

YLABS APPENDICES

December 30th, 2025

Introduction

AI disruption is creating demand for human-centric skills while traditional education remains exam-focused and industrial-age. These are global trends that in Portugal, are exacerbated with a significant brain drain, talent retention challenges and the need for innovation-driven economy. Students are graduating unprepared, anxious about job displacement, lacking entrepreneurial pathways.

In Portugal there is no integrated education-to-venture pipeline that connects learning, creativity, and commercialization. Much less starting at the high school level. YLabs is Portugal's first integrated education-to-venture pipeline, transforming how students learn, create, and launch startups. It benefits from a team with 25+ years of experience in both university teaching and research and in the development of the YDreams Group of companies.

YLabs builds on the proven success of Seixal Criativo. This initiative trains almost 1000 high school students a year in frontier technologies and business skills. It operates a state-of-the-art lab with about 80 “resident” students developing their own projects. Eight of these were finalists in Portugal’s National Young Entrepreneurship Competition, with one winning a major award. Most students that graduated from high school keep developing their projects under the program and YLabs support.

Seixal Criativo itself received three national awards as a most innovative educational initiative for high school students. Both the students and the initiative are now aiming at both national and international awards in 2026. Participation in collective and individual project competitions is incorporated into YLabs as part of the incentive structure to develop world class products and companies.

Collective Awards	Individual Project Awards
UNESCO-linked Education Innovation Award	Concurso Nacional de Jovens Empreendedores
World Summit Awards (WSA)	Blue Ocean Student Entrepreneur Competition
European Commission Education Innovation Award	James Dyson Award

YLabs startups will be encouraged to qualify for accelerators such as YCombinator and Tech Stars.

YLabs operates through three synergistic components:

1. **Educational Infrastructure** – Modern, project-based curricula (Foundational Disciplines, You First, Seixal Criativo model).
2. **Creative Labs** – Idea exploration hubs where students prototype and validate concepts. Two starting sites: Seixal and Lisbon
3. **Venture Studio** – Professional acceleration converting validated projects into fundable startups.

The goal is to build a scalable pipeline of projects that will generate a growing number of venture ready projects every year. In 2026 we aim at a pipeline of 30+ projects (there are already 22 projects under the initiative) with a minimum of 6 venture ready projects. Most of the educational infrastructure and creative labs operations will be funded by public and private sources. The Venture Studio will be funded by private investment. YLabs' market sales will come from the Educational Infrastructure products and the Venture Studio outcomes.

This document also introduces **YLabs Team** and external experts that have been part of this initiative

Appendix I. Transforming Education into Entrepreneurship

Goals (2026 and beyond)

1. Democratize Cutting-Edge Education-

- Make AI, robotics, AR/VR, and systems thinking accessible to all students
- Replace exam-centric learning with project-based mastery
- Develop curricula that prepare students to co-create with intelligent machines

2. Scale Proven Pedagogical Models

- Expand School of Bit & Atoms approach, first developed and tested at Seixal Criativo, to other municipalities in Portugal, starting with Lisbon in 2026
- Create teacher training programs for new facilitators

3. Build "Education as Infrastructure"

- Transform schools into innovation labs
- Establish municipal partnerships for complementary curricula
- Create on-line curricula
- Create certification pathways recognized by universities and employers

2. Student projects

- **Format:** Long-term project-based program
- **Duration:** January – December
- **Focus:** Development of real technological projects after the “Bits and Atoms” course
- **Includes:**
 - Ideation & brainstorming
 - Prototyping
 - Software & hardware development
 - Public presentations & competitions (software, hardware, entrepreneurship)
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3. Internal Workshops and Training Programs

General workshops- a Sample

- "Body in Motion, Healthy Mind"
- "Garbage or resources: the impact of small choices"
- "Inclusive Design"
- “Clipping”
- "Welding Elements"
- "Introduction to 3D Slicer"
- "Introduction to Vibe Coding – how to use generative AI tools"

Ongoing structured training programs

Robotics

- Robotics mechanics
- Arduino programming
- 3D printing
- Mechatronics

Programming

- Algorithms & logic
- AI & computer vision
- Game development
- AR/VR software

Girls Into Science

- STEM exploration sessions
- Debates & mentoring
- Special workshops (e.g. STEAM Time sessions)
- External speakers & visits

In-school training

Outreach educational workshops in public schools

Seminars & Public Educational Events

Three quarterly open seminars and one final Gala have been held at Seixal Criativo. A formula that will be repeated in other YLabs hubs.

Invited speakers and visitors have included international leaders such as John Filipe (Ridley Scott Productions), Ken Pimentel (Epic Games), Fábio Seidl (Meta), Diogo Almeida (Google), João Gandra (European Space Agency), Ana Pinheiro Privette (U. Illinois), Duarte Araújo (FMH), Nuno Carvalhais (Max Plank) and others. They have become also part time mentors of student projects.

These events have been also used as opportunities for students to show and discuss their projects to outside audiences.

4. Three-Tier Learning Model Support to Students

Tier 1: Foundational Disciplines in the Age of AI

Conceptual → **Operational** → **Adversarial** framework tested first with Mathematics

- Algebra through Differential Equations
- Statistics, Probability & Data Science
- Computational thinking and algorithm design:

Will be expanded in 2026 and 2027 to Physics, Chemistry, Biology, Computer Science and Language Arts.

