

CLS *mag'*

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ANNIVERSARY ISSUE CELEBRATING 30 YEARS





CLS, subsidiary of the French space agency CNES, investment company Ardian, and the French institute of marine research and exploration IFREMER, has a 600-strong workforce working in 6 strategic sectors: fisheries, the environment, maritime safety, energy and mining, fleets and satellite observation services. The company provides satellite services based on location and the collection of environmental data (with 80,000 beacons or transmitters on drifting buoys, animals, fishing or commercial fleets, etc. processed every month). The CLS Group had a turnover of 108 million in 2015, which it plans to increase to some 120 million in 2016. Rapid growth in recent years has motivated the CLS Group to set itself ambitious objectives through the opening up of new markets. For more information: www.cls.fr

CLS MAG

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Christophe Vassal,
Chairman of the CLS
Executive Board

“

*CLS is all about
serving people
and the planet
on which
they live.*

Our success is
above all that of
the men and
women of CLS.

C NES founded CLS on 26 April 1986 to operate and market the Argos system. Our parent company also propelled us into the area of satellite oceanography in the 1990s. As a majority shareholder, the French space agency has supported, encouraged and guided us for the past 30 years. Today, CLS is celebrating its 30th anniversary. Thirty years during which we have been observing the Earth, monitoring its biodiversity and our environment, keeping watch over human activities and supporting. Our company's central mission is to serve people and the planet on which they live. It is a noble quest that really inspires us. We have to constantly examine ourselves, innovate, try to always remain one step ahead of our customers' needs and be aware of what is going on around us. We care about the legacy we are going to leave for future generations. The CLS community, which includes employees, subcontractors, suppliers, shareholders, international agencies, users and customers are well aware of the situation. This community has not spared its efforts, its pains or its investments over the past 30 years.

This anniversary issue of CLS MAG is an opportunity for me to acknowledge and spotlight the value of the men and women with whom I have been working for the last three decades.

I am lucky enough to have joined CLS at the start, right at the beginning of my own career. I have worked and shared with nearly all the members of the CLS community. And looking back on these 30 working years, I'm proud of the ground we've covered together. To get where we are today, an international group with a staff of over 600 working to protect our planet, at the service of more than 120 countries, we have had to count on men and women who are committed, motivated and skilled.

This success is above all that of the men and women making up the CLS community. Together, we have been able to diversify our activities. We have developed our skills and space-based systems. We have been able to welcome and integrate new colleagues and companies working to the same ends, colleagues who have helped consolidate the group and become part of it.

This special 30th anniversary CLS MAG is the perfect opportunity to thank them for their commitment, their loyalty and the friendship that unites us and enables us to together fulfil our vital assignment.

Christophe VASSAL,
Chairman of the CLS Executive Board

«In 30 years, CLS has shaped diversification into a major asset. A move that has paid off, rocketing this CNES subsidiary into its leading position in the global satellite-based Earth observation market and the provision of value-added services,” declared the President of the French space agency, CNES, last April when addressing CLS employees in Toulouse.

THREE STEPS TO DIVERSIFICATION

1. Location and data collection

In 1986, CNES founded CLS in Toulouse to operate and market the Argos satellite system. It began with one subsidiary, Service Argos Inc. in the United States. That year, satellite NOAA-G flew the tenth Argos instrument, the first one to be operated by CLS. As CNES continued to extend international cooperation with NOAA, EUMETSAT, JAXA and ISRO, and to enhance the system through successive versions culminating in Argos-4 today, CLS remained in step, constantly developing system applications for

oceanography, tracking animals, monitoring fishing vessels and merchant ships, and providing beacons for single-handed yacht races.

2. Satellite oceanography

In 1990, CNES asked CLS to develop processing algorithms for the oceanography sensors aboard ERS-1 and the Poseidon altimeter. CLS began satellite oceanography services in 1996 following the development of altimetry techniques. Since then, CLS has been operating ocean-observing instruments such as TOPEX/Poseidon in the past, Jason-1, -2 and -3 today and will be responsible for operating Altika, Sentinel-3, DORIS and SWOT in the future.

3. Radar to keep an eye on the oceans

In the 2000s, CLS added radar applications to the company's skills list. This new venture led to the development of a system to combat illegal fishing in the Kerguelen Islands. In 2009, CLS set up the Vigisat radar satellite imagery receiving station in Brest, the only one of its kind in France.

“

CLS is the proof that a public institution can spawn many new companies and practise excellent management skills.

CLS, FROM SME TO INTERNATIONAL GROUP

“Diversification has paid off. CLS currently operates internationally renowned, fully operational satellite systems. Its huge success is borne out by a few statistics:

- 1986, VSE with 35 employees, 1 subsidiary and an annual turnover of 2 million;
- 2016, an international group with 600 employees worldwide, 23 offices and subsidiaries, and an annual turnover close to 120 million.

CLS has proven to be a driving force on behalf of CNES in terms of innovation and applications. It capitalizes on the satellite systems the agency creates, day by day developing and creating applications and services of use to our planet. I would like to wish CLS and all its employees a very happy anniversary.”

Jean-Yves Le Gall, Président du CNES



CLS, a real success story.

