ARM Microcontrollers for Space Applications
Emre Ozer, ARM

Today, ARM is the market leader in the 32-bit microcontrollers and licences its 32-bit microcontrollers to a vast spectrum of silicon partners such as Atmel, Fujitsu, ST, NXP, TI, Toshiba and many others who manufacture the ARM microcontroller chips. The key advantages of using ARM microcontrollers are the vast number of ARM code developers, various OS support/middleware and platform hardware and the microcontroller development tools. OEMs today demand standard microcontroller architecture to reduce costs through increased software reuse and diversity of supply of silicon. ARM 32-bit microcontrollers are used in diverse applications such as smart meters and smartcards, smart white goods and toys, mixed signal, small area and sensor networks, motor control and car engine controllers.

I will present the commercially-available ARM 32-bit microcontrollers, their specifications and market requirements. I will motivate the use of ARM microcontrollers for space applications from the viewpoint of their high-performance, low-power consumption, and eco-system advantages. Finally, I will describe the necessary steps towards building a radiation-hardened ARM 32-bit microcontroller.