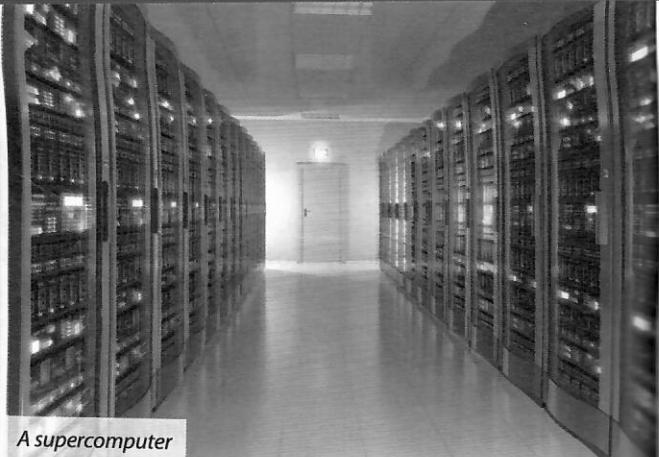


A mainframe computer



A supercomputer

## LARGE COMPUTERS

to be endowed with:  
*essere dotato*  
 benchmark: *standard, riferimento*  
 capability: *capacità*  
 core: *nucleo, centro*  
 to deal with: *trattare*  
 outlaw: *fuorilegge*  
 to rent: *affittare*  
 weapon: *arma*

There exist many and different devices which are designed for an infinity of purposes and created to meet the specific needs and requests of individual users, business companies, government services, etc., but the term computer can apply to virtually any device that has a microprocessor in it, though most people think of a computer as a device that receives input from the user, processes it in some way and displays the result on a screen. There are therefore a lot of terms used to describe computers and most of these words regard their size, expected performances or capability.

**Supercomputers** are very expensive computers whose high computational performances allow the analysis and processing of complex calculations such as those needed, for example, for weather forecasting or nuclear energy research. They run at the highest speed possible, which is measured in FLOPS, the common benchmark measurement for rating the speed of microprocessors (Floating Point Operation Per Second). 2016's top-ranking supercomputer is China's 93 petaflop Sunway TaihuLight, a petaflop being the ability of a computer to do one quadrillion floating point operations per second.

**Mainframe** computers are very expensive, fast and capable of supporting thousands of users simultaneously. They are mainly used by big companies and organisations such as banks, airline companies, big hotel chains, hospitals or federal agencies because they are able to deal with big amounts of data. Their time processing is measured in nano or pico seconds and they are endowed with multi-programming capacity and the ability to work on different operating systems simultaneously. In the 1960s **minicomputers**, smaller and more affordable computers, spread and prevailed among manufacturing medium-sized companies since they could be as good as mainframes, but, in the 1970s, they were soon replaced by very small, affordable and reliable **microcomputers**, which exploited the new microchip technology and which later became known simply as personal computers.

**Servers** are usually the largest and most powerful computers in a network. They offer services or provide data to other computers, for example by managing network resources, providing access to websites over the Internet, sharing files or printers, processing database queries, storing files, or performing many other kinds of activities using dedicated software (specific to the use of the server) for the individual workstations (clients) linked to them. Since dedicated servers rented from a hosting provider may be very expensive, shared servers have been set up: VPSs, Virtual Private Servers, are servers used by companies to have services similar to those a dedicated one may offer, but since the machine is shared with other clients, the cost is lower. Examples of VPSs are AWS (Amazon Web Services) or Aruba.



The term "mainframe computer" has fallen out of use in favour of "enterprise server".

## SMALLER COMPUTERS

brand name: *marchio*  
 detachable: *rimovibile, staccabile*  
 flat: *piatto*  
 huge: *enorme*  
 own: *proprio*  
 task: *attività, compito*  
 though: *sebbene*



A hybrid computer goes to the psychiatrist: "Please help me, I have a split personality. Sometimes I think I am a computer, and sometimes I think I am a tablet."



The term "notebook" was originally a brand name associated with a small Apple laptop. Later, it became a general term for smaller laptops.



### The world's smallest computer

The Michigan Micro Mote (M<sup>3</sup>) is the smallest autonomous computer in the world, just 1 mm<sup>3</sup>, and for over a decade the students of the Computer Science Department of the University of Michigan have been working on it. Despite its tiny size, the M<sup>3</sup> can take pictures, read temperatures and record pressure readings. Researchers hope to implement it into a variety of applications ranging from medical to industrial purposes. In fact, due to its small size, the M<sup>3</sup> can actually be injected into the body, and oil companies are interested in inserting it into oil wells to detect pockets of oil.