“

CLS, I admire you

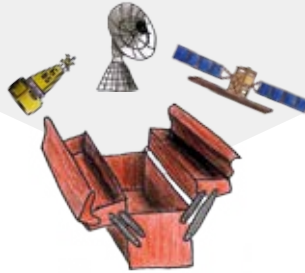
Jean-Yves Le Gall,
CNES president

PORTRAIT OF CLS PEOPLE

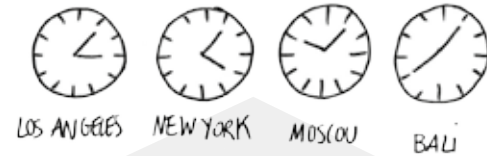
... THEY ARE A COMBINATION OF ALL OUR EXPERIENCE OUR EXPERTISE KNOWLEDGE AND VALUES



THEY HAVE A FULL SET OF TOOLS



THEY HAVE NO FEAR OF JET LAG



THEY ARE ALL TERRAIN



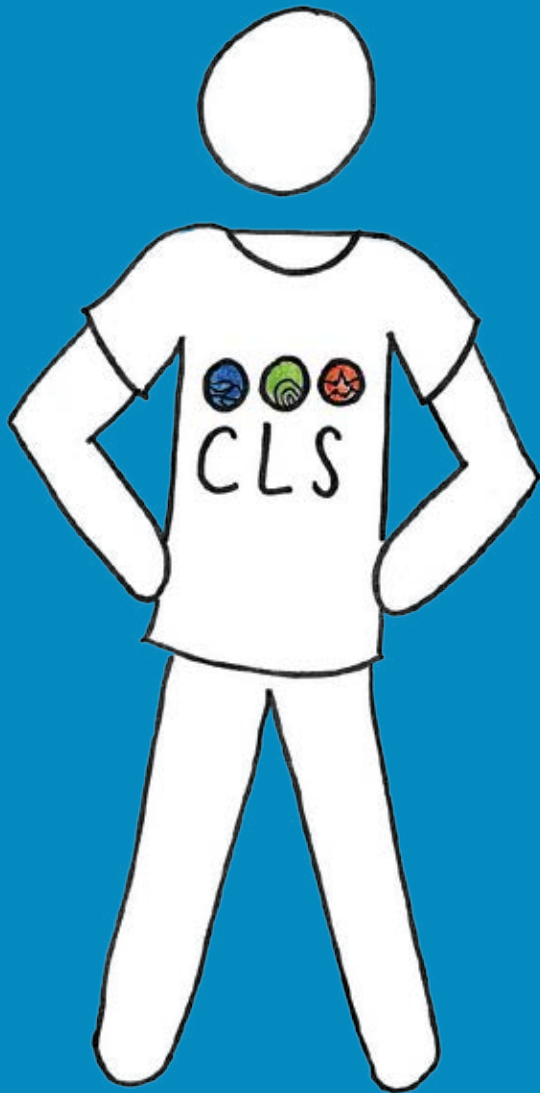
THEY TRAVEL A LOT



THEY ARE PROUD OF THEIR ORIGINS



THEY HAVE MANY PARTNERS



WHAT KIND OF PEOPLE WORK AT CLS? IF WE HAD TO DRAW A PORTRAIT OF THEM ...

THEY SPEAK SEVERAL LANGUAGES



$$\log_{10} I = C_i + k P_i + \log_{10} I_s(\lambda_i, \phi_i)$$

THEY KNOW HOW TO ASK THEIR FRIENDS FOR HELP WHEN NEEDED



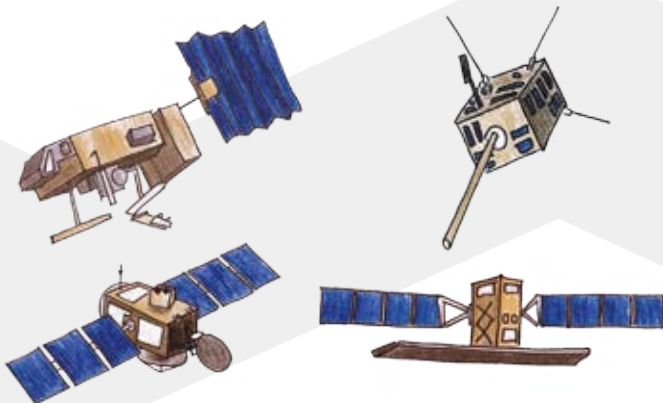
THEY WORK HARD AT ALL THEY DO



THEY HAVE GLOBAL VISION, AND CAN SEE DAY OR NIGHT, EVEN THROUGH CLOUDS!



THEY WORK IN A HIGH TECH ENVIRONMENT



CLS PEOPLE ARE FULLY WEATHER-PROOF



THEY MAKE EVERY EFFORT TO SATISFY THEIR CUSTOMERS AND ARE ALWAYS CLOSE TO THEIR USERS WHETHER ON LAND OR SEA



Those “first-time” milestones



THE FIRST TIMES...

Why are the first times so important? Perhaps because they represent something new, because they offer hope. The first times teach us new things and help us move forward. In 30 years, CLS has known many "first time" milestones.

1986-2000

1986

1986 was the first year we received data from an Argos oceanography transmitter.



The same year, Jean-Louis Etienne arrived at the magnetic North Pole, equipped for the first time with one of our transmitters. We tracked the whole adventure.



