sodern
arianeGROUP

OUTSTANDING EXPERTISE AT THE SERVICE OF YOUR AMBITIONS

#enablingyourambitions

ENABLING YOUR AMBITIONS

SODERN
OUR DNA

We rely on more than 50 years of experience in **optronics** and **neutron technology** to develop **innovative** and **competitive solutions** for our commercial and institutional customers.

As a subsidiary of the European leader in access to space, ArianeGroup, we are operationally independent.

We are also a historical and strategic defence supplier, a characteristic that guarantees us a solid base of industrial activities, thereby affirming **durability** and **reliability**. Our institutional clients' high level of requirements has led us to develop an **extraordinary expertise** that now benefits stakeholders in space, mining, industry and research.

We preserve and enhance this exceptional technological know-how by participating in scientific programs that push **the limits of the state of the art**: the caesium atom clock Pharao, the seismometer of the Mars mission InSight, cells of Pockels for the Megajoule laser, etc.

Sodern's core business is the series production of star trackers that enable satellites to orient themselves precisely in space, and **neutron systems for analysing and detecting materials**.

To meet the expectations of changing markets, we set high competitive requirements for ourselves: the implementation of lean management, perfect understanding of our customers' needs, agility and optimisation of production costs are the commitments that allow us to maintain a competitive edge with a very high level of **customer satisfaction**, and to consolidate our position as a world leader in several markets.

WE ARE PATHFINDERS IN SPACE

We help humanity
find its way into space.

Our **star trackers** allow satellites and spacecraft to orient themselves by detecting, identifying and calculating the position of the stars. Their role is essential to ensure the proper functioning of satellites and allow us, on Earth, to benefit from their services: geolocation, communications, observation, etc.

Our star trackers, which are integrated into scientific probes, also participate in **the exploration of the solar system**, and the study of the planets that compose it.
Our rendezvous sensors guide space vehicles to their destination in orbit, and make it possible to meet and dock between celestial objects.

Thanks to space, we help humanity to know our planet better.
Our optronic technologies, integrated **into Earth observation satellites**, contribute to our knowledge of the climate, the ecosystem, the geography and the wonders of our planet.

