relationships block
- Get, Keep, Grow Customers 10m read
- Customer Relationships Funnel 4m read
- CAC, Churn and LTV 22m read

PRESENTATION #6: REVENUE MODEL

SUMMARY

Revenue Model

Revenue models

Pricing models

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

Slide 4: Discuss the insights from interviews, using direct citations and its connections with the hypotheses (i.e., which citation validates or not each hypothesis)

Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #6: REVENUE MODEL

SUGGESTED MATERIALS

- 0:56m Distinction Revenue Model vs. Pricing Tactics
- How to use the Revenue Model Building Block

- Revenue Model
- 4:32m Video
- 7m Read – Revenue Model 5 Parts Framework
-
- Revenue Model Choices
- 37 Slides
-
- Pricing
- 2m Read – 3 Price Tactics
- 2m Read – Advantages & Disadvantages
-
- Market Type & Revenue
- 2m Video
- What is your Market Type
-
- Metrics
- 10 Key Metrics for a StartUp

PRESENTATION #7: PARTNERS

SUMMARY

Partners

Need for partners

Types of partners

Partnership risks

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

Slide 4: Discuss the insights from interviews, using direct citations and its connections with the hypotheses (i.e., which citation validates or not each hypothesis)

Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #7: PARTNERS

SUGGESTED MATERIALS

- 4:10m Explanatory Video
- How to use the Key Partnerships Building Block
- Types of Partners (2m Read)
- Partnerships Examples (2m Read)
- Eight Questions to Define your Key Partners (5m Read)

PRESENTATION #8: RESOURCES, ACTIVITIES, COSTS

SUMMARY

Resources, Activities and Costs

Financial, physical, human and intellectual resources

Key activities

Fixed and variable costs

Financial/operational timeline

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

Slide 4: Discuss the insights from interviews, using direct citations and its connections with the hypotheses (i.e., which citation validates or not each hypothesis)

Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

PRESENTATION #8: RESOURCES, ACTIVITIES, COSTS

SUGGESTED MATERIALS

- 6:25m Explanatory Video
- How to use the Cost Structure Building Block – 2m Read
- Strategy – Cost vs. Value (2m Read)
- Categories of Cost (2m Read)
- Economies of Scale & Slope (5m Read)

PRESENTATION #9: STORYTELLING

SUMMARY

Storytelling

The 3-act structure

The hero's journey

SLIDES

Slide 1: Cover slide

Slide 2: Show the initial hypotheses to be tested and validated on the week's topic

Slide 3: Provide the number of interviews done and a detailed description of the interviewing process; characterization of interviewees (name, surname, age, gender, profession, etc) and key contents

Slide 4: Discuss the insights from interviews, using direct citations and its connections with the hypotheses (i.e., which citation validates or not each hypothesis)

Slide 5: Show/explain the final conclusions about the week's topic and frame them into an updated Business Model Canvas

Slide 6: Propose new experiments/interviews to fine-tune the hypotheses and points addressed in the current week

Note: If you need you can use more than one slide for each point, as long as the total is up to 10 slides.

CHALLENGE

TECHNOLOGY-BASED ENTREPRENEURSHIP

TÉCNICO LISBOA

2024 / 2025
(Alameda)

Miguel Amaral
Diogo Gonçalves

Challenge: "Developing innovative goods, services and/or business models to address the needs of Companies @ LISPOLIS Science & Technology Park"

LISPOLIS
PÓLO TECNOLÓGICO DE LISBOA

1 IDMind

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About IDMind: Founded in 2000, IDMind is based in Lisbon (PT) and specializes in creating robots from scratch. Each robot features and interactions are customized to the client/user needs.

Our Vision: Robots made to share the same space, work and collaborate with humans.

Proposed challenge:

Every day in healthcare environments there are numerous tasks that require non-specialized human intervention.

1.1 IDMind

Figure. Examples of daily repetitive tasks in healthcare environments

→ IDMind proposes the development of a business plan around a mobile robot that can be integrated into daily routines, acting as a co-worker with existing staff.

1.2 IDMind

Problem

Staff shortage

Intensive manual labour

Repetitive and tedious tasks

Risk of injuries

Risk of human error

Inefficient workflow

Shorter interaction time with patients

Solution

Modular service robot to execute different tasks in healthcare environments, especially focused on logistics, repetitive and on-demand deliveries, and social interaction.