1991

Asian fishermen were devastating the Pacific Ocean with their drift nets. The UN asked CLS to fit beacons to fishing vessels so as to be able to track these ocean plunderers.

Space sector activities took off in the 90s. They led to the DORIS satellite orbit trajectory system. CLS processed the first data from this system to precisely determine the orbit of oceanography satellites.

1992

There was also the first AND last time... when we broadcast ship monitoring information via Minitel...



In 1992, the TOPEX/Poseidon satellite was orbited, and CLS measured the mean sea level.

Noël 1996

CLS's first contribution to a rescue! A memorable event. Raphael Dinelli, a skipper participating in the Vendée Globe yacht race, was stranded when his boat overturned in the Roaring Forties. He found himself alone, clinging onto the hull in the middle of a freezing cold ocean. His lifeline was his Argos transmitter. After 36 hours in the ocean, his eyes burning and hands frozen, CLS located the signal, enabling another skipper to rescue him thanks to his own Argos beacon.



© Henri Weimerskirch CEBC/CNRS Chizé



The 1980s marked the start of animal tracking using satellites. Polar bears, caribou or albatrosses fitted with a collar or Argos "backpack" journeyed around the pack ice, Canada's far North or drifted with the circumpolar winds.



1990

CLS declared its doors open to oceanographers to add to its knowledge of the oceans.





1998

Global warming was not yet on the agenda. Yet scientists at CLS were categorical: the mean sea level graph computed by CLS oceanographers was continuing to rise alarmingly.

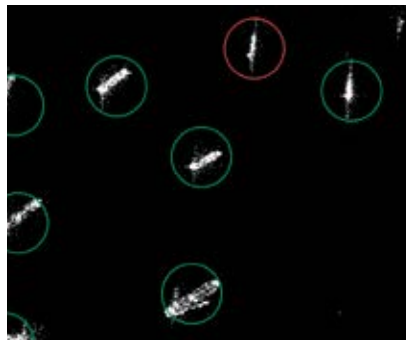


2000

A cargo ship was attacked in the Straits of Malacca. The captain triggered our anti-piracy tool, raising the alarm. CLS entered the era of maritime safety and security.

2002

Clean-up operations are not only carried out at sea. Household waste collection trucks were geolocated for the first time using transmitters.



2003

Kerguelen Islands, French Southern and Antarctic Lands. The devastation caused by illegal fishing was having dramatic effects on the biodiversity and economics of Réunion Island fisheries. Following a direct request by the French President, CLS used a spaceborne radar to detect the Apache, a fishing boat contravening the law in this region. The dissuasive system proved extremely efficient.

2005

Environmental crime. CLS radar services detected oil pollution in the Mediterranean Sea for the first time. This was also the year when CLS subsidiary Novacom Services first fitted satellite transmitters to a humanitarian convoy to track the trucks on behalf of the Red Cross.

2006

CLS scientists were now capable of forecasting long-term changes in marine populations. CLS began supporting stakeholders in the fisheries sector on the path to responsible, sustainable management of our marine resources. The forecasting models developed by CLS integrate environmental conditions, pollution, the fishing effort and global warming.

2007

For the first time, experts from the Inter-governmental Panel on Climate Change used the mean sea level curve computed by CLS and its partners, CNES and LEGOS, to warn politicians about the importance of reacting to ongoing warming.



2013

Indonesia is taking its responsibilities seriously. This collection of archipelagos hosts the biggest reservoir of biodiversity on Earth. Threatened by illegal fishing, pollution, global warming and the deforestation of coastal zones, its government asked CLS to provide a tool to help it protect and develop the region. CLS responded with INDESO, a unique infrastructure.



2008

The Roaring Forties and Furious Fifties, the most dangerous seas in the world. Dodging icebergs was becoming increasingly dangerous, but CLS was watching out. Over 1,000 icebergs were detected and thus avoided by skippers during the mythical Vendée Globe race in 2008.

2009

Following the attacks of 11 September 2001, the world faced up to the threat of terrorism. Maritime border controls were tightened. CLS was given the responsibility of tracking the largest shipping fleet in the world (10,000 European ships) on behalf of the European Maritime Safety Agency.



2010

The lynchpin of marine biodiversity. At the bottom of the food chain, the micronekton is central to the ocean system. This was the year that CLS pierced its secrets and modelled its evolution.

2012

In the realm of environmental responsibility and protection of the maritime heritage, for the first time CLS armed itself with the tools needed to help oil companies implement environmental standards in a responsible manner. It began forecasting disruptive ocean events and offering accidental pollution detection services.

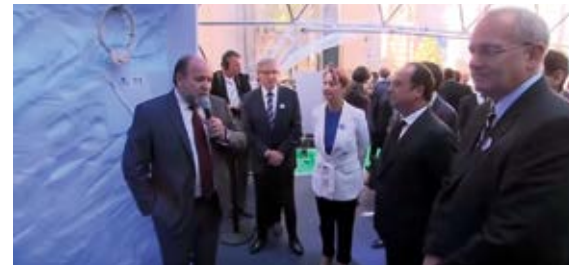


The Sun is also as capricious as it is mysterious. Solar storms can cause electromagnetic fluxes that are dangerous for space launches. For the first time, CLS forecast a solar flare and helped Ariane-space choose the best date to launch the ATV.