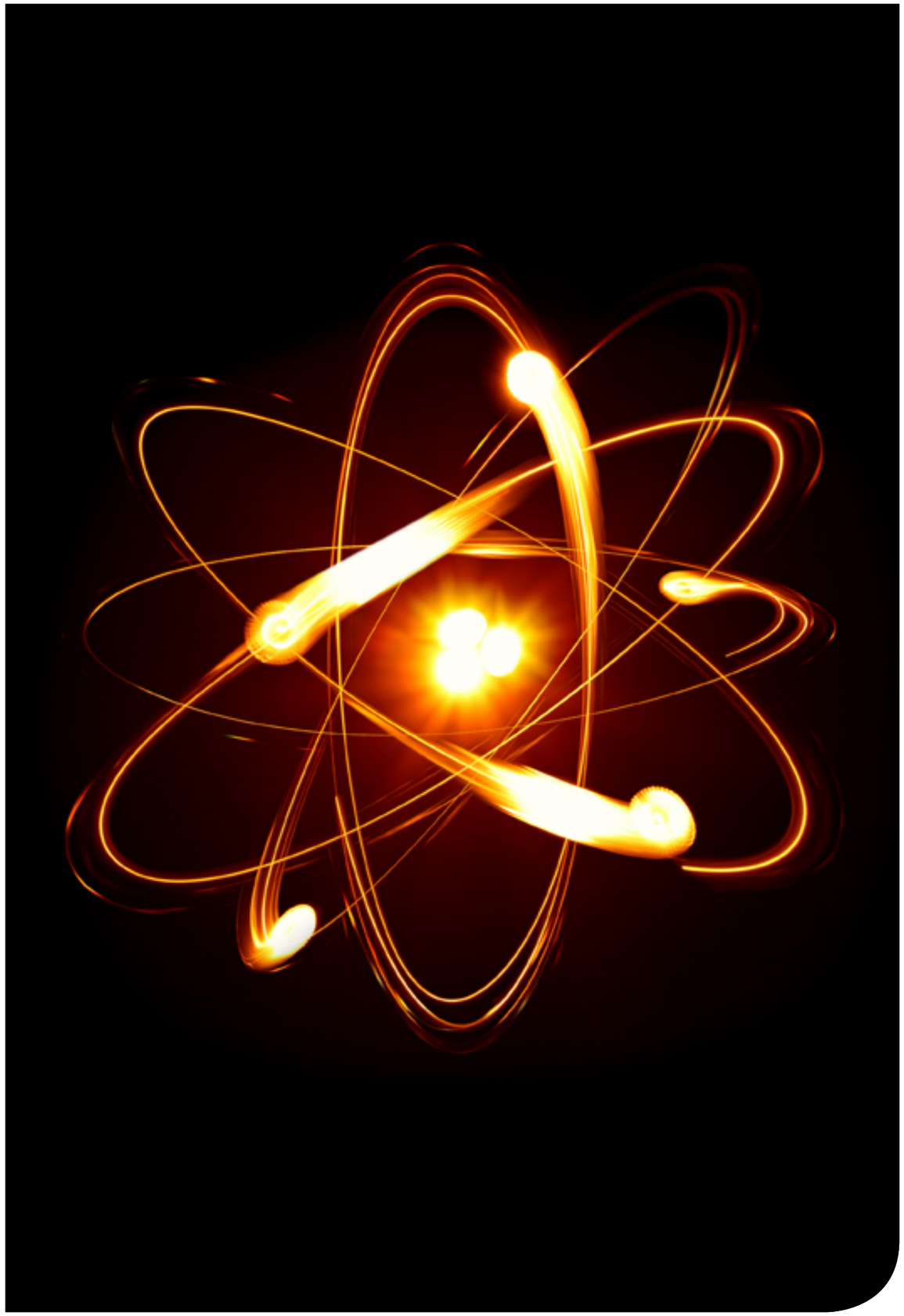
We are developing new geolocation systems.
Tomorrow, our **daytime star trackers** integrated into aircraft, ships or land vehicles will provide humanity with a new geolocation technology.

WE TURN SMALL PARTICLES INTO GREAT ACHIEVEMENTS

We use neutrons
to save you a lot of time.

Our **neutron exploration** tools make it possible to explore a field or terrain with exceptional precision and unmatched speed. They constitute a real revolution for the mining or petroleum industry, during both the exploration and exploitation phases.
Our **material analysers** make it possible to determine the precise composition of a flow of raw material, which is a great facilitator for cement applications, in particular.

We place the energy of neutrons at your service.
Our **neutron generators** provide science and industry players with the power and reliability of these particles. For example, they make a valuable contribution to laboratory applications, or quality control. We produce nearly one hundred neutron tubes a year, and these are used by a wide variety of companies or research institutes in more than forty countries around the world, reinforcing our position as the world leader in this market.



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WE ARE DEFENDERS OF PEACE

We are historically committed to the service of defence.

Our neutron sources are designed to ensure the **credibility** of the posture of French nuclear deterrence. This imperative of reliability is a guarantee of the technological control of our teams.

We participate in many defence programs, using our **optronic and neutron know-how**: ground observation, specific star trackers for military applications, calibration, the opening of trapped ground routes, etc.

Our strong commitment to defence is an **assurance of continuity** and excellence.

We anticipate future strategic issues for the armed forces.
In particular, we develop solutions that can replace GPS coordinates, or protect our vital infrastructure in space.

We offer innovative solutions for security stakeholders.
Our neutron detection systems for explosives or narcotics offer broad prospects, especially for export.