Delivery:

- Cheat sheets and visual learning aids
- Software stack
- Online problem banks with AI tutoring support

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Tier 2: You First Curriculum (Human-AI Collaboration)

Year-by-year program complementing foundational courses with workshops on:

- **Surprise & Creativity:** Multimodal design, game mechanics, storytelling
- **Conscience & Ethics:** CARE protocol, decision frameworks, social impact
- **Shared Perspectives:** Collaborative VR/AR problem-solving
- **Body Intelligence:** Robotics, gestural interfaces, maker skills

Tier 3: Core Subjects Reimagined:

- Mathematics in the Age of AI
- Writing in the Age of AI (Orwell → Le Guin → Baldwin)
- Sciences through Digital Twins
- Arts & Speculative Design

Delivery:

- Project studios
- Peer evaluation portfolios
- DAO simulations for organizational design

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Appendix II. Creative Labs

The Creative Labs programs are oriented towards the development of student projects based on their own ideas. They have been running at Seixal Criativo in the last three years. YLabs also includes projects developed at NOVA's Disobedience Lab and at the SIRCA course held at Instituto Superior de Agronomia in its first batch.

Each project is described below. Its lab of origin, starting year, awards, potential clients and partners, and financial upside (considering Portuguese and US target markets) are also depicted. Finally, they are rated according to their readiness to be incorporated in YLabs' venture studio. Images of the two labs that will host this initiative are shown below. Slides, additional images and videos on each project can be supplied upon request.



Seixal Criativo Lab (Seixal Municipality)



ISA Robotics Lab (ISA, U. Lisbon)

Creative Labs Projects

1. Ergo Chair (SC-Seixal Criativo, 2023)



Ergo Chair is a sensor- and actuator-driven ergonomic chair that dynamically adapts posture in real time to prevent musculoskeletal disorders and long-term back pain.

Awards: Finalist in National Youth Entrepreneurship Competition (2025). Ergo Chair will compete in 2026 for the James Dyson Award.

Stage: Creative Labs R&D required: Rationale: Biomechanics, safety, reliability, and certification need deeper work

Early Clients to Target:

Portugal- Corporate wellness programs (banks, consulting firms), Public sector (municipalities, ministries with large office workforces), Hospitals and rehabilitation clinics.

Global- Large employers (tech, insurance, call centers), Occupational health providers, Veterans' rehabilitation centers.

Strategic Partners to Seek:

Academic: FMH (Lisbon), biomechanics labs, UT Austin / Stanford (US), Industrial: Steelcase, Herman Miller (later-stage). Insurance: Multicare, Fidelidade; UnitedHealth, Kaiser Permanente (US)

Upside:

	Portugal	Global
5-yr Revenue	€8–15M	€40–70M
Investment	€1.2–1.8M	€3–5M
Valuation	€10–20M	€50–80M

Business model: Chair leased (not sold) + analytics subscription, insurance-backed prevention contracts

2. KRUKA – Intelligent Vase (SC, 2023)



Kruka is an intelligent indoor plant vase with sensors, actuators, and visual feedback, helping users keep plants alive effortlessly.

Awards: Finalist in National Youth Entrepreneurship Competition (2025).
Kruka will compete in 2026 for the James Dyson Award.

Stage: Venture-ready. It can be a Internet of Nature B2C entry object.

Early Clients to Target:

Portugal- Offices (corporate ESG programs), hotels and hospitality groups, real estate developers.

Global- Direct-to-consumer (urban millennials), Co-working chains (WeWork-type), Property management firms

Strategic Partners to Seek:

Retail: IKEA (pilot programs), Leroy Merlin

Plant brands: Local nurseries → global indoor plant brands

Platforms: Amazon, Shopify

Upside:

	Portugal	Global
5-yr Revenue	€5–10M	€25–40M
Investment	€300–600k	€1–2M
Valuation	€8–15M	€30–50M

Business model: 1. Hardware-led entry (low friction)- DTC smart vase sales, B2B bulk sales (offices, hotels, real estate); 2. Subscription intelligence layer-Plant Care AI subscription, Adaptive watering, light, nutrition, Seasonal & emotional feedback (“your plant is stressed”), Household nature dashboard, Multiple Krukas → one home graph; 3. Ecosystem marketplace-Consumables, Soil, nutrients, replacement plants, Nature add-ons, Sensors, grow lights, biodiversity packs.

3. WiseLamp (SC, 2023)



WiseLamp combines circadian-aligned light therapy, wake-up routines, and wireless charging into a bedside wellbeing object.

Awards: Finalist in National Youth Entrepreneurship Competition (2025). WiseLamp will compete in 2026 for the James Dyson Award.

Stage: Venture-adjacent. Still development work aahead. Must be bundled into a wellbeing ecosystem

Early Clients to Target:

Portugal- Hotels & wellness resorts, Elderly care homes, corporate wellbeing programs

Global- Sleep clinics, Mental health platforms, Employers offering wellness perks

Strategic Partners to Seek:

Sleep science: Universities, chronobiology labs

Health platforms: Headspace, Calm (integration later)

Hardware: Asian ODM manufacturers

Upside:

	Portugal	Global
5-yr Revenue	€3–6M	€15–25M
Investment	€200–400k	€1–1.5M
Valuation	€5–8M	€20–35M

Business model: Hardware at cost (or bundled free), Sleep optimization subscription, Chronotype tuning, routines, corporate dashboards, White-label OEM, Hotels, elder care, hospitals, API integrations, Mental-health & wellbeing platforms. Can be bundled with Safest Space, Sonnosphere

5. Safest Space (SC, 2023)



Safest Space is a customizable VR environment that helps users manage anxiety, panic attacks, and mental distress through immersive calm and control.