2015

Infrastructures. With its additional 200 km of metro lines and 68 new stations within 15 years, the Grand Paris Express is a mammoth project. For the first time in history, this construction programme is being monitored from space. CLS is measuring the impact of tunnelling on the unique Parisian architecture with millimetric accuracy.



Paris 2015. COP 21. Inauguration of the CNES climate dome. CLS was asked to present solutions in support of the environment and climate to French President François Hollande.



2016

CLS celebrates its 30th anniversary: 30 years of innovation, 30 years of passion, 30 years of collaboration, 30 years of commitment, 30 years of high performance serving planet Earth.

Sustainable
management
of fisheries



Environmental
monitoring



Energy and
Mining



Fleet
management



Maritime safety
& security



Space & Ground
Segment



Today, CLS has
diversified and is currently
active in six strategic sectors.

Sustainable management of fisheries

Marine resources are too frequently overexploited (overfishing and illegal unregulated, unreported fishing). They are also victims of human activity (pollution). If we add to these threats the effects of global warming, it is clear that the world's marine resources have never been as threatened as they are now. The whole fishing and aquaculture economy is in danger, as are associated jobs worldwide. The protein intake of certain coastal populations and indeed their food security are also being threatened.

In order to sustainably manage our marine resources and ensure a future for the related economy and food industry, CLS provides solutions to public and private stakeholders working in the fisheries and aquaculture sector.

CLS supports chosen, sustainable and responsible fisheries management. Our solutions combine expertise, consulting, technical solutions and services with four focuses:

TRITON location and data collection beacon © CLS

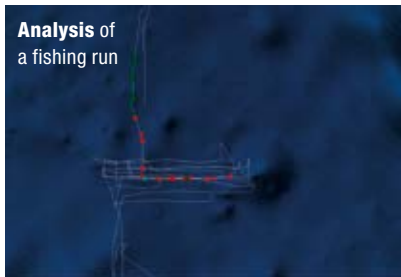


© CLS

1. SUSTAINABLE STEWARDSHIP

Solutions include a range of satellite location and data collection beacons, e-logbooks sent by Internet, software packages and a fully-equipped fisheries monitoring centre.

Analysis of a fishing run



© CLS

2. COMBATING ILLEGAL FISHING AND AQUACULTURE

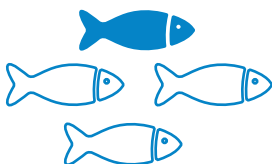
Solutions for detecting illegal, unreported and unregulated fishing based on the analysis of radar and optical imagery together with the use of UAVs, software, analyses, satellite data receiving stations and a fully-equipped centre to combat illegal fishing.

3. IMPLEMENTING SUSTAINABLE MANAGEMENT PLANS FOR FISHERIES

Dynamic model of marine populations such as tuna and swordfish taking into account the ocean's physical conditions, fishing effort, pollution, global warming, recommendations, analyses, etc.

4. SUPPORTING TRADITIONAL AND NATIONAL FISHERIES

Standalone equipment for monitoring traditional fishing vessels and assistance system, map identifying favourable fishing zones, weather forecasts and early warning of typhoons, etc.



1 out of every 4 fish is caught illegally, thus disrupting the balance of marine resources.



20 kg/yr of fish are eaten on average per inhabitant. Developed countries eat much more than developing countries.



± 5 million fishing boats in the world. Almost 75% are Asian.



10 to 12% of the world's population has a job linked to fishing, aquaculture or related activities.

CLS is working towards sustainable marine resource management and offers a range of services in over 60 countries





Environmental monitoring

In just under four decades, the biodiversity of our planet has dropped by over half according to the WWF's 2014 Living Planet Report. Global warming is responsible for melting ice sheets and expanding oceans, leading to a rise in mean sea level. Hydrocarbon pollution has become a near-daily event at sea. Scientists are warning that increasing numbers of the world's population will be facing water shortages or major flooding as global warming continues to rise during the 21st century.

The international community is aware that the key challenges are sustainable development, good stewardship of freshwater resources and measures to reduce global warming. It is implementing precautionary measures for environmental management and encouraging environmentally responsible behaviour.

Right from the outset in 1986, CLS has been supporting policy-makers responsible for environmental conservation and sustainable development.

CLS offers integrated solutions based on the latest satellite technologies (equipment, services and expertise). They are born from 30 years of close cooperation with scientists investigating and protecting our planet. They provide vast quantities of

data on animals, the ocean, inland waters, ice and the climate.

These satellite services and tools offer the community solutions for:



1. PRESERVING HIGHLY MIGRATORY SPECIES

Full solutions for tracking, collecting, processing and cross-referencing data, and for modelling ecosystems.

2. MONITORING THE OcéANS

Some hundred or so ocean specialists provide daily data to the international scientific community for



measuring, observing, modelling and forecasting sea states both on the surface and subsurface.

3. MONITORING WATER RESOURCES

Solutions for observing water networks, including water level, surface area, volume, forecasting the rise in levels, or observing subsidence in river deltas and the intrusion of saltwater.



4. MEASURING THE IMPACT OF GLOBAL WARMING

Calculating the mean sea level, observing ice formations, satellite tracking of animals sensitive to global warming, etc.



biodiversity has declined by 50% in 40 years



+ 8 cm in 24 years this is the mean rise in global sea level calculated by CLS engineers based on altimetry measurements



15,00 l of water are needed to produce 1 kg of meat



Maritime safety & security

The world's seas are the daily arena for a variety of illegal activities ranging from pollution (by hydrocarbons, nitrogen oxide or sulphur) to trafficking (of illegal immigrants, drugs or precious wood), terrorism, piracy or armed robbery.

