



# Talpa Tunneling UPV



On the boring edge

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# Why tunnels?



## Issue

The increase in population density saturates urban space, which is a finite resource. Roads, rail networks, and other means of land transport employ valuable land that could be used for green areas, buildings, or public spaces.

## Solution

Tunneling allows the land surface to be released by moving transport infrastructures underground, taking advantage of a space that would otherwise remain unable.

## Profits

- Scalability
- Security
- Weather conditions resistance
- Absence of visual and acoustic impact

# Why tunnel boring machines?

## Evolution

Tunnel-boring machines have transformed the way we excavate: from labor-intensive to machines capable of opening tunnel kilometers with high precision. They result from centuries of innovation applied to solving increasingly complex challenges.

## Automation

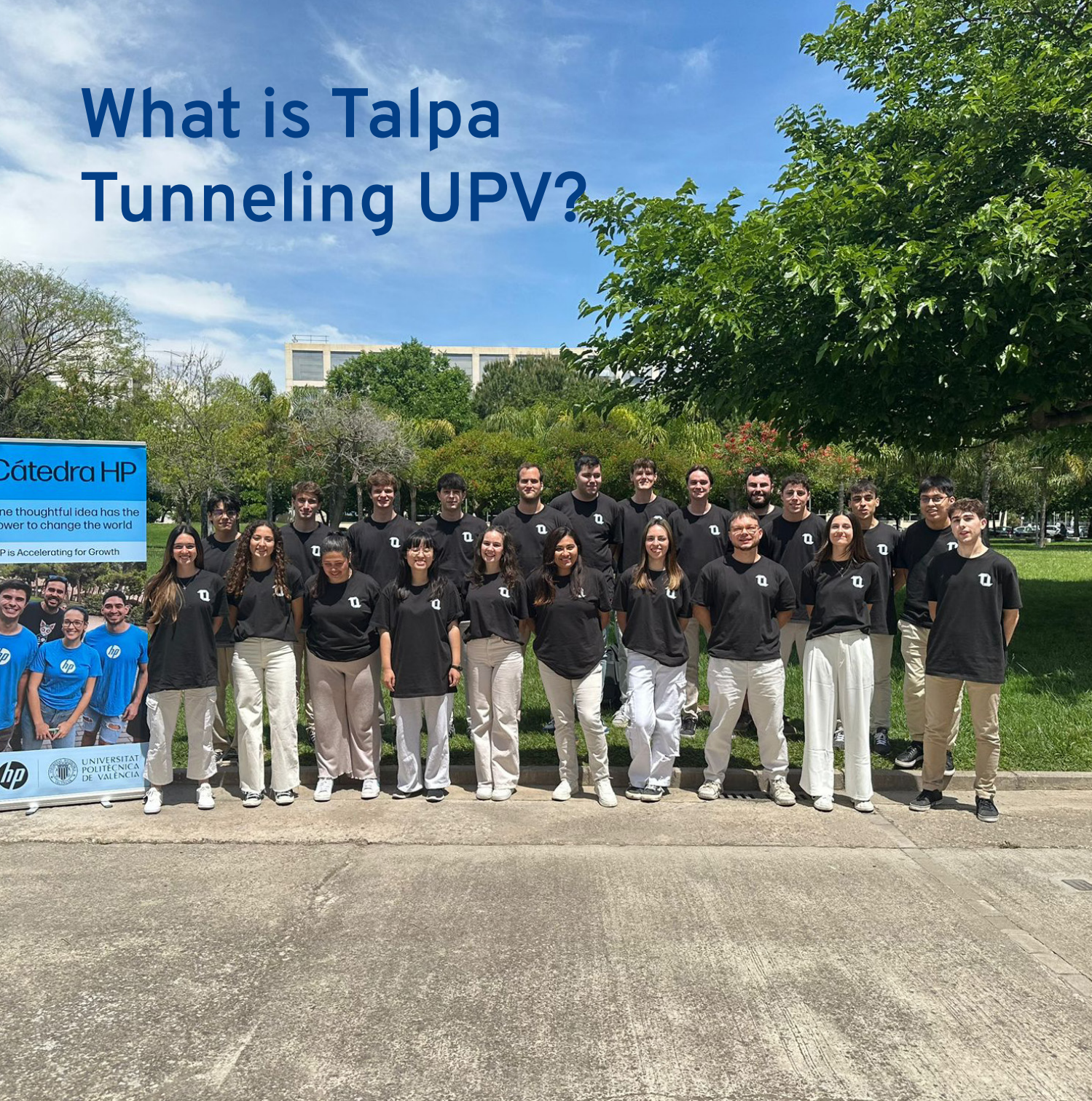
In the 21st century, keeping people inside the excavation face is unacceptable. Modern tunnel-boring machines automate critical processes, reducing risks, errors, and execution times, positively impacting safety and planning.