Awards: Finalist in National Youth Entrepreneurship Competition (2025). Safest Space will compete in 2026 for a Tech Stars accelerator.

Stage: Venture-ready. Flagship health and wellbeing product.

Early Clients to Target:

Portugal- Public hospitals & SNS pilots, Schools and universities, Mental health clinics

Global- Healthcare providers, Insurance-backed wellness programs, Corporate mental health benefits

Strategic Partners to Seek:

Clinical: Psychologists, psychiatrists, hospitals

Hardware: Meta (Quest), Apple Vision Pro ecosystem

Insurers: Fidelidade, Allianz; Aetna, Blue Cross

Upside:

	Portugal	Global
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5-yr Revenue	€10–20M	€80–150M
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Investment	€500k–1M	€3–6M
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Valuation	€15–30M	€100–200M
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Business model: 1. Clinical & institutional (primary): Per-seat licensing hospitals, clinics, universities, therapy bundles; 2. Employer & insurer channel: Corporate mental-health plans; 3. Consumer subscription (secondary)

5. VoxOn (SC, 2023)



VoxOn enables selective noise cancellation—users to choose what sounds to eliminate and what to preserve—combined with adaptive learning and translation.

Awards: Finalist in National Youth Entrepreneurship Competition (2025). Voxon will complete in 2026 for a Tech Stars accelerator.

Stage: Need vertical focus, competing head-on with Big Tech. It must handle Meta's recent Sam Audio development.

Early Clients to Target:

Portugal- Construction workers, Neurodivergent users (schools, clinics), Open-space offices

Global- Industrial safety, Autism support organizations, Productivity-focused enterprises

Strategic Partners to Seek:

Hardware: Headphone manufacturers (B2B licensing)

Safety: OSHA-aligned companies

Accessibility: Autism advocacy groups

Upside:

	Portugal	Global
5-yr Revenue	€5–10M	€30–60M
Investment	€400–800k	€2–4M
Valuation	€8–15M	€40–70M

Business model: 1. Vertical Licensing-Construction, neurodiversity, safety, OEM algorithm licensing; 2. Embedded into headsets / PPE. Enterprise compliance packages

6. Guideline (SC, 2023)



Guideline will pivot into a Surprise Generation Engine, implementing Surprise Calculus—the human advantage layer above LLMs and simulations.

Awards: Finalist in National Youth Entrepreneurship Competition (2025). Winner in the Creativity Category. Guideline will compete for a Tech Stars and YCombinator accelerators.

Stage: Can become a core R&D platform for Y Dream (not a standalone startup)

Early Clients to Target:

Portugal- Design studios, Architecture firms, Education & innovation labs
Global- Sports franchises, Entertainment studios, Strategy & innovation consultancies

Strategic Partners to Seek:

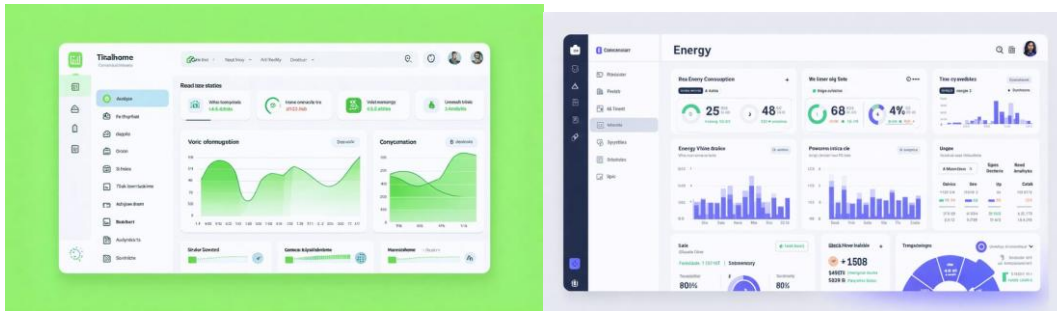
Academic: Design schools, Tech: NVIDIA Omniverse

Upside:

	Portugal	Global
5-yr Revenue	€15–30M	€150–300M
Investment	€1–2M	€5–10M
Valuation	€30–60M	€300–600M

Business model: 1. Internal IP engine- Embedded across Y Dream / MirrorVerse, High-end B2B licensing Sports, entertainment, strategy studios; 2. Enterprise workshops- “Surprise as a capability”; 3. IP royalties From products generated via the engine

7. Designia → Home Energy Marketplace + Agent (SC, 2023)



Designia will include a marketplace and AI Agent that configures home energy generation, storage, efficiency, financing, and optimization.

Awards: Finalist in National Youth Entrepreneurship Competition (2025).
Designia will compete in 2026 for TechStars and Ycombinator accelerators.

Stage: Venture ready

Early Clients to Target:

Portugal- Homeowners, Real estate developers, Energy cooperatives

Global- Homeowners, EV owners, Community solar participants

Strategic Partners to Seek:

Energy: EDP, Galp; Tesla Energy, Enphase

Finance: Banks, green loans, carbon credit platforms

Real estate: Developers & property managers

Upside:

	Portugal	Global
5-yr Revenue	€20–40M	€200–400M
Investment	€700k–1.5M	€4–8M
Valuation	€30–60M	€300–500M

Business model: Layer 1 — Intelligence SaaS for Homeowners, prosumers, property managers, energy communities for Energy demand modeling, Optimal mix of: Solar / wind / storage, Retrofits, EV charging, Continuous optimization (weather, tariffs, behavior); Layer 2 — Marketplace Orchestration for Equipment suppliers, installers, financiers with transaction feed on: Equipment sales, Installation contracts, Maintenance contracts; Layer 3 — Financing & Credits- Who pays: Banks, green lenders, utilities, carbon platforms. Origination fees on: Green loans, Leasing, Power purchase agreements; Layer 4 — Spatial & AR Licensing Who pays: Developers, municipalities, utilities-AR planning tools licensing

8. Decoreactive- Interactive digital poster & advergaming platform (SC, 2024)



Decoreactive started as a **highly customizable interactive digital poster**, supporting multiple widgets (clock, national day, sensors, Bluetooth phone connection). **It may evolve into a web-based advergaming platform using gesture-based interfaces**, inspired by **Nex Playground**, for brands, malls, museums, and events.