According to the International Maritime Bureau (IMB), piracy and robbery at sea in the first half of 2016 were at their lowest since 1995. However, the kidnapping of sailors remains of concern, especially in the Gulf of Guinea. The IMB reported 98 incidents during the first half of 2016 compared to 134 for the same period in 2015.

Every 3 days, a 300-Ton ship is wrecked somewhere in the world. Some 6 million tonnes of oil find their way into the sea each year.

In 2015, the threshold of 1 million migrants and refugees entering Europe was crossed. Of this number, 97% have to confront the seas to reach the promised land. It is well-known that this migration leads to the inhuman trafficking of illegal migrants.

Maritime surveillance aims to understand, prevent when possible and manage comprehensively the events and activities occurring at sea that could affect the safety and security of people or property. This includes law enforcement at sea, defence, border controls, protection of the marine environ-

ment, fishing control and the economic interests of States. Since the 2000s, in its role as an operator and provider of value-added satellite services, CLS has been supporting both international authorities (customs officials, coastguards, national navies and international maritime security agencies) and private stakeholders such as freight or insurance companies, purchasers, etc. in their missions:

1. SAFETY & SECURITY

Intelligence solutions for maritime applications or monitoring fleets of interest, data collection (SSAS, SAT-AIS, VMS, LRIT...), integration, analysis, software, availability of a maritime security centre, the use of drones, etc.

2. ANTI-POLLUTION MEASURES

Programming, acquiring, processing analysing and interpreting high-resolution satellite radar imagery, detecting pollution, identifying the polluter, forecasting oil slick drift, using drones and onboard sensors designed to detect atmospheric pollution.

3. ECONOMIC INTELLIGENCE

CLS offers a wide range of economic intelligence applications, decision-support tools for maritime fleet managers and real-time surveillance solutions.



CLS supports Frontex in its mission to rescue migrants in danger in the Mediterranean Sea.

© Istock



CLS analyses radar imagery to detect maritime pollution.



CLS collects all the data from world shipping.

© Istock



Every 3 days
a 300-Ton ship is wrecked
somewhere in the world



72 ships
worldwide were boarded
by pirates in the first half
of 2016



970,000 migrants
arrived in Europe
by sea in 2015

Energy and Mining

The offshore production of oil and gas has become a vital part of the world's energy production. It requires evermore advanced technologies in complex, dangerous ocean conditions, at a time when stakeholders and public powers alike are looking more closely at its environmental footprint. Offshore production related to drilling of the seabed now represents 30% of global oil production and 27% of gas production.

The land also is a source of wealth. There are innumerable gold, tin, copper or manganese mines. The biggest open-pit mine in the world, in Australia, has a 13,000-strong workforce, covers an area of 12 square kilometres and is one kilometre deep. It aims to produce 750,000 tonnes of copper, 19,000 tonnes of uranium oxide and 800,000 ounces of gold every year. Such huge infrastructures are increasingly complicated to manage.

The infrastructures that transport or shelter these men and such wealth may also be outsized (e.g. oil pipes, bridges, metro lines, etc.). How can such huge constructions and operations be monitored? CLS develops and markets products and services for players in the Energy sector, including oil and gas groups, seismic operators, engineering companies, the hydroelectric industry, sustainable marine energies and companies in the mining and civil engineering sectors.

CLS is itself supported by the skills of its partners and subsidiaries ProOceano (Brazil), TRE-Altamira (Italy, Spain and Canada) and Horizon Marine

(USA), to create, implement and operate products and services based on satellite and in situ oceanography, radar interferometry, location and data collection.

CLS thus offers a broad portfolio of solutions for:

1. SECURING AND OPTIMIZING OIL AND GAS PRODUCTIONS

CLS can provide precise satellite measurements showing ground displacement throughout production, indicate marine currents, and perform site studies before designing or implanting oil & gas infrastructure.

2. SECURING AND OPTIMIZING MINE PRODUCTIONS

CLS provides full synoptic views of mine movements, as all the structures subject to deformation can be regularly and accurately monitored.

3. MONITORING CIVIL ENGINEERING WORKS

CLS provides a tool for monitoring all the stages of civil engineering projects from design and the first drawings through to construction and commissioning.

CLS monitors the potential impact of the construction of major infrastructures on their environment to within 1 mm.



CLS supports offshore oil exploration players seeking to implement environmentally responsible actions.



30%
of global oil production
is from offshore rigs



200 kilometres
of new metro lines in Paris are
currently under CLS's scrutiny



750,000 tonnes
of copper are extracted each year
from the biggest mine in the world,
in Australia

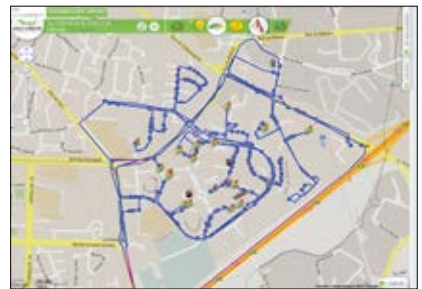


Fleet management

CLS subsidiary NOVACOM Services partners the biggest humanitarian agencies worldwide. It tracks their fleets and helps optimize and secure operations.