## Future

Automated tunneling represents a real solution to challenges such as urban congestion and the demand for efficient infrastructure. It is not only changing how we build today; it indicates the way for tomorrow's cities.



# What is Talpa Tunneling UPV?



## Project

At the University Polytechnical of Valencia, as part of the Spontaneous Generation program, a group of students decided to take on a challenge to test our skills, determination, and vision for the future. That is why Talpa Tunneling UPV was born.

Our project involves designing, manufacturing, and testing a functionally-scale tunnel boring machine measuring approximately 0.6 m in diameter by 6 m in length. We will use it to participate in the Not-A-Boring Competition 2026, an international competition where we aim to represent our university and Spain at the forefront of tunneling innovation.

## Team

But Talpa Tunneling is not only about technology. It's a multidisciplinary team combining mechanical, electronic, geotechnical, automation, and project management engineering knowledge.

We are connected by an entrepreneurial spirit, an ambition to innovate, and a determination to learn beyond the classroom.

We see the team as a tunnel between our university stage and our professional future. It is a demanding and challenging step that leads us to the light of a future in which we will be better-prepared professionals with a technical and personal vision that only a project like this can provide. At Talpa Tunneling UPV, we don't just break ground. We break our limits.

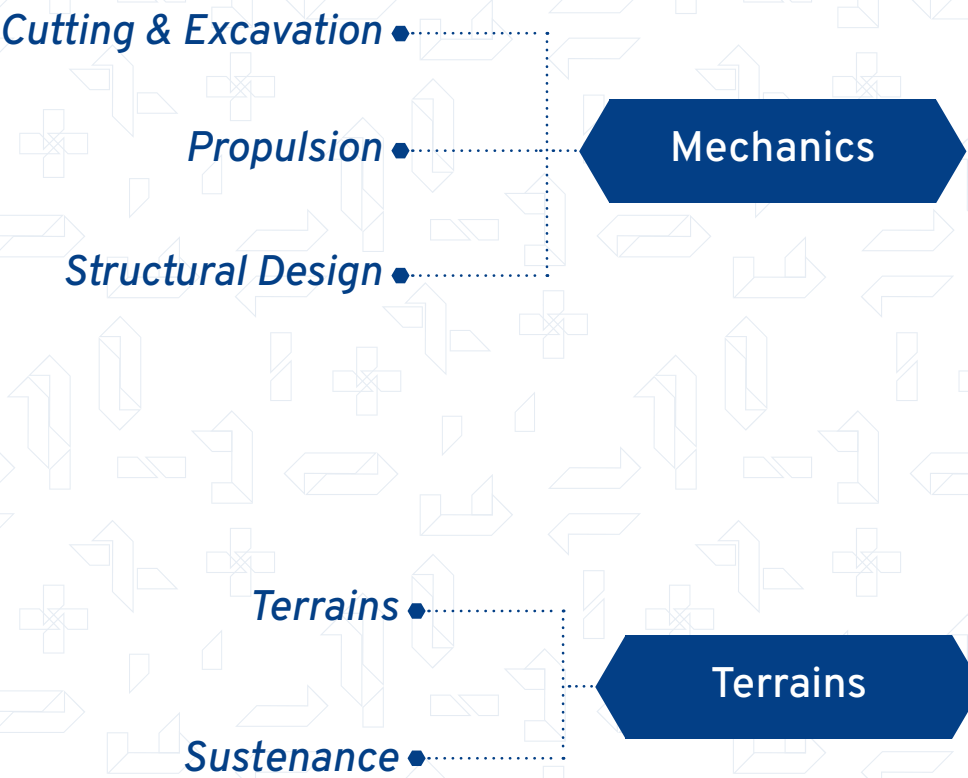
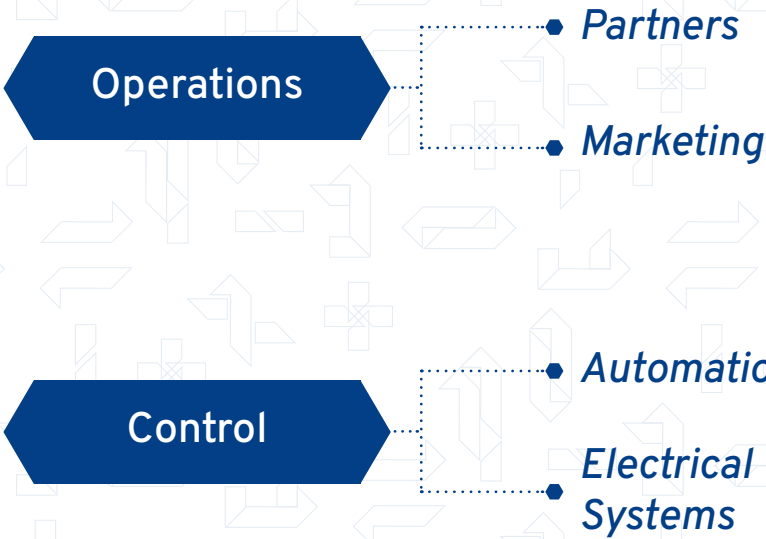