Awards: Decoreactive will compete in the National Youth Entrepreneurship Competition.

Stage: Not ready as a standalone startup. Perfect for Creativity Lab → Venture Studio transition. What's missing: Gesture SDK abstraction (camera-based, web-deployable), Advergaming templates (mini-games), Analytics & brand dashboards

Early Clients to Target:

Portugal and Global- brands, shopping centers, museums and exhibitions, sports franchises

Strategic Partners to Seek:

Camera / sensor vendors, WebXR platforms, Media agencies, Gesture tech (OpenPose-like stacks)

Upside:

	Portugal	Global
5-yr Revenue	€20–40M	€200–400M
Investment	€700k–1.5M	€4–8M
Valuation	€30–60M	€300–500M

Revenue streams will come from scalable SaaS + campaigns, agency network effects

9. I Love Hockey Tables- VR + AR arcade sports game (SC, 2024)



A VR/AR reinvention of classic table hockey, with new tables, power-ups, effects, and UI.

Awards- I Love Hockey Tables will compete for Meta and Epic Games grants.

Stage: Venture ready. Early alpha versions already on VR gaming stores

Early Clients to Target:

VR /AR games stores, VR arcades, Sports bars, Esports venues, Schools & youth centers

Strategic Partners to Seek:

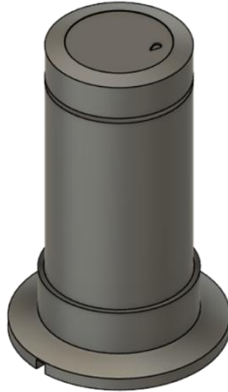
Meta / Apple Vision ecosystem, AR glasses manufacturers, Sports brands

Upside:

	Portugal	Global
5-yr Revenue	€15–30M	€150–300M
Investment	€500k–1.2M	€3–6M
Valuation	€25–50M	€250–450M

Revenue streams will come from VR/AR game sales, Arcade & sports bar licensing, In-game cosmetics & tournaments, Sponsorships (sports brands)

10. ICUPA- UV-based water purification bottle & system (SC, 2024)



ICUPA evolved from a “smart bottle” into a **pure UV-based water purification system**, addressing health, sustainability, and emergency use.

Awards: ICUPA will compete in 2026 for National Youth Entrepreneurship Competition and the James Dyson Award.

Stage: This is **hardware + deep tech**, not a pure app. Needs **engineering hardening & certification**. Venture-studio suitable **with hardware support**. Later spin-out as **clean-water startup**

Early Clients to Target:

Outdoor & travel brands, NGOs & humanitarian orgs, Military / civil protection, Developing-world distributors

Strategic Partners to Seek

UV-C component suppliers, Industrial designers, Certification labs, NGOs (Water.org, Red Cross)

Upside:

	Portugal	Global
5-yr Revenue	€30–60M	€300–600M
Investment	€1–2M	€6–10M
Valuation	€50–100M	€500–900M

Revenue streams: Consumer product sales, Sports, Military, Emergency & NGO contracts, Licensing to bottle brands, B2B (hospitality, travel)

11. Moment Recorder- Always-on “memory buffer” camera (SC, 2024)



Moment Recorder is a **continuous-recording camera** that only saves the *last 30 seconds* when the user presses a button — a “human memory trigger”.

Awards: Moment Recorder will compete in 2026 for the National Youth Entrepreneurship Competition and the James Dyson Award.

Stage: Incubate as a Y Dream experiment. Potential integration with AR glasses and lifelogging

Early clients to target:

Creators & journalists, Security & safety users and AR glasses users

Strategic partners to seek:

ESP32 / camera OEMs, Cloud storage providers, AR glasses companies

Upside:

	Portugal	Global
5-yr Revenue	€10–20M	€150–300M
Investment	€600k–1.3M	€4–7M
Valuation	€20–40M	€250–500M

Revenue streams: Device sales, Cloud subscriptions, Memory / journaling services

12. Sonnosphere- Sleep improvement via audio + embodied device (SC, 2024)



Sonnosphere tackles **insomnia** through **audio strategies + a physical companion device**, positioned against medication-heavy solutions.

Awards: Sonnosphere will compete in 2026 in the National Youth Entrepreneurship competition and for the James Dyson award.

Stage: Needs clinical validation. Venture-studio viable with medical partners. Incubate as Safest Space / wellbeing sibling company.

Early clients to target:

Sleep clinics, elder care facilities, Employers (burnout prevention), Consumers

Strategic partners to seek:

Hospitals & universities, Insurance companies, Audio therapy experts

Upside:

	Portugal	Global
5-yr Revenue	€25–50M	€300–600M
Investment	€1–2M	€6–10M
Valuation	€40–80M	€500–900M

Business model: Clinical B2B-Sleep clinics, elder care, Insurance-covered therapy, Employer burnout programs, Consumer subscription, Device + content, Licensing, Hospitals & insurers

13. ATOM- Modular professional mobile computer for field workers (electricians, plumbers, mechanics, maintenance) (SC 2025)



ATOM is a rugged smartphone / portable computer with hardware and software add-ons optimized for skilled trades. Add-ons may include thermal cameras, multimeters, RFID/NFC readers, depth sensors, task-specific grips, and certified safety accessories. Software layers integrate diagnostics, manuals, remote expert assistance, invoice, and compliance.