Novacom Services offers one of the best freight tracking solutions available: locating trucks, trailers, monitoring anything from the temperature of refrigerated units to tyre pressure. No information escapes the company's vigilance.



Looking ahead to 2050, the OECD's International Transport Forum has predicted a fourfold increase in international freight shipping. The average distance (all transportation systems taken together) will also increase by about 12%. The share of road haulage will rise from 6% to 10% in 2050 due to the expansion of intraregional trade, especially in Asia and Africa, where rail networks are under-developed.

Every year in France, each inhabitant produces about 400 kg of household waste. Transporting these millions of tonnes of waste obviously degrades the environment.

This year, the United Nations have estimated that some 130 million individuals worldwide need humanitarian aid. There are some 65 million displaced persons, the highest number ever recorded. This is the greatest humanitarian crisis of our era.

So what do humanitarian organizations, waste collection companies and road haulage companies have in common? They all use road networks. They are all increasingly busy, and all require more and more efficient logistical management. And this is

where CLS and its subsidiary Novacom Services come in.

Since 2002, Novacom Services has been offering intelligence and/or security services and solutions for the strategic movements of either merchandise or people to professionals in different sectors. Professional and positioning data are sent in real time by GPRS, satellite or Sigfox-type networks to CLS's secure Data Centre where they are stored and exploited by Novacom's parent company. These solutions target:



1. HUMANITARIAN CONVOYS OR OTHER TRANSPORT IN AFRICA AND THE MIDDLE EAST

- Ensuring staff safety: hybrid communication systems, SOS pushbutton, road safety, etc.
- Optimization: most efficient itinerary, fleet management, fuel savings, preventive maintenance, etc.

2. SANITATION, SERVICES FOR LOCAL AUTHORITIES AND WATER/GAS/ELECTRICITY/HEALTH SERVICES

- Optimization of resources and fleet management,
- Improvement of the service to users,
- Optimized schedules, virtual trip assignments, monitoring of activities, etc.

3. TRANSPORT AND LOGISTICS

- Optimization of transports, fuel savings, lower accident rates,
- On-time deliveries, safety and security of merchandise, maintenance of a continuous cold chain,
- Enhanced maintenance: tyre pressure monitoring system, electronic braking system (EBS) monitoring, etc.



X4

By 2050, the international shipping of goods will be multiplied by four



130 million people worldwide need humanitarian relief



400 kg of waste are produced by the average French person per year

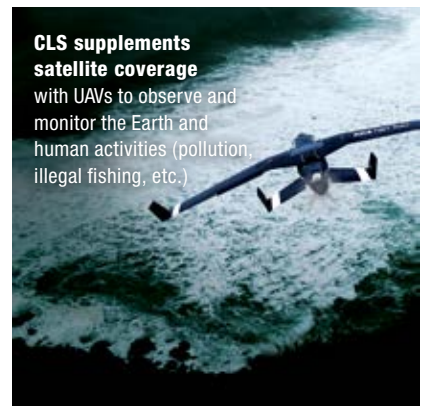
Space & Ground Segment

Whether monitoring the environment, promoting the sustainable management of marine resources, optimizing mobile fleet management on land, or monitoring the energy or maritime sectors, CLS solutions are effective because of the availability, relevance and efficiency of location and data collection systems, Earth observation satellites and surveillance using satellite imagery and drones.

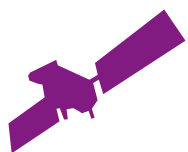
As an operator of satellite systems and provider of value-added services, CLS currently collects data from over 130 satellites, runs 5 data processing centres and maintains over 80 antennas.

Space is a strategic sector, harnessed by CLS to the needs of institutional customers in the sector such as space agencies and the European Commission. CLS works upstream on space systems in addition to processing, analysis and data distribution systems.

The one hundred or so engineers working day after day to this purpose define, develop, validate and operate Earth-observing satellites, location and/or data collection satellites and quick-response surveillance systems built around satellite imagery and drones.



CLS engineers do not content themselves with that, however. They also share their view of future system developments so as to ensure the long-term future of these three areas of CLS expertise that are vitally important for protecting the planet, its biodiversity and its citizens.



