

Inclusive physical-digital learning system seeks manufacturing partner for tactile surfaces and embedded identification technology

Summary

Profile type

Technology request

Company's country

Portugal

POD reference

TRPT20260917049

Profile status

PUBLISHED

Type of partnership

Commercial agreement with technical assistance
Research and development cooperation agreement

Targeted countries

• All countries

Contact Person

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Term of validity

24 Sep 2026
24 Sep 2027

Last update

6 Oct 2026

General Information

Short summary

A Portuguese SME is developing an inclusive financial literacy board game designed for children with and without visual impairments to play together. The company seeks partners for materials development and validation, manufacturing of tactile surfaces on a natural composite material and/or integration of proximity-based identification technology into the board, supporting the transition from a school pilot prototype to production.

Full description

A Portuguese SME based in Porto, active in financial literacy and inclusive educational technology, is developing a physical-digital educational board game for school-age children. The product is designed to enable children with and without visual impairments to learn and play together using the same board, without separate adapted versions.

The intended solution combines a physical board with tactile relief and embedded proximity-based identification technology, connected to an in-house pedagogical adaptation system.

The company is validating the concept through a school pilot in Portugal launched in September 2026, using a simplified prototype. The next development phase focuses on manufacturing the tactile surface and integrating the identification technology for higher-volume production, while ensuring tactile precision and durability under repeated school use.

The company seeks partners with proven expertise in precision manufacturing of tactile surfaces and/or integration of proximity-based identification technology into physical products. Relevant contributions may cover either or both areas.

Cooperation is envisaged through a commercial agreement with technical assistance and/or a research and development cooperation agreement. The partnership may also support the preparation of applications to European research and innovation funding programmes.

The anticipated project duration is 12–18 months from partnership formation. Partners from all countries are welcome. Detailed technical information will be shared with interested partners and, where appropriate, under a confidentiality agreement.

Advantages and innovations

- Inclusive design: tactile features are incorporated into the core board design, with the aim of enabling children with and without visual impairments to use the same product together, without separate adapted versions.
- Physical-digital learning: the solution combines hands-on interaction with an in-house pedagogical adaptation system to support financial literacy learning.
- Accessibility integrated into the product: tactile relief and embedded identification technology are intended to connect physical interaction with the companion software system.
- Resource efficiency: the proposed board substrate uses repurposed industrial surplus material, linking educational inclusion with the reuse of materials.

Technical specification or expertise sought

Partners should have proven expertise in one or more of the following areas:

1. Tactile surface manufacturing: development and production of precision tactile relief on a natural composite material, with processes suitable for scaling and capable of maintaining tactile clarity and durability under repeated school use.
2. Embedded identification technology: integration of proximity-based identification technology within a solid physical surface, without visible alteration and with resistance to repeated use.
3. Materials development and validation: expertise in assessing and optimising materials for the tactile board, considering compatibility with precision machining, tactile textures and Braille, durability, safety for school use, and integration of embedded identification technology.

Experience in accessibility, assistive technology or “Design for All” applied to physical educational products would be an advantage, but is not mandatory.

Purely digital/software providers without relevant physical product manufacturing or embedded technology integration capabilities are not sought.

Detailed specifications, including production volumes and technical tolerances, will be shared directly with partners expressing formal interest and, where appropriate, under a confidentiality agreement.

Stage of development

Under development

IPR Status

Secret know-how

IPR Notes

Sustainable Development goals

- **Goal 10: Reduced Inequality**
- **Goal 12: Responsible Consumption and Production**
- **Goal 4: Quality Education**

IPR Notes

Partner Sought

Expected role of the partner

The company is seeking manufacturing companies, technology developers, universities or R&D institutions with proven expertise in materials development and validation, precision manufacturing of tactile surfaces and/or integration of proximity-based identification technology into physical products.

The partner is expected to contribute to the technical development and scaling of an inclusive educational board game, supporting the transition from a simplified pilot prototype to production. Depending on its expertise, the partner's role would include:

- Developing and validating manufacturing processes for precise tactile relief on a natural composite material, ensuring tactile clarity and durability under repeated school use.
 - Integrating proximity-based identification technology within the physical surface, without visible alteration and with sufficient resistance to continued use.
 - Supporting production feasibility assessment and the definition of manufacturing specifications and technical tolerances.
 - Supporting the assessment, development and validation of the board material, taking into account tactile performance, manufacturing requirements, safety and compatibility with embedded technology.
- Experience in accessibility, assistive technology or "Design for All" applied to physical educational products would be an advantage.

Cooperation is envisaged through a commercial agreement with technical assistance and/or a research and development cooperation agreement, depending on the partner's contribution and the development work required.

Detailed technical specifications, including production volumes and tolerances, will be shared with partners expressing formal interest and, where appropriate, under a confidentiality agreement. Purely digital/software providers without relevant physical product manufacturing or integration capabilities are not sought.

Type of partnership

Commercial agreement with technical assistance
Research and development cooperation agreement

Type and size of the partner

- **SME 50 - 249**
- **Big company**
- **University**
- **R&D Institution**

Dissemination

Technology keywords

- **01002004 - Embedded Systems and Real Time Systems**
- **11002 - Education and Training**

Targeted countries

- **All countries**

Market keywords

- **05010002 - Cognitive aid**
- **08001015 - Other speciality materials**
- **07001007 - Other leisure and recreational products and services**
- **07001003 - Toys and electronic games**
- **07004008 - Other consumer products**

Sector groups involved

- **Digital**