Awards: ATOM will compete in 2026 in the National Youth Entrepreneurship Competition and for the James Dyson Award.

Stage: ATOM can integrate into the Venture Studio next year. No longer a “creativity lab” project. The challenge is **industrial design, supply chain, certification, and go-to-market**, not ideation.

Early clients to target:

Utilities, facility-management firms, telecom installers, EV-charging operators

Strategic partners to seek:

Bosch, Fluke, Schneider Electric, Hilti, CAT, Apple Enterprise (MDM), Google ARCore.

Upside:

Metric	Portugal-Based Development	Global-Based Development
Target Market	Skilled trades & field workers	Skilled trades, utilities, enterprises
5-Year Revenue	€25–45M	€280–520M
Investment Required	€1.2–2.0M	€6–9M
5-Year Valuation	€40–70M	€450–750M
Primary Revenue Mix	Hardware (65%) / SaaS (35%)	Hardware (55%) / SaaS (45%)

14. Horizon (SC, 2025)



Horizon is a multi-purpose tablet whose identity changes via magnetically attached modules:

- Audio / speakers
- Game controllers
- Keyboards, mice, control rings
- Sensors (depth, cameras, IMUs)

With sensors + props, Horizon becomes a Reality Console: batting, shooting, driving, gesture-based gaming, education, and simulation.

Awards: ATOM will compete in 2026 in the National Youth Entrepreneurship Competition and for the James Dyson Award.

Stage: Venture Studio

This should not be a standalone startup initially. It is a platform product feeding several YDreams Factory developments.

Early clients to target:

Schools, museums, sports academies, family entertainment venues.

Strategic partners to seek:

Unity, Epic, Nokia, Logitech, LEGO Education, Major Sports Leagues US, Europe and Asia

Upside:

Metric	Portugal-Based Development	USA / Global-Based Development
Target Market	Education, sports academies, family entertainment, therapy	Education, gaming, sports, consumer & institutional
5-Year Revenue	€35–60M	€220–420M
Investment Required	€1.0–1.8M	€5–9M
5-Year Valuation	€55–95M	€350–650M
Primary Revenue Mix	Hardware (50%) / Content & SaaS (50%)	Hardware (40%) / Content & SaaS (60%)

15. MIAMUG. Emotion-aware heated / cooled smart mug (SC, 2025)



MIAMUG is a mug with thermal regulation (Peltier) and visual temperature feedback, controlled by an app

Awards: ATOM will compete in 2026 in the National Youth Entrepreneurship Competition and for the James Dyson Award.

Stage: Crowded consumer market but differentiation tied to emotional/well-being signals.

Early Clients to Target:
Wellness brands, corporate gifting platforms

Strategic Partners to Seek:
IoT ODMs (China / EU)

Upside:
Portugal revenue ceiling: €2–4M
Global niche brand: \$10–20M
Investment: €300–500k
Valuation ceiling: €8–15M

16. SeaThrough. A mobile and AR application that allows humans to see the world as other animals perceive it. (SC, 2025)



It applies scientifically informed perceptual filters to live camera input, photos, and video simulating:

- Species-specific color perception (e.g. dichromacy, tetrachromacy, UV false-color).
- Visual acuity and blur.
- Field of view and binocular overlap.
- Motion sensitivity and temporal sampling

Later versions extend beyond vision to include:

- Hearing filters (frequency bands, dynamic range, directional sensitivity).
- AI-assisted animal behavior interpretation, framed as intent and state cues (stress, alertness, play) rather than literal “language translation”.

Awards: SeaThrough will compete in 2026 in the National Youth Entrepreneurship Competition

Stage: Concept + validated scientific feasibility. Next steps will include development of a MVP, a real time camera mode, and AR+audio support

Early clients to target:

Schools (STEM / biology), Science museums, aquariums, zoos, Environmental education programs, Natural parks, dogs and cat owners

Strategic partners to seek:

Universities with sensory ecology / animal vision labs, Bioacoustics groups (for audio phase), Museums as validation partners, AR platform vendors (Apple / Android ecosystems), Optics & camera pipeline specialists, AR glasses manufacturers (early access programs), Museum networks, educational publishers, Wildlife media platforms

Upside:

	Portugal-led development	Global development
5-yr Revenue	€15–30M	€120–250M
Investment needed	€600k–1.2M	€3–6M
Valuation (Year 5)	€40–80M	€250–450M

Business model: Education licenses-Schools, museums, parks; Consumer subscriptions; Parents, pet owners; Institutional installs; Zoos, aquariums; Content licensing-Wildlife media, streaming, AR experiences, Location-based & glasses

17. Plume - Augmented reality visualization of vehicle emissions (NOVA, 2024)



Reality
emissions

Visualization of vehicle
Using Augmented Reality (AR)

See [Plume video demo](#)

PLUME makes car emissions visible in AR, combining computer vision, emission databases, dispersion models, and Unity-based visualization.