# How do we organise ourselves?

Talpa Tunneling is not only engineering. It is coordination, vision, and multidisciplinary talent. Designing and building a functional tunnel boring machine requires more than blueprints: it requires every person, department, and idea to move forward in synchronization.

That's why we are organized into four major departments, which work together to transform the challenge into a real opportunity. Every piece has its place. Every decision has its impact.

Because we don't just excavate tunnels, we build roads.



## Mission

We are designing and building a functional tunnel boring machine to compete in the Not-A-Boring Competition 2026 to become the first team to complete the 30-meter excavation challenge.

We want to position the University Polytechnical of Valencia and Spain as leaders in technology and applied engineering, showing the enormous capabilities of our students.

At the same time, we offer a real-life learning experience that helps future engineers' technical, personal, and multidisciplinary development.

## Vision

We aspire to establish ourselves as one of the leading teams at the University Polytechnical of Valencia, building a legacy that offers future generations the opportunity to surpass their limits.

As the team evolves, we aim to tackle increasingly ambitious challenges, developing innovative solutions that take tunneling technology to new horizons.

## Values

At Talpa Tunneling UPV, our values define the essence of who we are and how we work.

As university students, we firmly believe in the power of teamwork and learning through experience. We are connected by a proactive, determined, and ambitious mindset, with which we face a significant technical and industrial challenge.

We pursue effective, safe, and functional solutions based on simplification and practicality. We view the project as a bridge between our academic training and the professional environment and an opportunity to enhance our human abilities: commitment, communication, courage, and determination.

● Multidisciplinary

● Commitment

● Industry

● Communication

● Efficiency, safety & simplification

● Determination & Courage

● Training & Learning

● Aspiration & Ambition



# The Boring Company

It is a tunneling and infrastructure engineering company founded by Elon Musk to accelerate the development of innovative technologies in tunneling.

## Challenge

The competition challenges teams from different universities to design and manufacture a functionally tunnel boring machine capable of excavating a tunnel 30 meters long and 60 centimeters in diameter, meeting strict requirements regarding precision, structural stability, automation, and safety.

Showing technical excavation is not the only requirement every team needs to get, but also propose viable solutions to the industry's major challenges today.

## International

In addition to the opportunity to present the prototype in a controlled environment in the United States, the selected teams gain access to an international network of contacts, visibility among companies in the sector, and the support of a competition that promotes applied engineering, efficiency, and sustainability of underground infrastructure.