130 satellites
send their data to CLS
every day

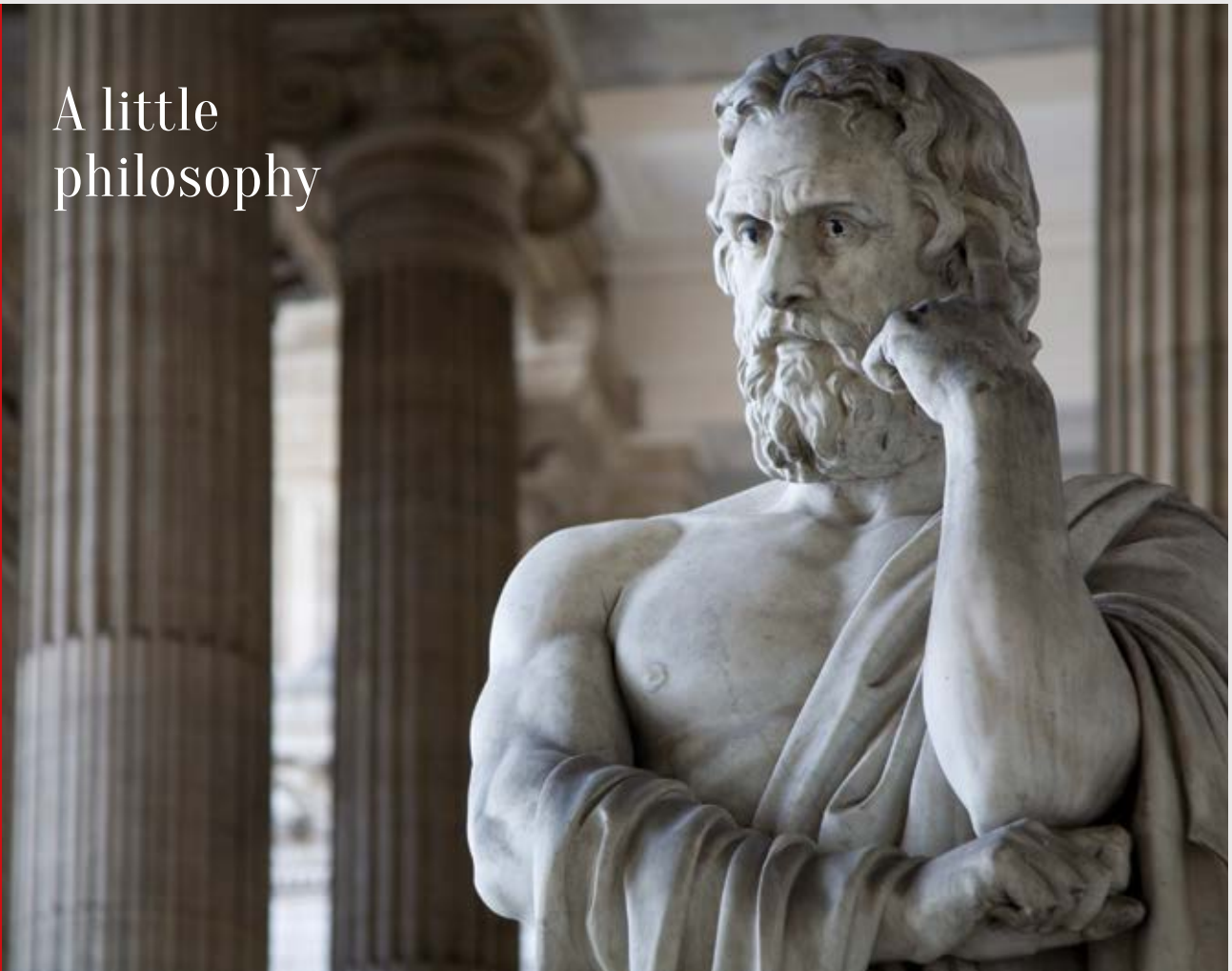


5 processing centres
are operated by CLS in
France, the United States,
Italy and Spain



1
Earth, one planet to
observe, monitor and
preserve

A little philosophy



30 years, the coming of age, the age of change

Our first experiences of life teach us survival strategies based on what we see and experience.

Mistakes and successes enable us to move forward and develop our own mechanisms of defence, thus improving our protection. Then comes maturity, a coming of age that gives us a twofold opportunity to learn from the past but also to free our imagination in relation to change.

Torn tiraller between the desire to break free from past behaviour and the desire to create what we need, we sometimes prefer concluding that change is impossible rather than stimulating our creativity, our ability to innovate for change.

It is the opposition between known and unknown, fear and boldness, immobility and movement.

Yet, through space, the oceans and the life that we observe every day, we see that the only thing that never changes in the universe is change itself.

It is not always a comfortable situation, but it is the meaning of life.

Thirty years in a company represent 30 years of lives, of interactions, of joys, of successes, of failures, of certainties, of tension, of serenity and all this while still moving on.

Heraclitus had come to the same conclusion when he said that you cannot step twice into the same river.

Life is marked by the need for change, because changing is quite simply living.

“


*Only change endures.
You cannot step twice
into the same river.*

Heraclite

Data processing
centres
1986: 2
2016: 5
(2 CLS, 1 Brest,
1 CLS America,
1 TRE-ALTAMIRA)

Key figures

30 years of technological innovation



To remain as useful as possible, we have been developing our tools, systems and technologies for the past 30 years. Let us look back on 30 years of novelty and technological development. CLS, 30 years of innovation, 30 years of listening to those around us, 30 years serving the planet's citizens.