Awards: Finalist in EPIC Games Education Grants, US Provisional Patent

Stage: Can be turned into a consumer and/or a B2B app as part of a YDreams Factory company via the Venture Studio

Early clients to target:
Cities, transport authorities

Strategic partners to seek:
Unity, HERE Maps, environmental agencies, NGOs

Upside:

Within 5 years (€)	Portugal	Global
Revenue	5-10M	50-80M
Investment	500k	5M
Valuation	20-30M	150-250M

Business model: City & authority contracts, B2B fleet dashboards, public engagement tools, NGO & education licensing, Data-as-a-service, Emissions modeling

18. DisoBEEdience- Smart hives for urban & rural pollination (NOVA, 2024)



DisoBeedience provides IoT-enabled beehives monitoring health, behavior, temperature, and threats (*vespa asiatica*).

See [DisoBeedience video](#)

Awards: DisoBeedience was a finalist in NOVA SST Entrepreneurship Competition

Stage: Still needs biological research and hardware development at the Creative Labs stage

Early clients to target:
Municipalities, Agriculture Ministry

Strategic partners to seek:
NGOS, Biodiversity funds

Upside:

Within 5 years (€)	Portugal	Global
Revenues	1-3 M	10-20M
Investment	250k	2.5M
Valuation	15M	25M

Business model: Municipal subscriptions, NGO & foundation grants, Carbon / biodiversity credit enablement, Hardware leasing

19. ANTAIA- a farmers intelligence platform (ISA, 2025)



ANTAIA converts mandatory farm compliance data (fertilizers, pesticides, operations, phenology) into a living intelligence platform. It enables collective, bioregional insight, reverse-reporting automation, sustainability benchmarking, and future access to green finance, carbon, and biodiversity mechanisms.

Stage: Late concept, early MVP definition. Needs product scoping, first pilots, UX simplification for elderly farmers, API integration with DGADR / CAP systems.

First clients to target:

Agricultural cooperatives (rice, olive, wine, citrus), Large farms (500+ ha) needing compliance automation, Regional agricultural agencies & CAP intermediaries. Navigator and Sogrape already expressed interest

Strategic partners to seek:

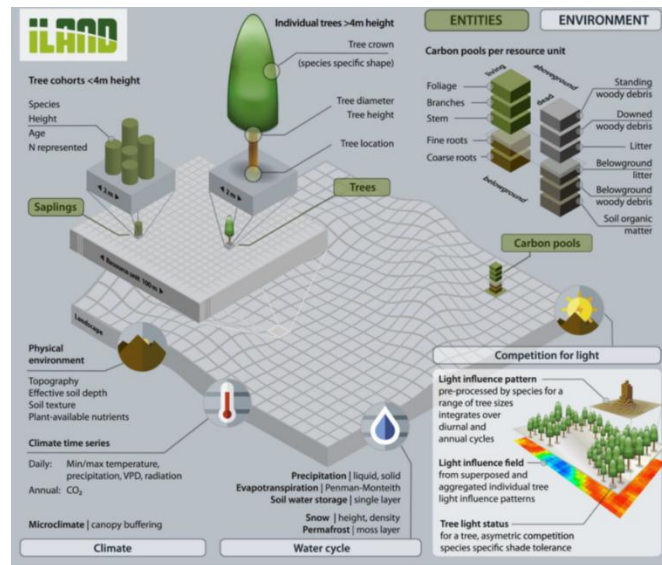
Ministries of Agriculture / CAP authorities, Cooperatives & producer organizations, Carbon / biodiversity credit platforms, Satellite & climate-data providers, financial institutions offering green finance

Upside:

Metric	Portugal International (EU / LatAm)	
5-yr Revenue	€15–25M	€120–200M
Investment Needed	€1.5–2.5M	€6–10M
Valuation (Yr 5)	€50–80M	€300–450M

Business model: SaaS per farm / per hectare, Cooperative & regional licenses, Transaction fees on credits unlocked (carbon, biodiversity), Data-driven advisory services

20. 3D4ESTS- Affordable Forest 3D Mapping & Digital Twinning (ISA 2025)



3D4ESTS uses photogrammetry + AI (instead of expensive LiDAR) to generate interactive 3D forest models, enabling inventory, carbon estimation, ecosystem simulation, and forest digital twins.

Stage: Strong technical prototype + demo platform

Needs: productization, scalable pipelines, commercial pilots.

First clients to target:

Forest owners & managers, Pulp & paper companies, Carbon project developers, public forestry agencies. Navigator and Sogrape are interested in pilot projects.

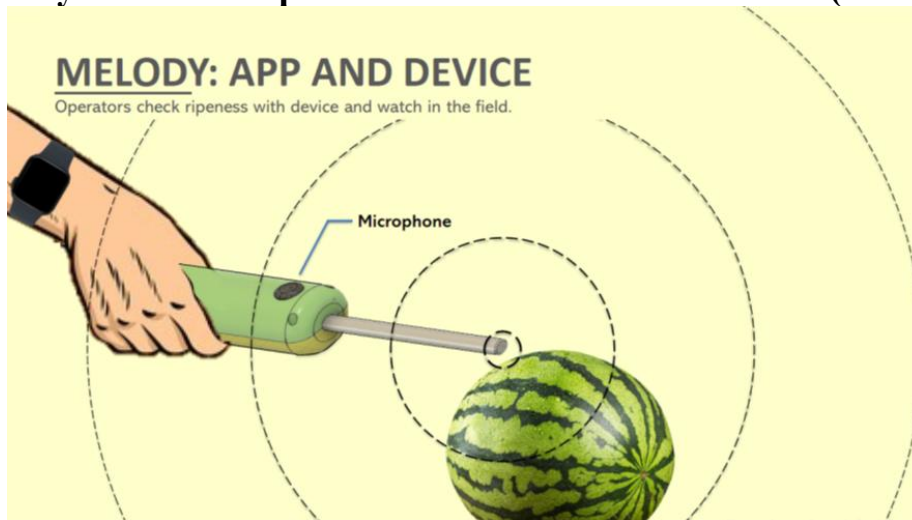
Strategic partners to seek:

