

We have to Reinvent Computing moving FPGAs into Mainstream

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Not only sustainable computing requires increasing compute capacity worldwide, also to cope with the growing population of our planet. Together with growing energy prices this will make their energy consumption unaffordable, probably within this decade. Without migration of a major part of legacy software over to FPGAs our cyber infrastructures will crash into the energy wall. A second necessity for re-writing software are the growing core counts of manycore architectures requiring parallelism. Hetero systems including FPGAs promise to reduce the energy consumption of computing by an order of magnitude or even more. However the programmer population qualified for the unavoidable twin-paradigm re-writing approach does not exist. We have to reinvent computing, also to reform programmer education.