Beyond imagination... we make the most complex technologies simple
E4 Computer Engineering creates and provides hardware and software solutions for High Performance Computing, High Performance Data Analytics, Artificial Intelligence, Deep Learning and Virtualization. The growth of our company over recent years has enabled us to employ various open source technologies such as OpenStack, Kubernetes and CI / CD tools in our products.

VISION
We want to become the leading supplier of hardware and software solutions, focused on technological innovation, with the aim of helping our clients to grow their businesses through the transformation and optimization of their IT systems.

MISSION
Our goal is to make complex technologies simple. With passion and competence we implement and integrate the most advanced information technologies to achieve the best infrastructural performance possible, in computing, storage and networking, and excel in the development of innovative, flexible and safe solutions. We produce technologically advanced solutions, from analysing your requirements, to eventually providing after-sales services, including complete support for all our clients.
E4’S EVOLUTION

RAPIDLY CHANGING MARKETS, THE EMERGENCE OF NEW APPLICATIONS AND THE CONTINUOUS AND RELENTLESS INCREASE OF AVAILABLE DATA TO MANAGE, PROCESS AND ANALYZE, HAVE LED TO THE DEVELOPMENT OF EVER MORE COMPLEX ARCHITECTURES.

TECHNOLOGICAL PROGRESS REQUIRES HIGHLY SPECIFIC KNOWLEDGE AND SKILLS, IN ADDITION TO SUBSTANTIAL PROFESSIONALISM. WE AT E4 ALWAYS LOOK FOR NEW OPPORTUNITIES TO PURSUE IN THIS EVER-CHANGING FIELD AND EVERYDAY TACKLE DIGITAL TRANSFORMATION PROCESSES, BY OFFERING FLEXIBLE AND SCALABLE SOLUTIONS ALONG WITH 360 DEGREE SERVICES.

INNOVATION AND GROWTH

We strongly believe in two fundamental principles: to invest constantly and continuously in research and development and to employ the best technicians and scientists available.

These two principles have supported the evolution of our company which, starting off as solely a Hardware Integrator, has transformed into an internationally recognized Solution Manufacturer and Service Provider.

Over the years we have recruited many young and talented people, including computer engineers, physicists, chemists and mathematicians, which has created a highly sophisticated R&D and Innovation team allowing us to work with major research and computing centres, such as CERN in Geneva.

R&D

More than 50% of our staff consists of highly specialised engineers. They are part of an ever growing team that, every day, creates innovative solutions that can be offered on the market.

E4 engineers select, test, integrate, install, and configure hardware and software components. These are then equipped and optimized with the correct infrastructure to perform IT management that is simple and effective.

CONTINUOUS INTEGRATION

CONTINUOUS DEPLOYMENT

Within our team, we use a process of Continuous Integration/Continuous Deployment (CI / CD), which involves the introduction of constant automation in development processes and allows continuous monitoring of applications over their entire life cycle. This process is applied both within E4’s internal company structure and is offered to our clients, to allow a collaboration amongst development teams that is agile, flexible, fast and secure.

AGNOSTIC APPROACH TO TECHNOLOGY AND ECOSYSTEM

We have always adopted an agnostic approach towards the many technologies that are available on the market, designing and offering the best solution for our client’s needs. Thanks to a consolidated ecosystem and strong relationships with the main suppliers of hardware and software technology worldwide, we enjoy privileged access to the latest generation technologies. This allows us to test the newest and most innovative solutions so they can be offered to our clients well in advance.
OUR OFFER

Selecting high potential technologies, evaluating them, integrating them and then making them available in simple and automated formats: this is the innovation process undertaken by E4, which aims to help our client’s IT departments fill the gap between the complexity of their work and the ease of use desired by their users.

With skills accumulated over years of experience in some of the most challenging IT sectors, we have created an internal factory that promotes the Industrialization of Innovation. This factory, equipped with the necessary tools for scouting new products and implementing Continuous Integration/Continuous Deployment CI/CD processes, works continuously to identify emerging open source projects that provide precise and granular functionality and that have achieved a sufficient level of stability and maturity to be used profitably in the world of enterprise.