Smaller-sized computers, which are more common in everyday life and which correspond to our collective imagination of computers, are the following:

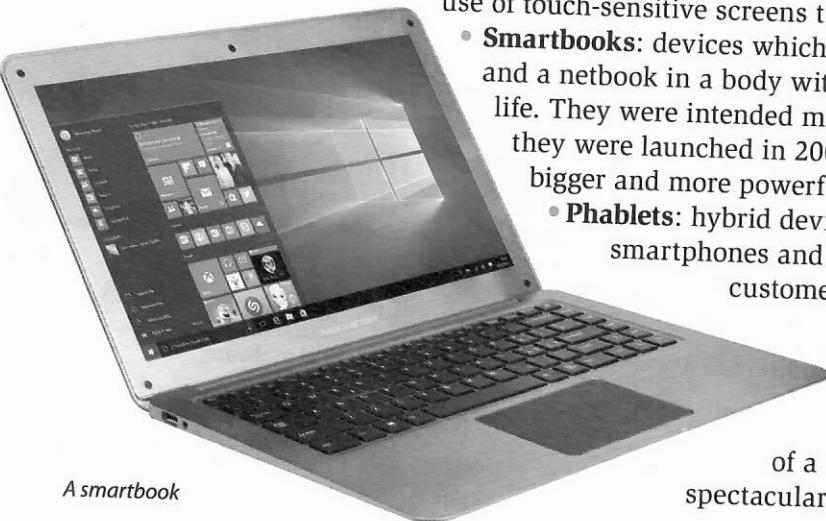
- **Personal Computer (PC)**, which is a computer designed for general use by a single person. While a Mac is a PC, too, most people relate the term PC to systems that run the Windows operating system. PCs were first known as microcomputers because they were a complete computer but built on a smaller scale than the huge systems in use by most businesses. PCs can be either desktop or laptop.
- **Desktop**, which is a PC that is not designed for portability, i.e. one which is usually kept in a permanent location. Most desktops offer more power, storage and versatility at a lower cost than portables. Early desktop computers were designed to lie flat on the desk, while towers stood upright. Most desktop computers have separate screens and keyboards.
- **Workstation**, which is a desktop computer that has a more powerful processor, additional memory and enhanced capabilities for performing a special group of tasks, such as 3D Graphics or game development.
- **Laptop/Notebook**, which is a portable computer that integrates the display, keyboard, a pointing device or trackball, processor, memory and hard drive all in a battery operated package, slightly larger than an average hardcover book. The special feature of the laptop computer is that it is far lighter than a desktop PC. Thanks to its own power supply, you can use it even when there is a power cut or electricity is not available. However, internal parts cannot be easily updated or replaced.
- **Netbook**, which is an ultra-portable computer that is even smaller and cheaper than traditional laptops. However, its internal components are less powerful than those in regular laptops.
- **Convertible or Hybrid Computer**, which is an ultra-light notebook characterised by a rotating/detachable touchscreen. It can be used as a notebook or tablet since it is 2-in-1. It normally has limited performing features, but is really as good as a tablet to surf the web, send e-mails and use social networks. Though relatively cheap, better configurations can cost quite a lot.

## MOBILE TECHNOLOGY

blend: *unione*  
 folks: *gente*  
 handheld: *palmare*  
 handwriting: *calligrafia*  
 to sync: *sincronizzare*  
 thin: *sottile*



65% of smartphone users download zero apps per month.



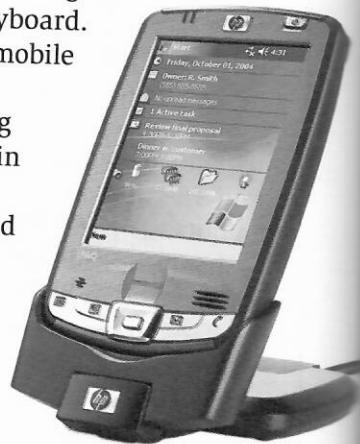
A smartbook



A tablet

Even smaller computers are:

- **Tablets:** wireless, portable personal computers with a touchscreen interface. They are typically smaller than a notebook computer but larger than a smartphone and they allow you to write directly on the screen, using natural handwriting with a stylus or digital pen or by typing on a screen-based software keyboard.
- **Personal Digital Assistants (PDAs):** handheld mobile computers that combine computing, telephone/fax, Internet, networking, voice and handwriting recognition features. A digital stylus is their main input device on a multi-touch screen. Created at the beginning of the 90s, they immediately found a wide application, however, they are rapidly disappearing due to the difficulties to sync or backup data, software incompatibility, and the new generation of smartphones which can carry out most of their functions.
- **Smartphones:** mobile phones which include e-mail and Web services, music and movie player, camera and camcorder, GPS navigation, voice dictation, virtual assistant and the more common features of a PDA. They have an operating system, integrated memory, a QWERTY keyboard, and can run multiple applications simultaneously. They make use of touch-sensitive screens that respond to touch.
  - **Smartbooks:** devices which combine features of both a smartphone and a netbook in a body with a larger screen and extended battery life. They were intended mainly for entertainment purposes when they were launched in 2009/2010 but were soon replaced by bigger and more powerful tablets.
  - **Phablets:** hybrid devices that combine features of smartphones and tablets to meet the desires of those customers dissatisfied by the large size of tablets and the small screens of smartphones. They usually have a screen size between 5 to 8 inches, offer the same portability of a smartphone and are equipped with spectacular graphics performances.



A personal digital assistant



A phablet

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