## Other teams

- TUM Boring -  
Technical University of Munich
- Swisloop Tunneling -  
ETH Zürich
- CU Hyperloop -  
University of Colorado Boulder



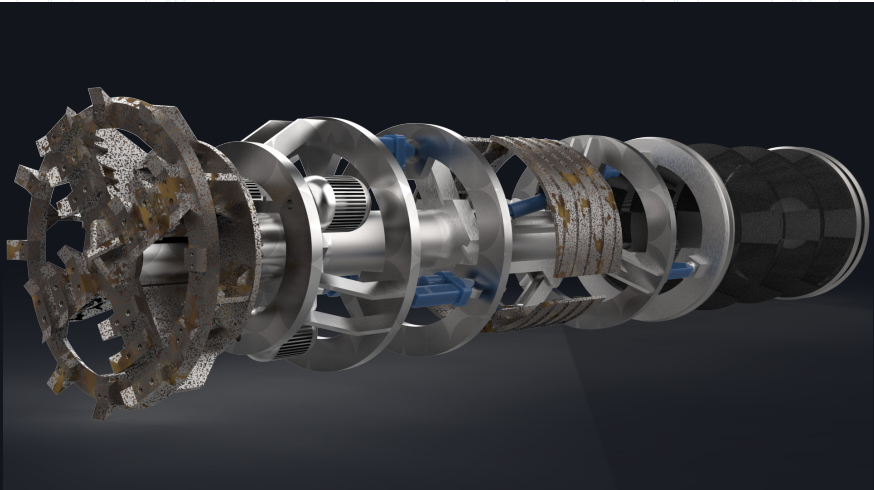
# Calendar

| Date                | information                                                             |
|---------------------|-------------------------------------------------------------------------|
| 5th May 2025        | Complete unabridged Rules and Requirements documents for all the teams. |
| 2nd June 2025       | Team brief submission and plans presentation.                           |
| 14th July 2025      | Summer midterm review.                                                  |
| 8th September 2025  | Preliminary design report submission.                                   |
| 15th September 2025 | Preliminary design report submission for novice teams.                  |
| 3rd November 2025   | Final design submission.                                                |
| Winter 2025         | Final design presentation.                                              |
| Spring 2026         | Tunneling Readiness Review.                                             |
| Spring 2026         | Competition Week.                                                       |

# Our concept

A comprehensive, functional, and constantly evolving technical proposal.

At Talpa Tunneling UPV, we have taken on the challenge of designing and developing a tunnel-boring machine that represents a comprehensive solution to the challenge posed by the Not-A-Boring Competition. Although the design is still under development, we present an advanced, functional technical proposal with a clear focus: simplifying without sacrificing efficiency.



[A compact, robust system designed to compete]

We seek to offer a complete design capable of excavating autonomously under realistic competition conditions.

Our TBM concept represents a balance between robustness and functionality.

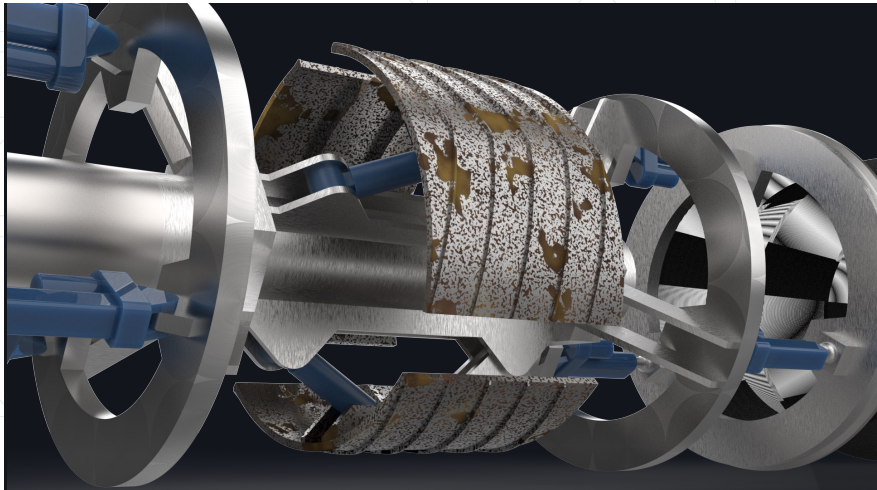
This overview reflects the strength of our proposal and the team’s commitment to a realistic, executable solution consistent with the technical requirements of the competition.