INNOVATIVE HIGH PERFORMANCE SOLUTIONS

THANKS TO THIS STANDARDIZED INNOVATION PROCESS WE OFFER FOUR SOFTWARE SOLUTIONS TO OUR CLIENTS, WHICH, IN COMBINATION WITH HPC AND GPU HARDWARE INFRASTRUCTURES, MAKE COMPLEX TECHNOLOGIES ACCESSIBLE, FAST AND FLEXIBLE FOR USERS.

KAPTAIN: A KUBERNETES-BASED CONTAINER CLUSTER
MEDOOZA: A FLEXIBLE HPC CLUSTER, BUILT WITH MICRO SERVICES, WITH CONTROL AND OPTIMIZATION SOFTWARE
FLUCTUS: A PRIVATE/HYBRID OPEN SOURCE CLOUD PLATFORM BASED ON OPENSTACK
GAIA: A GPU-BASED PLATFORM FOR MACHINE LEARNING AND DEEP LEARNING

These solutions are scrupulously open source, and can be implemented into IT infrastructures extremely quickly, thanks to simplification and automation work carried out by our engineers. They can be installed on both new and existing hardware (when suitable).

Each of the four solutions is cloud-native: the services that they provide are monitorable, measurable and scalable to whatever extent required by your business deadlines.

Automation is the keyword: our four solutions were designed to achieve the highest level of automation possible, so that no repetitive or predictable operations need to be carried out by technicians, leaving them free to intervene only when absolutely necessary.

Our clients’ IT departments will no longer have to waste time and resources monitoring the menial aspects of their technologies, but instead will be able to focus on how these technologies can bring a concrete benefit to their company, obtaining significant cost savings in the short and long term.

ENTERPRISE SOLUTIONS FOR VIRTUALIZATION

OUR FAMILY OF VIRTUALIZATION PRODUCTS BASED ON VMWARE, NETAPP AND VEEAM TECHNOLOGIES

VSTONE®: CLUSTER FOR CONVERGENT VIRTUALIZATION
VSHUFFLE: CLUSTER FOR HYPER-CONVERGENT VIRTUALIZATION
TWINSTONE: STANDALONE SERVER FOR BACKUP/DR

These solutions, which combine the various components of computing, storage and networking with a high degree of flexibility and scalability, will allow you to transform your data center and will give you the edge in the IT field.

The architecture is simplified through its separation into three default layouts: Converged, Hyperconverged and Standalone Backup/DR. In addition, E4 guarantees compatibility between hardware and software components.

Our solutions are fully integrated into our client’s IT systems extremely quickly: users simply have to choose what size infrastructure they require, selecting the amount of resources necessary to meet their specific requirements.

E4’s virtualization solutions integrate the best hardware and software components on the market and come with a series of services that allow you to have a secure system that is continuously updated.

With our solutions, clients can optimize the management of their IT operations, efficiently consolidating and accelerating their workloads, and simultaneously benefit from a clear saving in management costs.
A Kubernetes-based platform that allows you to easily manage complex multi-container applications. The complexity of deployment, scheduling and load balancing operations grows exponentially year on year, rendering an infrastructure capable of organising multiple containers all the more necessary. This is the main function of Kubernetes, the software used in Kaptain.

A highly flexible HPC structure: in a single infrastructural layout you can add new nodes, or interface with the cloud, without needing to change the system’s architecture. Engineered entirely by our team at E4, Medooza provides an approach to HPC clusters that is intuitive, flexible and easy-to-maintain for traditional, virtualized and cloud-native infrastructures.

A cloud platform designed and created according to the principles set out by Open Infrastructure. Fluctus is based on a stable version of vanilla OpenStack meaning it can be expanded, in terms of additional resources and functionality, as and when this is necessary. Fluctus has neither hardware nor software constraints, nor any lock-ins with regards to functionality and services; it embodies the process of infrastructure-as-code.

GAIA is a platform that will enable you to implement AI solutions in your company and reduce your products’ time to market. Engineered solely by our team, GAIA exploits the power of parallel computing performed on GPUs to guarantee vastly reduced processing times and flexibility in the execution of workloads performed on containerized tools.
SERVICES AND SUPPORT
A TEAM OF EXPERTS THAT IS ALWAYS AVAILABLE

Our clients will have access to the expertise of our team of highly skilled engineers and system architects. The team provides support during each phase of the client’s project, and also responds promptly to all types of requests, from asking for advice to seeking additional services. Our high degree of competence and flexibility enables us to create an ongoing relationship of mutual trust with our clients.

