



Metropolitan Learning Lab - ESPAM



Pla Estratègic
Metropolità
de Barcelona

¿What is the ESPAM?

The Metropolitan Learning Lab (ESPAM) is the **training environment** that the PEMB has been making available to the academic community and institutions since 2019 **to strengthen the links between early research and the future challenges of the metropolis of Barcelona.**

The aim of this space is, among other things, to establish collaboration agreements with universities and vocational training centres to present internship students with challenges and research projects linked to topics of interest to the development of the metropolis: **challenges posed in the Metropolitan Commitment 2030 or others proposed by organisations within the metropolitan ecosystem.**



Individual internships

Individual internships

- Curricular internships. Only extracurricular internships are contemplated as a possible extension of the curriculum.
- For the different departments (technical office, communication and activities, technical secretary), depending on the academic profile.
- Duration between 125 and 250 hours, depending on the criteria of the department and the centre of origin.
- Each internship is based on a training project, presented to the center and the student before the start date of the internship.
- Face-to-face or hybrid format, with a minimum of two days of presence in the office and a weekly meeting with the person leading the tutoring.

Featured project 1:

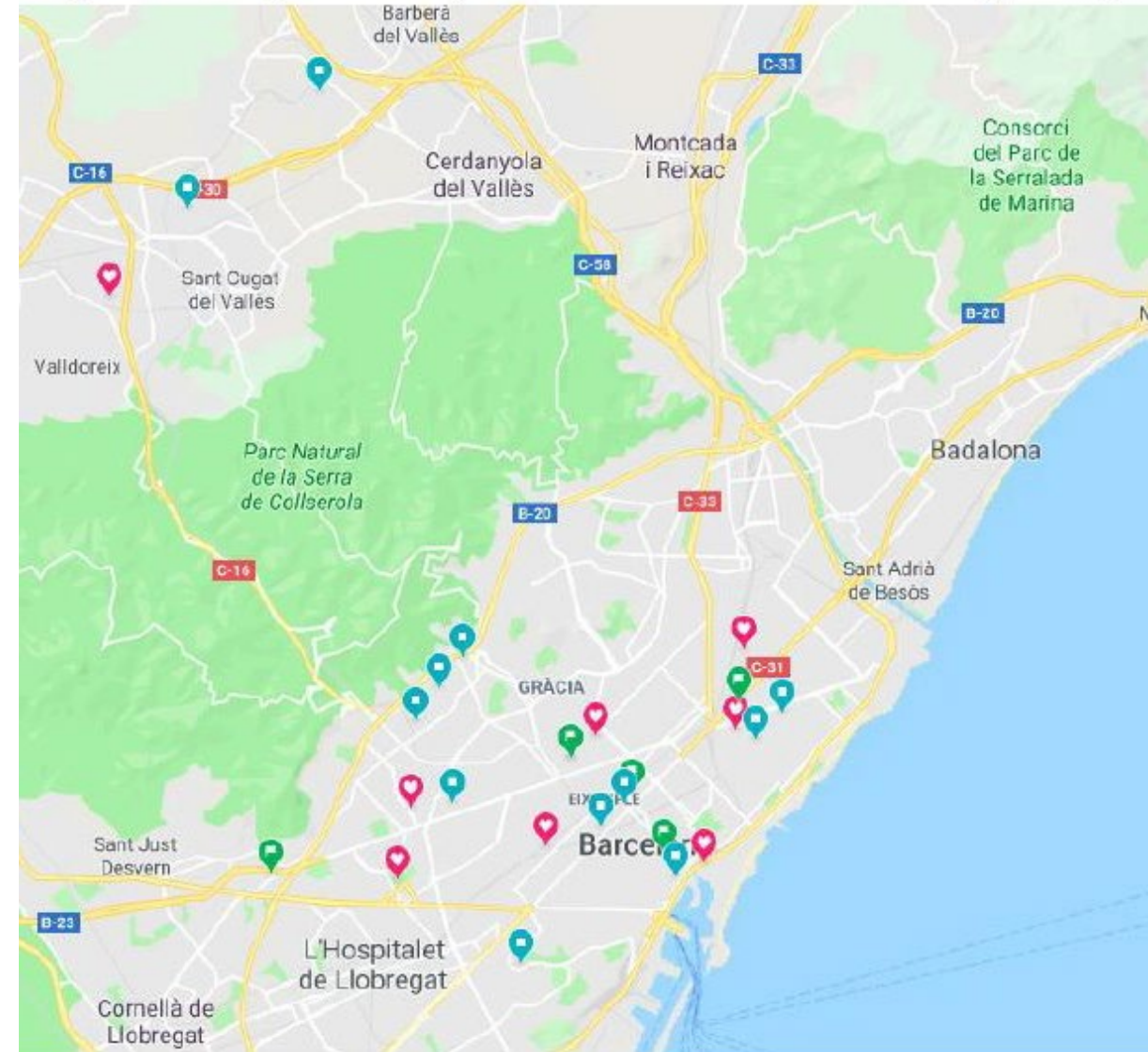
Study of the ecosystem of Sportstech companies in Barcelona

Study of the ecosystem of sportstech companies in Barcelona, carried out by Riccardo Demurtas (GLOCAL Master's Degree - UB), carried out in the summer of 2019.