2 LogisticsWMS

Miguel Catela
Co-Founder | CEO
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LogisticsWMS is a Portuguese startup revolutionizing logistics for small and medium-sized businesses (SMEs). Many SMEs struggle with logistics inefficiencies, losing time, money, and customers due to outdated processes. In fact, 60% of US SMEs report losing over 15% of their revenue due to supply chain issues.

For over 15 years, we've worked closely with Portuguese SMEs and identified three major pain points:

- Poor planning capabilities – Leading to inefficiencies and delays.
- Lack of automation – Decisions are slow and reactive.
- Reliance on outdated tools – Many still use paper, spreadsheets, or legacy systems.

2.1 LogisticsWMS

Our Solution

LogisticsWMS is an intelligent SaaS platform that transforms warehouse operations by:

- Deploying in just 2 hours (compared to the industry standard of 3–12 months).
- Automatically planning and assigning tasks to warehouse workers in real time.
- Guiding workers through the optimal warehouse routes (like Waze for logistics).
- Learning from execution to improve efficiency and predict future needs.

The logistics market is booming, growing 20% per year and expected to reach $150B by 2032. We've gained traction in Portugal (100+ paying users) and recently expanded into France and Morocco.

2.2 LogisticsWMS

Challenge:

How can we grow from 100 to 1,000 users in the next 12 months? We're at a critical moment—scaling fast is the key to our success. That's where you come in!

Your mission:

Develop a Go-To-Market (GTM) strategy to help us reach 1,000 users by February 2026.

- Which markets should we target? (Portugal, France, Morocco, or new ones?)
- What GTM strategies should we adopt? (Direct sales, partnerships, online campaigns, etc.?)
- How much budget is needed, and where should we invest it? (Marketing, hiring, partnerships?)
- What creative growth hacks could give us an edge?

We want actionable strategies, backed by research and data. Think like a startup founder, explore unconventional ideas, and help us unlock hypergrowth! Are you up for the challenge? Let's make logistics smarter, faster, and more scalable—together!

3 REPETE

Francisca Bicho
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The reusable packaging market is growing as a sustainable alternative to single-use packaging, driven by regulatory changes and increasing environmental awareness. **REPETE** aims to offer innovative solutions to reduce waste in the packaging sector by creating an efficient reuse system that is accessible to businesses and convenient for consumers. The goal is to develop a model that balances sustainability, economic viability, and user experience.

Reusable packaging requires efficient solutions for logistics, consumer adoption, and financial viability. Success depends on making the process as simple and convenient as disposable packaging, eliminating friction. With the right technology and incentives, reuse can become the natural choice in the market, combining environmental impact with profitability.

3.1 REPETE

Frictionless Process

How can reuse be as fast and intuitive as disposable packaging?The biggest advantage of disposable packaging is its simplicity—use and throw away. For reuse to be a realistic alternative, the process must be equally simple and seamless. This means ensuring a smooth user experience by eliminating unnecessary steps and implementing strategic integrations that facilitate onboarding, check-ins and checkouts, refundable deposit charges, and instant, automatic refunds. The more invisible and intuitive the reuse process is, the higher the adoption rate will be.

Not considering: Any technology that is not permanently embedded in the packaging. We are testing RFID integration within the material.

3.2 REPETE

Reverse Logistics and Packaging Returns

How can a complex network be transformed into a smooth and efficient system? One of the biggest challenges is ensuring that packaging returns efficiently for reuse. This requires a well-structured collection and redistribution system, whether through drop-off points, partnerships with establishments, or direct consumer collection services. Additionally, minimizing costs and the carbon footprint of this process is essential for the solution to be truly sustainable. To mitigate the risk of non-return, strategies such as refundable deposits (where consumers pay a fee that is refunded upon return), mild penalties for non-return, loyalty incentives, and cashback can be implemented.

Considering: Subscription tiers with access to the full package (integrated logistics) and tiers without access to it.

3.3 REPETE

Consumer Adoption

How can a new habit become a natural and desirable choice?Reusable packaging heavily depends on user behavior. For it to become a habit, theprocess must be intuitive, fast, and beneficial. Clear incentives, such as discounts,rewards, or integration with loyalty programs, can accelerate adoption. Communicationalso plays a crucial role—positioning the brand as futuristic, accessible, and hassle-free in the return process may be key to turning behavioral change into a recurring practice.

