



Archimedes was one of the greatest scholars of ancient times. He was interested in various fields, ranging from mathematics to physics, geometry to mechanics, introducing concepts and principles that were elaborated only 1,800 years later.

One of his aspirations was to create a multidisciplinary setting within which concepts, principles, and mechanisms that could contribute to the overall system would be grouped together.

His philosophy of interpreting questions, as well as his ability to analyze and resolve these, has been an example to us, and now a *forma mentis* that assists us in developing projects.

Today, Archimede is a modern engineering company that makes use of the most advanced analysis and design instruments, but with a classical perspective, thereby offering our clients a complete range of engineering services with noteworthy added value.

Archimede is organized in such a way that it possesses qualified personnel, supported by individuals who are highly qualified in the sectors we operate.

This interdisciplinary structure has allowed us to attain significant goals.

Archimede society of engineering has been accredited by **Alma Mater Studiorum – University of Bologna** to carry out apprenticeships at the company itself.

Due to this and its internal philosophy, Archimede considers itself to have a particular insight into the formation of all its staff.

Services

Archimede proposes solutions to the following office company requirements:

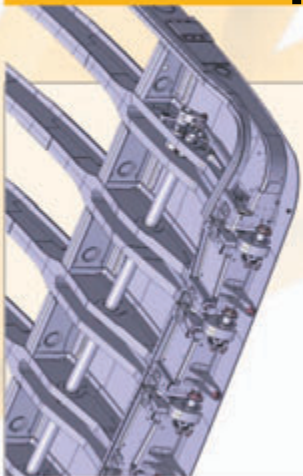
- Design of automation;
- Design of automobile and motorcycle frames;
- Design of endothermic motor components;
- Design of industrial structure;
- Design of prosthesis;
- Kinematic and kinetodynamic simulation in rigid-body and flexible body conditions;
- Structural simulation (linear, non-linear, of buckling, static and dynamic calculation);
- Vibrational simulation (modal, FRF, transistors);
- Prediction of lifespan (durability) using σ -N, ϵ -N approach according to the most recent theories, or rules;
- Thermal simulation (conduction, convection, thermal radiation);
- Advanced training, educational training and technological transfer;

Instruments

The choice of software platform used for design and analysis is agreed upon with the client according to criteria of compatibility and suitability to the particle problem faced.

Archimede is in a position to use the majority of CAD and calculation codes most widespread.

Some Applications



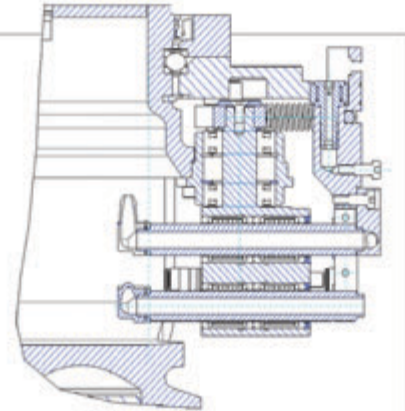
Aerospace/Aeronautic

Design and optimisation of aeronautical components. Design of primary and secondary components of the central fuselage. Simulations and sizing of hatch opening mechanisms. Rails for seats, crossbars.

Some Applications

Packaging and Food and Beverage

Pre-project automation groups. Design of groups. Kinematic and kinetodynamic calculation of articulated mechanisms. Calculation and cam optimisation.



Automotive/Transport

Static rigidity and dynamic calculation on motorcycle/automobile frames. Analysis of tie steering rod. Design and evaluation of durability on motor components. Dynamic analysis (modal, frequency response, correlation) on the base of the motor/cylinder and cylinder heads.

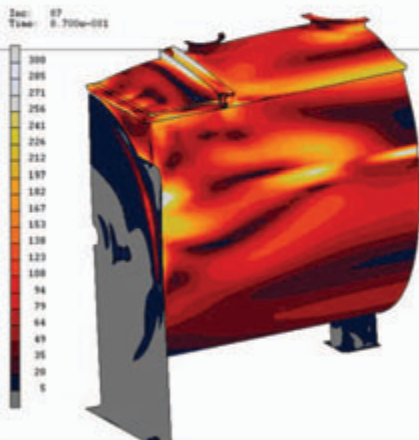
Biomedical

Design and simulation of knee prosthesis. Testing under working conditions in accordance with the laws of the sector. Planning of means of osteo-synthesis. Design of components for electro-medical equipment.



Industrial

Design and optimisation of gear pump components. Planning and calculation of arm crane in accordance with current regulations. Planning of groups for machines of dimensional measurement.





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