Carbon registries & MRV platforms, Drone & camera manufacturers, Insurance companies, Environmental consultants

Metric	Portugal	Global
5-yr Revenue	€12–20M	€180–300M
Investment Needed	€2–3M	€7–12M
Valuation (Yr 5)	€60–100M	€350–500M

Business model: Mapping-as-a-Service (€/ha), SaaS subscriptions for monitoring, Digital-twin licensing, Carbon MRV services

21. Melody- Acoustic Ripeness Detection for Watermelons (ISA 2025)



Melody combines a portable acoustic probe + mobile app to assess internal watermelon ripeness in the field. It codifies expert “sound-based” knowledge into a scalable device, reducing harvest losses and improving quality consistency.

Stage: Functional prototype + clear use case

Needs: hardware industrialization, calibration datasets, pilots with producers.

First clients to target:

Large watermelon producers, Agri-export companies, Cooperatives with quality-based pricing, Retailers demanding consistency

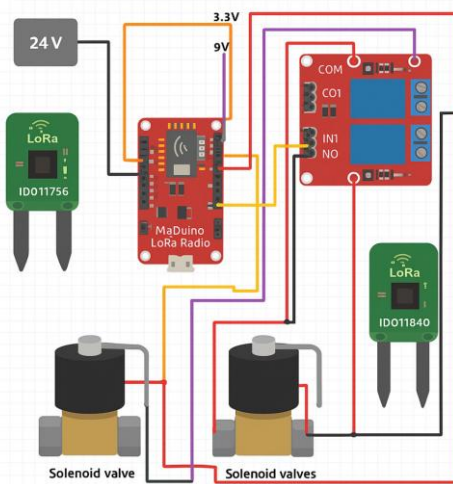
Strategic partners to seek:

Ag-equipment manufacturers, Packing & logistics companies, Agricultural research institutes, large fruit buyers / retailers

Metric	Portugal / Spain	Global
5-yr Revenue	€10–18M	€150–250M
Investment Needed	€1–2M	€5–8M
Valuation (Yr 5)	€40–70M	€250–400M

Business model: Device sales (€300–600 per unit), Annual software / analytics subscription, Enterprise dashboards for producers, Future expansion to other fruits (melons, pumpkins, avocados)

22. Smart Irrigation System for Water-Scarce Regions (SIRS) (ISA 2025)



SIRS is a sensor-driven, LoRa-based smart irrigation system designed for drought-prone regions. It dynamically adapts irrigation to soil moisture and phenological stages, reducing water use while maintaining yield.

Stage: Field-validated DIY prototype

Needs: product redesign, enclosure, cloud dashboard, certification.

First clients to target:

Citrus & orchard farmers, Water-scarce regions (Algarve, Spain, Italy), Irrigation districts & cooperatives

Strategic partners to seek:

Irrigation equipment manufacturers, Water authorities & agencies, Smart-ag IoT platforms, Solar & energy-autonomy providers

Metric	Portugal / Med	Global
5-yr Revenue	€8–15M	€120–180M
Investment Needed	€1–1.8M	€4–7M
Valuation (Yr 5)	€30–55M	€220–350M

Business model: Hardware kits (per sector / ha), SaaS monitoring & alerts, Data services for water authorities; Licensing to irrigation OEMs

Appendix III. Venture Studio & Capital Strategy

2026 marks the first full year of venture creation within YLabs. After three years of Creative Labs activity and the development of a pipeline of 22 projects, YLabs will move decisively from experimentation to selective, professional venture building.

In 2026, the Venture Studio will operate with a deliberately constrained intake, prioritizing quality, capital efficiency, and long-term value creation. This first cohort establishes the operational, financial, and governance standards that will guide the Venture Studio through 2031.

Venture Studio 2026 — Selected Ventures

Based on technical maturity, market readiness, strategic relevance, and alignment with YLabs, YDreams Factory and Y Dream, the following projects are selected for direct Venture Studio admission in 2026.

Core Venture Studio Cohort (2026)

1. Safest Space

Immersive mental-health and anxiety-management platform (XR), targeting hospitals, insurers, universities, and employers. Safest Space anchors the YLabs wellbeing vertical.

2. Designia — Energy Agent & Marketplace

AI-driven platform that designs, finances, and deploys home energy generation, storage, efficiency, and optimization solutions. Designia is the flagship climate and energy venture.

3. ANTAIA

Farmers intelligence platform transforming mandatory agricultural compliance data into operational insight, sustainability benchmarking, and access to green finance, carbon, and biodiversity mechanisms.

4. 3D4ESTS

Affordable forest 3D mapping and digital twin platform using photogrammetry and AI to enable forest inventory, carbon MRV, and ecosystem simulation at scale.

5. ATOM

Modular professional mobile computers for skilled field workers (utilities, trades, infrastructure), combining rugged hardware, certified add-ons, and workflow software.

6. KRUKA

Intelligent plant vase close to becoming a product with well defined markets

Platform-Aligned and Paired Ventures (2026)

7. Horizon

Horizon is a modular tablet and sensor platform whose identity changes via magnetically attached peripherals, enabling education, sports, therapy, gaming, and simulation.

