What are the main features of Real-Time Operating Systems and how do they differ from regular OS’s?

The difference between RTOS and OS is that while OS acts as a bridge between the user and the hardware, RTOS does not interact with the user directly. The processes of RTOS are systems that are created by setting the priorities and order of the processes simultaneously between software and hardware. We can think of it as workers who do all the work behind the scenes. One of the best things about RTOS is its very short transaction transition speed. But providing that and assuming it works non-stop takes a lot of resources.

When is it preferable to use STM32 over Arduino, ESP32, PIC or other comparable embedded system?

Compared to other processors, stm32 seems to put it ahead of the others as it enables the use of more original software and firmware with more detailed register configurations. I think that the new generation stm32s provide an advantage in larger and more processing power processes. In addition, with the development of LoraWan technology, there are studies that have come to good points in wireless communication.