130
satellites
used in 2016

2 Argos satellites operated in 1986

2g

+ smallest transmitter
for birds in 2016

120 g = smallest transmitter for birds in 1986



80

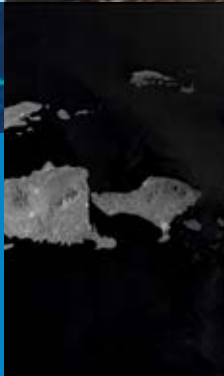
ARGOS antennas
in 2016

3 Argos antennas in 1986



120
people
engineers, doctors,
ocean specialists
in 2016

5 people in 1990



180,000
images processed
in 2016 (radar and optical)

10 000 images in 1986



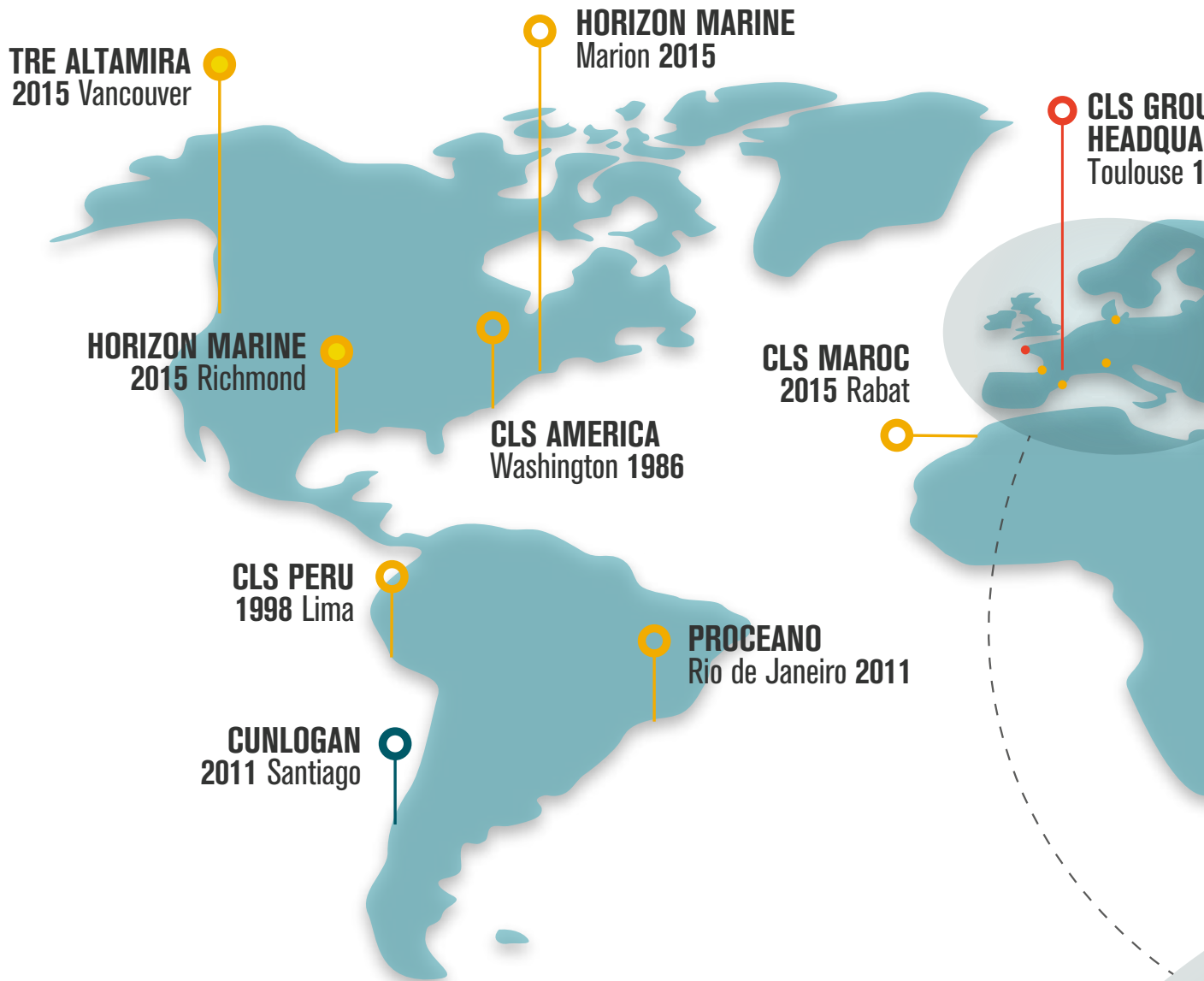
12 million
positions processed every day
in 2016

5,000 positions processed every day in 1986



80,000 beacons processed by CLS in 2016

900 Argos beacons/transmitters active in 1986



CLS, from SME to multinational

600 employees, 23 offices and subsidiaries: CLS uses these local centres to distribute its products and services in the 120 countries with which it works.

A multicultural network well aware of the needs of the surrounding world to protect planet Earth, its citizens and its biodiversity.

 **HEADQUARTERS OF THE CLS GROUP**
 **SUBSIDIARIES**
 **OFFICES**

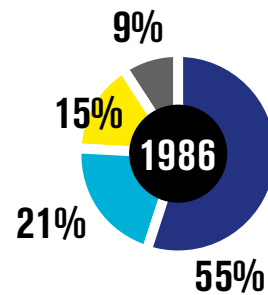
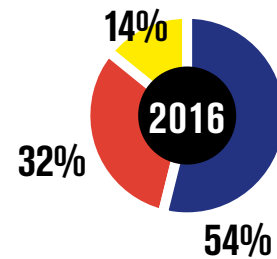


1986: 25 employees – 2016: 600 employees

JPE
RTERS
1986



SHAREHOLDERS



Banks



Venture capitalists

“

Our company's goal, shared by the group's lifeblood - a committed, motivated workforce - is to serve people and the planet on which they live. Together we shall meet our objectives.

Christophe VASSAL,
Chairman of the CLS Executive Board