In 2026, Horizon will be developed inside the Venture Studio as a product, feeding multiple ventures and serving as a hardware and content platform for future companies. It is not yet ready to become a startup by itself

8. Sonnosphere (paired with Safest Space)

Sleep improvement solution combining audio strategies and an embodied device. Sonnosphere will be developed in close coordination with Safest Space, sharing clinical validation, partners, and go-to-market channels.

9. I Love Hockey Tables (VR/AR) (optional 8th–9th slot)

Immersive sports arcade game with early traction, positioned for rapid commercialization via VR stores, arcades, sports venues, and future AR glasses.

Projects Remaining Outside the Venture Studio in 2026

All remaining YLabs projects will continue in Creative Labs or applied R&D tracks during 2026, with the explicit goal of reaching venture readiness in subsequent years. These include:

SeaThrough, Plume, Melody, SIRS, Decoreactive, DisoBEEdience, ICUPA, WiseLamp, VoxOn, MIAMUG, and Guideline (retained as a core Y Dream / YDreams Factory platform).

This staged approach prevents premature capital deployment while preserving optionality.

Venture Studio Throughput and Growth (2026–2031)

YLabs is designed as a scalable venture-creation system with predictable growth in venture-ready output.

Year Venture-Ready Projects / Year

2026	6
2027	8
2028	10
2029	12
2030	14
2031	16

Not all projects will become standalone startups. Outcomes will include:

- Independent startups.
- Excubated products retained within YDreams Factory,
- Bundled business units spun out at a later stage.

Funding Needs — Portugal-Based Development

2026 Funding Requirements (Portugal)

Venture Studio operational costs (2026):

Core Venture Studio team: €400k

Shared infrastructure, labs, cloud, legal, IP: €300k

Operations, partnerships, travel, events: €150k

Subtotal — Venture Studio operations: €850k

Project capital allocation (2026):

6 core ventures @~€150k: €900k

Horizon platform development: €250k

Paired / optional ventures: €200k

Subtotal — Project capital: €1.35M

Total Venture Studio funding need (2026): €2.2M

Projected Capital Needs (2027–2031)

Period	Annual Capital Needed
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2026	€2.2M
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2027	€3.0M
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2028	€4.0M
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2029	€5.0M
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2030–31	€6.0–7.0M
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Cumulative capital deployed (2026–2031): ~€27–30M

Portfolio Fund — Capitalizing the Venture Studio

To prevent early value leakage and ensure long-term compounding, YLabs and YDreams Factory will progressively establish a dedicated Portfolio Fund.

Indicative structure (Fund I):

Target size: €50–60M

First close: €25–30M

Horizon: 10 years

Focus: exclusive investment in YLabs Venture Studio companies

The Portfolio Fund acts as:

First institutional investor,

Anchor shareholder (15–25% at Venture Studio exit),

Steward of shared platforms and IP.

Strategic Outcome by 2031

By 2031, the Venture Studio will function as a permanent venture-creation institution, with:

60+ ventures created or excubated

20–25 active portfolio companies

€1.5–3.0B aggregate portfolio valuation (mark-to-market)

Horizon and other platforms spawning multiple second-generation ventures

A self-reinforcing education → venture → capital flywheel

Closing Note — A Unique European Initiative

YLabs is not an accelerator, an incubator, nor a conventional educational program. It is a fully integrated education-to-venture institution, combining foundational education, creativity labs, professional venture building, shared IP platforms, and a dedicated capital strategy.

This model is unique in Portugal and, to our knowledge, without direct equivalent in Europe. No other initiative begins at secondary education level, sustains a multi-year creative pipeline, professionally excubates and spins out ventures, and compounds value through shared platforms and portfolio-level capital stewardship.

2026 is therefore not merely a launch year. It is the foundational year of a new European-scale institution, designed to transform education into entrepreneurship—and entrepreneurship into enduring economic, technological, and societal value.

Appendix IV. YLabs Team

António Câmara, Edmundo Nobre and Haydn Rigby will lead the YLabs team. They bring more than sixty years of building talent, products and companies. They have been developing projects for 50+ Fortune 500 companies and selling products in over 40 countries. Four of the companies they created have been listed on international stock markets. They have been also associated to educational programs in Europe and the US, including connections to MIT, Cornell and UT Austin.

Core operational members of the YLabs team will be lead by Tiago Carita (hardware), Rui Genovevo (software), Filipe Coelho (project management) and Francisco Ribeiro (design). They have been part of Seixal Criativo's initiative and have worked in different capacities with YDreams Factoru companies.

YLabs will be advised by industry veterans: Tony Fernandes, an internationally known designer of products for Lotus, Netscape and Apple, among others; Ken Pimentel, formerly with Autodesk and Epic Games; Fábio Seidl, Global Creative Director at X; and Jani Kuusito, CEO of Warming Surfaces.

The project development support for YLabs will be headed by Duarte Araujo (FMH) for sports applications, Ana Pinheiro Privette (U. Illinois) for nature applications, César Barbosa (TUGA Innovations) in mobility, and Alexandre Rainha de Campos (Hospital Santa Maria) in medical surgery. Ross Plummer and John Filipe will help student projects in marketing and communications efforts.

YLabs affiliated students will benefit from Portugal's exchange programs with MIT, CMU and UT Austin' entrepreneurial programs. They will also benefit from YDreams Factory's operations in New York City, Austin and London where they will be able to meet peers, clients, partners and investors.

The business development for YLabs ventures will be provided by experienced executives, VCs and private equities that will be selected with the help of its own investors.