Not considering: Credit card usage, an overly moralistic or educational environmental discourse.

Considering: Subscription tiers with access to the full package (integrated logistics) and tiers without access to it.

3.4 REPETE

Financial Sustainability of the Model

How can initial costs be overcome and long-term viability ensured? To be viable, the business must find a balance between cost and benefit. Producing durable packaging, creating an efficient logistics system, and maintaining competitive pricing simultaneously can be challenging. It is crucial to test different revenue models, such as pay-per-use, subscriptions, or B2B partnerships, to ensure financial flow supports business growth. Additionally, maximizing the lifespan of the packaging and optimizing collection and sanitation processes will help amortize initial costs over time.

Considering: The restaurant/ food and beverage sector.

4 SEA.AI

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Country Manager
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At **SEA.AI**, we develop AI, more precisely, machine vision for cameras in maritime environments. The processing is done on hardware built by us and then sent to applications that serve solely as a visualization interface for the user. With the advancement of processor technology and optimizations in artificial intelligence, it is becoming possible to process AI directly on the user interface, eliminating the need for any additional hardware beyond the mobile phone or tablet that has so far only served as a viewing medium.

4.1 SEA.AI

The goal of this Project is to develop an Android app that streams live camera feed, either from the phone's built-in camera or a third-party camera connected to the same network. The Application must also perform on-edge AI processing and overlay the results on the live stream. Additionally, users should be able to record and report AI misbehaviors, along with available metadata such as Time, IMU and GPS data, to an online server.

SEA.AI will provide AI networks compatible with on-edge devices that are able to detect and classify objects in the maritime environment.

5 Virtuleap

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Virtuleap is an innovative health startup operating at the intersection of virtual reality (VR) and neuroscience to develop immersive solutions that go beyond traditional approaches to improve cognitive function and address the impact of cognitive disorders and dysfunctions. The company's mission is to leverage the potential of VR to create more effective and accessible tools for cognitive training and assessment.

Virtuleap's flagship product, Enhance VR, is a cognitive training and monitoring application that offers 15 short, engaging, and scientifically inspired exercises. These exercises are based on validated neuropsychological tools and target key cognitive functions. Enhance VR has received multiple industry awards and continues to grow as a recognized solution for cognitive fitness in the marketplace.

5.1 Virtuleap

Building on this expertise, Virtuleap has developed Cogniclear VR as a next-generation cognitive assessment tool designed for earlier and more precise detection of cognitive impairment. Cogniclear VR offers a multidomain assessment, with 14 exercises covering eight critical cognitive categories: problem-solving, attention, cognitive flexibility, temporal location, memory, abstract reasoning, visuoconstructional skills, and motor control. Unlike traditional cognitive screening tests, Cogniclear VR utilizes gamified, immersive scenarios to assess a wide range of cognitive and behavioral functions in a naturalistic and engaging manner. Cogniclear VR was launched last November and will undergo clinical development as part of the European project VR Health Champions.

5.2 Virtuleap

As part of the next stage in the development of Cogniclear VR, we invite students to take on the challenge of defining the business model for this innovative solution. The task is to analyze the market potential, identify target customers, and develop a sustainable strategy for the commercialization and growth of the product. Using the Business Model Canvas, students will explore key aspects such as revenue generation models, strategic partnerships, cost structures, and customer acquisition strategies. This will not only help define how Cogniclear VR can be successfully implemented in the healthcare sector but also how it can be scaled to reach a broader audience. By participating in this exercise, students will contribute to shaping the future of cognitive assessment tools and gain valuable insight into the intersection of technology, healthcare, and business.

Video of Cogniclear: https://www.youtube.com/watch?v=YhCXCqDtD-0

6 WRIGHTIA

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Wrightia has 19 years of experience operating in 8 different countries, delivering technology solutions that range from systems architecture and integration, data migration and management, to application development and systems testing. Our international background allows us to tackle challenges with agility, providing innovative solutions that consistently generate positive impacts for our clients.

Our commitment to innovation and continuous improvement is reflected in the consistent results we deliver, which directly contribute to the success and sustainable growth of the organizations we partner with.

6.1 WRIGHTIA

We would like to propose the following scenarios for your consideration:

- Monetization of an open-source low-code tool, aimed at developing enterprise applications.
- Monetization of a code quality tool for the WebMethods integration platform, comprising quality rules and coding standards that developers must follow when building their services.

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