By using one of our high performance solutions (Kaptain, Meadoop, Fluctus, GAIA) or one of our Enterprise Virtualization family solutions (vStone, vShuffle, TwinStone) you will have access to all the necessary services for installation and configuration and, for the first year, Level 3 remote support. Both during set-up and whilst using our services, this offer can be expanded to include first and second level support or specialized support for if and when your systems require more complex reconfiguration.

LEVELS OF SUPPORT
WE OFFER 3 DIFFERENT LEVELS OF SUPPORT ACCORDING TO THE URGENCY OF THE ISSUE, FROM TELEPHONE SUPPORT TO 24H AVAILABILITY FOR THE MOST CRITICAL CASES.
OUR SERVICES ARE TAILORED TO THE SPECIFIC NEEDS OF OUR CLIENT’S.

L1
Provides basic support for simpler cases, such as confirming any physical hardware issues, resolving username and password problems, uninstalling/reinstalling basic software applications, verifying hardware and software configurations and assisting in navigating through the applications’ menus.

L2
Provides more in-depth support, assisting L1 staff in solving basic technical problems and in investigating more complex issues, through the research and utilization of known solutions.

L3
The highest level of support offered, our L3 manage the most difficult and advanced issues and assist L1 and L2 staff with their most complex cases. The team is made up of developers and those who know the product code exhaustively. This more in depth support is made available to all our clients, as this aids to inform our solutions to future problems.

24H
We also offer 24H support and technical assistance both at our research center and on the client site. We monitor hardware components through VPN connections, to ensure preventive and proactive assistance and, if replacement or repair work on defective hardware components must be carried out in-situ, specialists at E4 or from any of our qualified partners located nearby will visit the client to do this.

PROFESSIONAL SERVICES
In addition to the services listed above, we offer our professional skills through the provision of ad hoc high-level consultancy services, which are arranged with the client according to their specific needs. Here are some examples:
System optimization, integration with pre-existing systems
Design of customized HPC and Big Data clusters
Benchmarking the quality and reliability of hardware
Implementation of distributed, parallel and software-defined file systems with high performance and capacity
Data migration management (ensuring integrity between different file systems)
Customer training.
EUROPEAN PROJECTS

E4 has finally become one of the leading Solutions Providers in Europe in the field of HPC: in fact, it is now a partner of the EPI (European Processor Initiative) consortium, whose objective is to design and implement a roadmap for the creation of a new family of European reduced-consumption processors for large scale computing, high-performance big data and a wide range of other emerging applications; it is also involved in other European initiatives, being an active member of numerous other consortia of the HPC ecosystem such as MAX, ETP4HPC and HiPEAC. Since 2018, E4 Computer Engineering has been part of CERN openlab, collaborating in important R&D projects in the fields of artificial intelligence and high performance data analytics, designing and developing architectures for processing and storage equipped with the latest technologies.

SELECTED REFERENCES FOR CLIENTS

CERN: 10,000+ Server, 120+ PB Storage, High Energy Physics
INFN: 6000+ Server, 40+ PB Storage, Nuclear Physics
LEONARDO COMPANY (ex-Finmeccanica): 100+ computer clusters, 800+ core, Aerospace, Defence and Security
ENEA C. R. Casaccia: HPE Superdome Flex 12-sockets, 2.3 TB RAM, Research on the energy of Mediterranean waves
CALZEDONIA: 2 x HPE UV3000 16-socket, 12 TB RAM, Manufacturing
CONTINENTAL: 25 computer clusters, Switch Infiniband, Automotive
BAE: E4 Lustre Storage (250+ TB), E4 plug-in for LUSTRE, Aerospace
ACQUAINT: NVIDIA DGX-Station, Artificial intelligence in the hotel sector
ESRF: European synchrotron radiation facility – 4PB storage solutions, High energy physics
FINANCE SECTOR (Under NDA): Appliances for Artificial Intelligence based on GPU - GAIA
UNIVERSITY & RESEARCH (Under NDA): 3 HPE Superdome Flex e UV3000 da 8 a -24 socket, up to 3TB RAM

CERTIFICATIONS

ISO 9001:2015 from 2005
ISO 14001:2015 from 2013
SA 8000 from 2015