In addition to the detection of relevant actors, a comparison is made with other cities in order to detect good practices with potential for implementation in Barcelona.

To carry out the study, fifteen personal interviews were conducted with the different actors in the ecosystem.

Figure 5 - Map of local SportsTech actors - Source: Google Maps



Featured project 2:

Analysis of Low Emission Zones in the RMB

Project carried out during the spring of 2025 carried out by Juan Pablo Cantor, student of the master's degree in Territorial Planning and Environmental Management at the University of Barcelona.

The work analyses the situation of the LEZs in the cities of the metropolitan region that by law must have them, complemented by an analysis of international cases, as well as a qualitative analysis of their impact or the problems of their effective implementation.

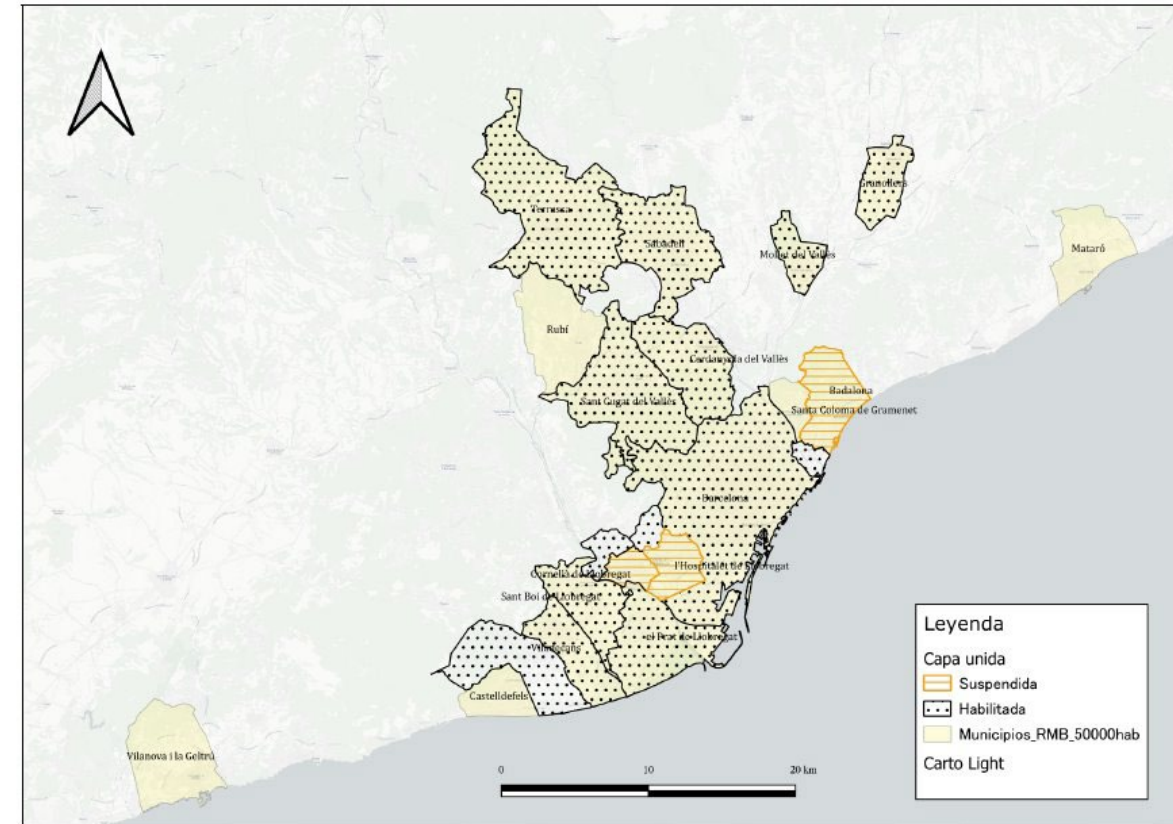


Figura 5. Municipios de la RMB con más de 50.000 habitantes y ZBE actuales (2024).

Fuente: Elaboración propia con datos del Idescat, a partir del Censo de población anual del INE (2024), 2025.



Group projects

Group projects

- To be carried out within 4-6 weeks based on a challenge, related to the missions of the Metropolitan Commitment 2030.
- Possibility of being able to do the project in English.
- Face-to-face or hybrid format.
- Weekly meeting with the person who does the tutoring.
- Final presentation of the projects.

Featured project 1:

Strategies to reduce water consumption in hotels in Barcelona

Project carried out by a group of students from Princeton University in June and July 2024.

Arising from the challenge arising from the extreme drought and its impact on a sensitive activity for citizens

The students concluded that, with a series of actions, it was possible to reduce consumption by 20% without compromising the sector.