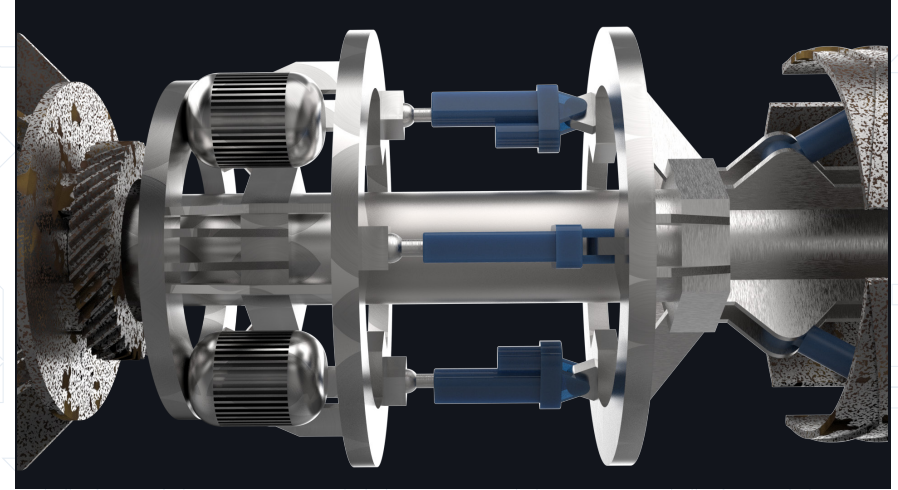
*[The starting point: where the tunnel begins to take shape]*

Here is where it all begins. The crown is made of a set of cutting teeth designed to impact the ground with strength, breaking it up in a progressive and controlled manner.



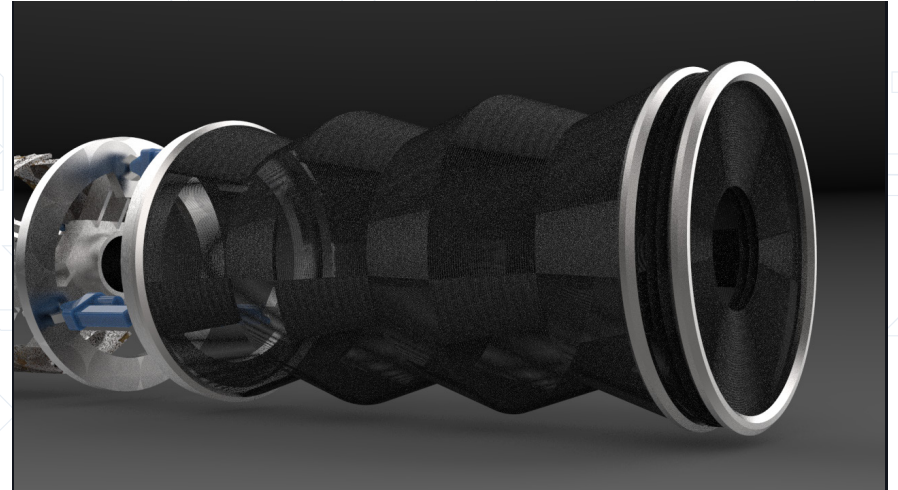
*[Structural safety at every stage of progress]*

To move forward, stability is essential. The shields will anchor us to the land, providing stability, safety, and, once again, a system where hydraulic engineering takes priority.



*[Precise guidance and simplified advancement in a single system]*

Now it's time to move forward, and there's the guidance and propulsion system all in one. Three hydraulic pistons guide the crown plane in its orientation and forward motion.



*[A lightweight and continuous solution to reinforce the excavated tunnel]*

Finally, our support system, because without it, a tunnel is just a weak hole. A simple yet functional system that demonstrates the values of Talpa Tunneling UPV.

## Your brand by our side

Logotype on the tunnel boring machine, website, and equipment.  
And, at the same time, visible support for cutting-edge training and engineering.

## Access to young talent

Direct contact with top students in civil engineering, computer science, telecommunications, mechanics, industrial engineering, design, energy, geotechnics, and topography.

## Strategic visibility in networks

Instagram (university audiences) and LinkedIn (professionals); campaigns and content tailored depending on your objectives.

# How can we help you?

## Technology partner

Workshops, pilot tests, and exclusive feedback: we implement your solutions and provide you with real-world usage data.

## Networking and relationship

Invitations to key meetings with companies, experts, and institutions in the sector.

## Social impact and innovation

Promote practical training for future engineers and position your brand as a driver of responsible R&D.



