SFF Computers: Because size matters and sometimes smaller is better

The advances in electronics and miniaturization allowed us to move from computers that were once as big as an entire room to portable devices that we can carry in our pockets [1]. Naturally, the tasks that we want to performance increase in complexity as well and every computer advance is followed by question about how far we can push the system, how small we can build it and what is the next big break through. Designers, researches, or anyone person with a need for a powerful computer will likely have to face the decision of either have a powerful or a portable system. This choice often comes from the idea that a powerful system means a big computer with great performance (desktops), and a portable system means a small but overall weak computer (laptops). One may find powerful laptops, but they are usually heavy or are too expensive.

The small form factor (SFF) computers come in as the sweet spot between these two opposite worlds. A SFF computer is understood as a desktop computer designed inside a case under 20 liters in volume. Practically, there are SFF computers that go as low as 3.7 liters while still being capable of performing highly demanding tasks, such as 4K video editing. One could buy three of such systems, which cost roughly the same as a desktop, and still be able to fit all of them inside a normal shoe box.

SFF computers are portable, space efficient and are fun to work with. They appear as a solution for a society that needs robust systems, but at the same time cannot afford to waste space and sometimes needs to be ready to pack everything and move to the next challenge.

References

 Halacy, Daniel Stephen (1970). Charles Babbage, Father of the Computer. Crowell-Collier Press. ISBN 978-0-02-741370-0.