Projected and Maximum Reductions			
Projected		Maximum	
Policy	Reduction	Policy	Reduction
Pools	0.00%	Pools	0.00%
Low Flow	1.50%	Low Flow	1.50%
Metering	2.50%	Metering	4.00%
Leaks	10.00%	Leaks	12.00%
Management	1.53%	Management	2.55%
Xeriscaping	0.00%	Xeriscaping	0.00%
Tariffs	0.00%*	Tariffs	0.00%*
Greywater	5.00%	Greywater	7.00%
Rainwater	0.00%	Rainwater	12.00%
Total	20.53%	Total	30.05%

Featured project 2:

Application of AI tools to manage on-demand transport mechanisms

Project carried out during the month of January 2024 by a group of students of the GLOBAL master's degree

It was proposed to analyze the feasibility of using AI tools to manage on-demand transport mechanisms, taking the case of the Vallès Oriental county, near Barcelona.

Specifically, the possibility of implementing an on-demand transport system similar to that of Noru-To in Japan was studied, foreseeing possible limitations.



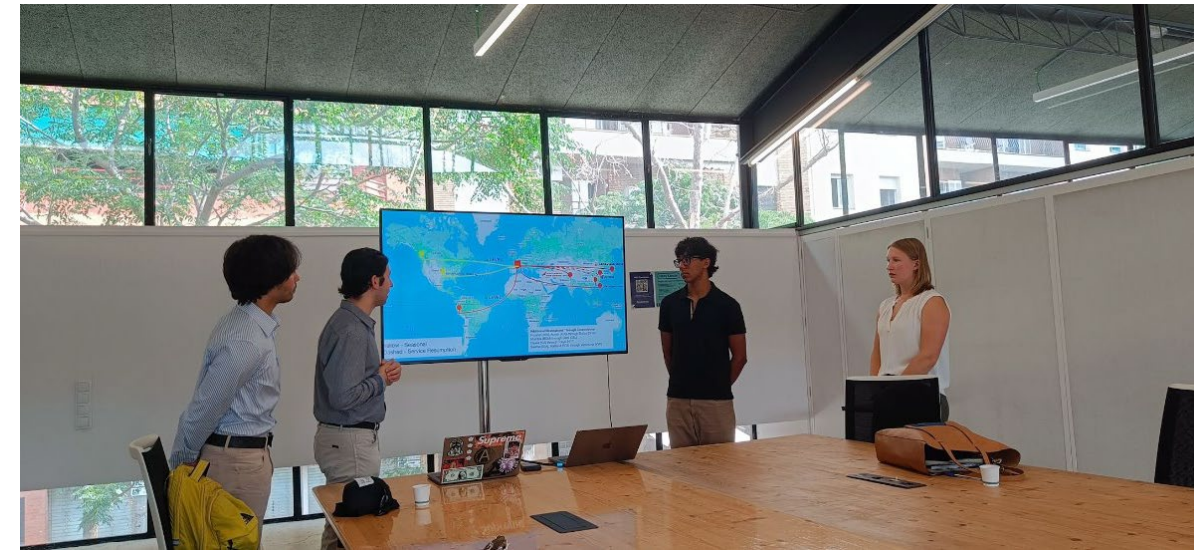
Featured project 3:

Sustainable expansion strategies for Barcelona – El Prat airport

Project carried out in May and June 2023 by a group of students from the University of Princeton.

The objective was to analyse the different expansion projects of the current Barcelona-El Prat airport, according to various criteria, based on current and future needs.

They propose a technically feasible proposal that allows for increasing flight capacity, while minimizing the environmental and territorial impact.



Proposed Runway Operational Plan (Western Configuration)

- Runway 3/21
20 Departures/Hour
 - Runway 6L/24R
40 Arrivals/Hour
 - Runway 6R/24L
30 Departures/Hour
10 Arrivals/Hour
- 100 Flights/Hour

***Theoretical Operation**



Featured project 4:

“Barcelona and short-term lets of private rooms”

Project developed in January 2022 by a group of students from the GLOCAL master's degree (UB).

Analysis of recent changes in the regulation of room rental for tourism purposes compared to other European tourist cities (Prague, Lisbon, Amsterdam).

He raised the need for a "soft" regulation (mandatory registration, for example), instead of a "hard" regulation (prohibition).



Barcelona and short-term lets of private rooms.
A multi-perspective analysis of the city's regulation scheme



Tourism in Barcelona: an overview of over-tourism effects

- Increased popularity of the city following the Olympics of 1992
- Unregulated tourist behaviour and local residents' discontent
- Increased number of legal and illegal homes for tourist use
- Suspension of emission of new licences for tourist renting

Decree 75/2020

- Establishes a new category 'home sharing'
 - 'Home sharing' involves apartment owner renting out individual rooms to third parties for a period of 31 or less days
 - The suspension of licences in Barcelona makes it impossible to obtain a 'home sharing' license
- Rental of tourist apartments with appropriate licences continue



Should Barcelona revise the ban on licenses for short-term room rentals?



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