WE ARE WRITERS OF SCIENCE FICTION

We bring imagination to life
by pushing the boundaries of science.

We occasionally participate in extraordinary programs, at **the limits of scientific knowledge**.
The PHARAO caesium atom clock, to be installed on the International Space Station; the seismometer of the InSight mission, designed to study the seismology of the planet Mars, the Pockels cells for the Megajoule Laser are some examples.
Their common points: they are examples of **technological prowesses**, enabling **new scientific experiments** to be carried out, and will undoubtedly be sources of new discoveries.

Innovation is critical to us and we constantly question paradigms. We also apply this state of mind, which governs the development of our products and has made some of our most remarkable technical achievements possible, to **our industrial project**. Thus, we focus our efforts on our tools and our production methods, which have allowed us to initiate **major breakthroughs in terms of competitiveness and efficiency**.

To root this aspect of our culture within our walls, and to remind ourselves that what's impossible today might not be tomorrow, our production spaces bear the names of science fiction authors.

OUR KNOW-HOW

Neutron technology

Neutron technology is a branch of neutron physics, involving a sub-particle of the atom. Thanks to our experience in deterrence, we now master the most advanced applications and we are, on the industrial front, one of the world leaders in neutron technology.

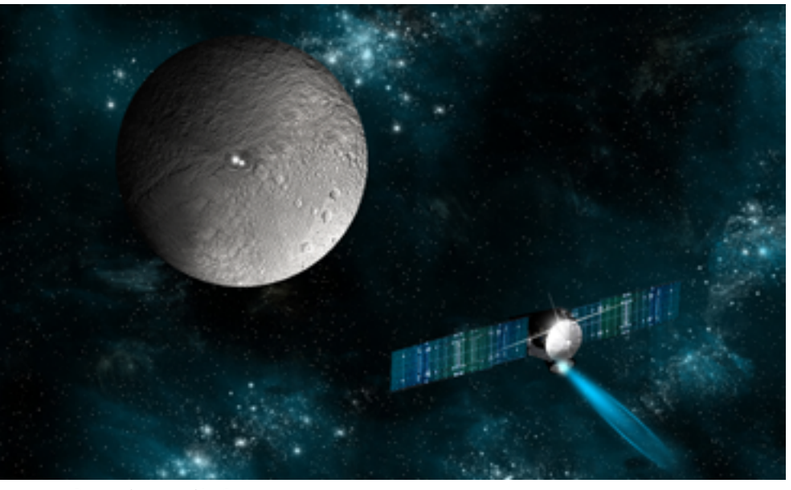
Most of our activity is now civil. The wealth of our know-how and our equipment allows us to develop solutions adapted to a wide variety of needs.

Optronics

Thanks to various fields of knowledge derived from our neutron activities, such as vacuum control, we quickly diversified into the field of optronics.

Thus, we design, develop and produce systems using both optics and electronics.

We work for a wide variety of sectors, but space and science are two of our preferred markets.



Dawn probe approaching Ceres

OUR COMMITMENTS

Excellency

The technical challenges and the high level of demand inherent in the markets we are present on, including space, defence and science, have led us to develop exceptional expertise and place a high value on quality and the reliability of our products.

This culture of performance is found on all our programmes. For example, during seven million hours of cumulative operation, the software of our traditional star trackers did not record any errors and did not fail.

Competitiveness

For our customers, excellence is nothing without competitiveness.

This means that we do our best to offer them solutions at the best cost.

To achieve this goal, we reorganised our entire production chain, generalising the principles of lean management, and investing in optimised means of production. Our products are designed to sacrifice nothing for quality, while resolutely seeking simplicity, efficiency and economy.

By making this competitiveness objective an intrinsic part of our culture, our products and our structure, we have managed to impose ourselves as a New Space actor with our Auriga star tracker, to reinforce our market share on the traditional star trackers segment, and to continue to grow with exports in the neutron markets.

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