# Sponsorship levels

## Steel

*Access to Talpa Tunneling club*

- Monthly technical information on the team's progress.
- Presence on our social media.
- Access to team talent.
- Networking at our sponsorship events.

## Titanium [+ 2.000€ ]

*Greater visibility for a larger audience*

- Your brand on our website.
- More visibility, your brand on our Roll Up.
- Customized post on LinkedIn or Instagram.

## Quartz [+ 4.000€ ]

*Talent, image, contacts, and support*

- Our team's participation in your events.
- Your brand on our t-shirt.
- Let's organize a visit so the entire team can meet you.
- We'll put you in touch with any company in our network.

## Ruby [+ 6.500 / 7.000€ ]

*Kind Financial contribution*

*Always with us, expansion, talent*

- Direct connection to our prototype. Your brand will be on our tunnel boring machine.
- You're the star. We'll publish a mention in our monthly report.
- Reach the entire university. Let's hold an open workshop sponsored by your company.
- Customized marketing campaign. Choose 3 types of publication, and let's increase your brand's reach.



**Diamond [+ 12.500 / 10.000€ ]**

Kind

Financial contribution

*We are in this together; maximum participation.*

- Join us for the most critical moments. Your brand on our event clothing.
- Everyone should know you. Feel free to talk about your company at our networking event.
- Be the first to appear. You will be featured on our website and Instagram.
- Our collaboration must last. Let's publish an article mentioning your activities.
- A week, all for you. Every day, we will publish information about your collaboration and activities.
- Join us for our key moment. Accompany us in the competition.
- A small gift. Take home our team t-shirts and merchandise.

## Advantatges

|                                 | Steel | Titanium | Quartz | Ruby | Diamond |
|---------------------------------|-------|----------|--------|------|---------|
| Monthly Report                  | X     | X        | X      | X    | X       |
| Networking                      | X     | X        | X      | X    | X       |
| Access to the Team              | X     | X        | X      | X    | X       |
| Collaboration Announcement      | X     | X        | X      | X    | X       |
| Logotype on the Website         |       | X        | X      | X    | X       |
| Logotype on a Roll-Up           |       | X        | X      | X    | X       |
| Custom Post                     |       | X        | X      | X    | X       |
| Logotype on T-shirts            |       |          | X      | X    | X       |
| Visit, Access to Young Talent   |       |          | X      | X    | X       |
| Access to our network           |       |          | X      | X    | X       |
| Participation in your events    |       |          | X      | X    | X       |
| Logo on our TBM                 |       |          |        | X    | X       |
| Custom Workshops                |       |          |        | X    | X       |
| Mention in the Report           |       |          |        | X    | X       |
| Custom Marketing Campaign       |       |          |        | X    | X       |
| Logo on Event Clothing          |       |          |        |      | X       |
| Speech at our Networking Event  |       |          |        |      | X       |
| Featured on our Web & Instagram |       |          |        |      | X       |
| Custom Article on the Website   |       |          |        |      | X       |
| Your Company Week               |       |          |        |      | X       |
| Presence in the Competition     |       |          |        |      | X       |
| Custom Merchandising            |       |          |        |      | X       |



# Acknowledgments

Talpa Tunneling UPV is more than a technological initiative; it is a synergy that combines enthusiasm, knowledge, and purpose. Every advancement we achieve, every piece we design, and every step we take along the path of innovation is possible thanks to the support, trust, and dedication of those around us.

We would like to express our sincere gratitude to the University Polytechnical of Valencia for being the fertile ground in which brave ideas like ours germinate. To the Spontaneous Generation UPV for providing us with a support structure, an active community, and the opportunity to take learning beyond the classroom. And, in a very special way, to the School of Civil Engineering, where Talpa Tunneling UPV was born. Thank you for opening your doors to us from the first day, for the constant support, and for believing in the potential of this initiative.

Thanks to every team member for their constant effort. Thanks for believing in the value of applied engineering and fueling this project that unites us with their talent and energy. Without their dedication, Talpa Tunneling would be nothing more than a concept on paper.

We also want to appreciate all the people, teachers, technicians, colleagues, and collaborators who have lent a hand and shared an idea, a tool, or an opportunity. Because every help, no matter how small, is part of the collective progress.

Building a tunnel boring machine is an immense challenge, but even greater is the community that makes it possible. Thank you for joining us on this profound, technical, and truly transformative journey.



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