



The CCM operates 24 hours a day, all year round, ensuring that the programmed service is provided with maximum quality. This means controlling the regulation of intervals between trains, adjusting supply to suit demand in real time, managing night work and the internal and external information channels, and drawing up studies on the service. It also deals with unforeseen events, coordinating action to resolve any incidents or emergencies that may arise.

Operations are regulated by the CCM supervisor, who is in charge of the centre's operators: line operators—traffic and station operators, managing traffic and fixed installations, respectively—energy and safety operators and those that man the User Information Office (CDIU - Centre d'Informació a l'Usuari).

**TMB**

**Transports Metropolitans de Barcelona**

**Centre de Control de Metro de Barcelona**  
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**A centre that operates 24 hours a day, all year round**

The CCM manages all the resources involved in operating the metro network to guarantee performance of the programmed service and act with maximum efficiency and effectiveness in case of incident. The centre takes care of lines 1, 2, 3, 4 and 5, the so-called conventional lines, and of the automatic lines (L11 and L9/10).



**The Barcelona Metro Control Centre**

**CCM**



## Features

Located in the Sagrera building (carrer Josep Estivill, 47), the CCM covers 1,130 m<sup>2</sup> (2,509 m<sup>2</sup> if we include offices and support facilities).

It has clearly delimited visitor, access and control areas around the control room, which is protected with polarised safety glass. The functional work areas are distributed around the edges of the room, with a technological nucleus housing the racks and connections. The lighting in each area is distributed according to the tasks undertaken and is adjusted to suit comfort and energy-saving requirements.

The CCM houses up to seventy workstations, with rest and storage areas, and has three video mosaics comprising digital screens that receive live information through the security cameras installed in passages, lifts, stairs, lobbies and platforms in Barcelona metro stations. The screens can also receive live information from cameras inside new trains via wireless transmission.



## Technology

The CCM has powerful technological support, with remote control for all functions carried out, a centralised video surveillance system and so on.

In figures, the centre has 198 computers, 302 monitors, 30 kilometres of data cable and two megawatts of electrical power, of which 0.55 megawatts are uninterrupted power supply (UPS).



Noteworthy is the support equipment in three basic areas of the centre:

- **The conventional line traffic area:** supported by a video mosaic consisting of four 67-inch cubes, that show images from the more than 3,100 cameras installed on the conventional metro network and those inside the trains, and images of all traffic and signalling in real time.
- **The automatic line traffic area:** with another identical video mosaic that shows images from the 3,200 cameras to be installed throughout lines L9/10, and those inside the trains, and images of all traffic and signalling on the automatic line in real time.
- **The management support area:** with five 52-inch TFT screens that show images from all the cameras on the metro network (over 6,000 in total), and from which all the information management tools are operated.

There are also three technical rooms—one for processors, one for servers and one for communications—rest rooms and a crisis room, equipped with phone, computer and audiovisual services, which is enabled for meetings and as a centre for the crisis management team when necessary.



## The Metro Safety and Civil Defence Centre

Also in the Sagrera building is the Metro Safety and Civil Defence Centre, which manages safety and emergencies in the network.

The centre is housed in a 156-m<sup>2</sup> room, with a dozen workers per shift (operators and coordinators) who manage safety and civil defence staff and resources, receive alerts and take prompt action in case of incident, in coordination with the CCM.

This room has a video mosaic of three 70-inch cubes, and six 37-inch screens to monitor any situation arising on the network in real time.