

OEIRAS SCIENCE AND TECHNOLOGY



**OEIRAS
VALLEY**

PORTUGAL

—
MUNICÍPIO
OEIRAS



OEIRAS SCIENCE AND TECHNOLOGY

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The Municipality of Oeiras has unique conditions at national and international level, positioning the territory as a benchmark ecosystem in the areas of science and innovation. The Municipality hosts a large number of science-based companies, as well as several universities and scientific institutes of excellence.

Support for research and development, science promotion and internationalisation is traditionally the responsibility of the central government, which, using the State Budget or EU funds, is striving to foster science and innovation in the whole country, in an equitable manner.

However, local authorities can play an important role in these matters, especially in a municipality such as Oeiras, which has reached the highest levels of prosperity and cohesion. The central administration is distant from the territory and the local agents. The local authority, on the contrary, knows the territory, has an integrated vision of synergies that can be generated and can boost local strategies that, based on science and innovation, represent a coherent vision for a territory or region.

There are several international examples of cities and regions where the combination of local and national investment in the promotion of science, excellence, innovation and the internationalisation of scientific research has led to a considerable increase in the number of scientific institutions and science and technology-based companies. This attracts critical mass, generates jobs and considerably increases the scientific literacy of the citizens.

This is the ambition of the Oeiras Science and Technology Strategy. The Municipality is an excellent starting point for the Strategy's the future vision of a highly qualified territory which is immensely attractive to universities and companies and that has a scientifically informed population.

ISALTINO MORAIS

Mayor of Oeiras

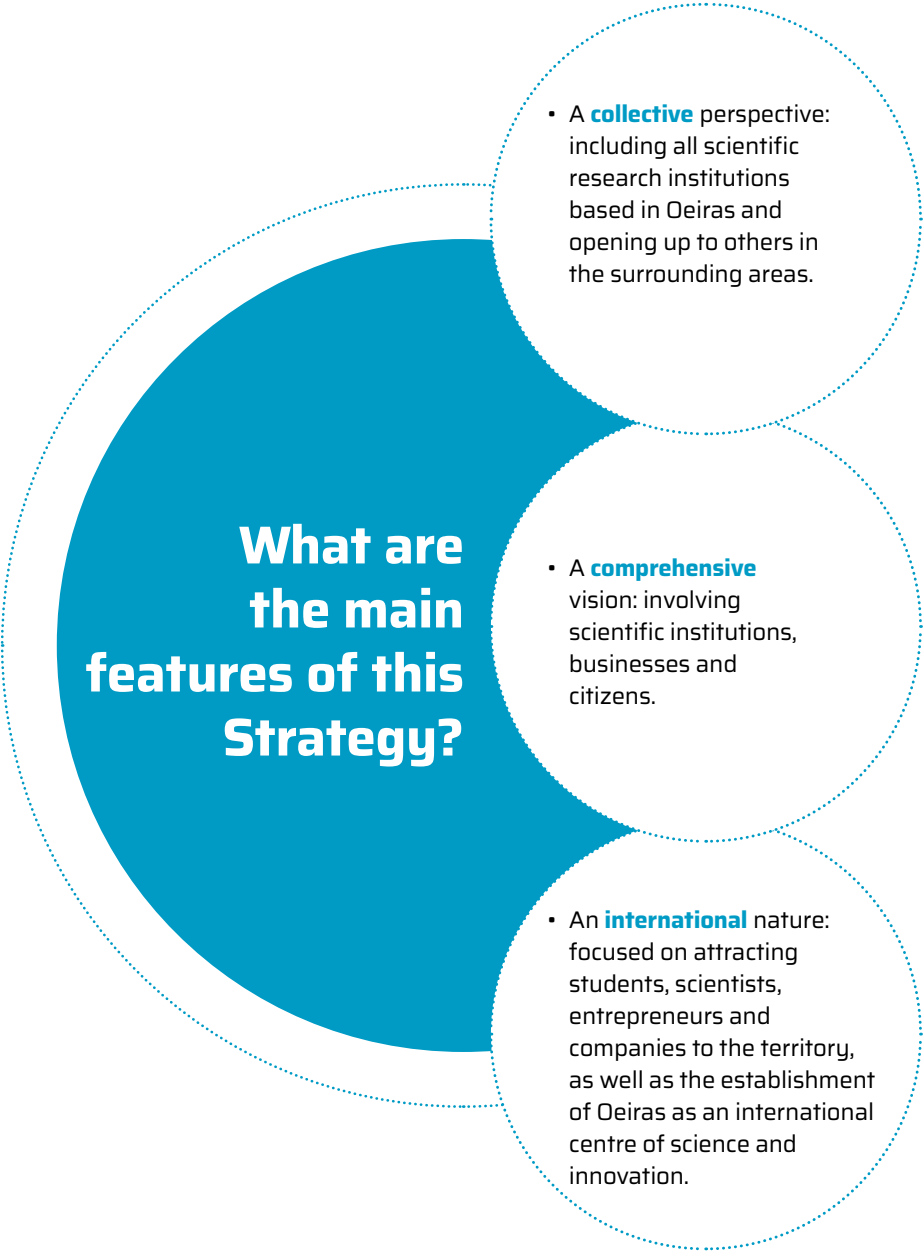
A handwritten signature in black ink, appearing to read 'Isaltino Moraes', written in a cursive style.

OEIRAS SCIENCE AND TECHNOLOGY



The **Oeiras Science and Technology Strategy** aims to create something unprecedented in Portugal: a concerted agenda with the aim of producing a lasting and sustained impact in the territory in three major spheres: **education and society, innovation, and internationalisation.**

This strategy recognises science and technology as the drivers of development, as well as the privileged position of the municipality of Oeiras, in terms of location, scientific infrastructure of excellence and human resources.



What are the main features of this Strategy?

- A **collective** perspective: including all scientific research institutions based in Oeiras and opening up to others in the surrounding areas.

- A **comprehensive** vision: involving scientific institutions, businesses and citizens.

- An **international** nature: focused on attracting students, scientists, entrepreneurs and companies to the territory, as well as the establishment of Oeiras as an international centre of science and innovation.

This is a **transformative agenda for the Society**, which is based in a privileged situation and in a future vision of a highly qualified territory. The Municipality is immensely attractive to universities and scientific and technological based-companies, as it has a scientifically informed population and a very significant percentage of young people with comprehensive training and who are motivated to pursue studies and careers in the fields of science and engineering.



WHY OEIRAS?

Science and technology are the main drivers of progress in society and have a major impact on all areas of human life, from health to food, from transport to consumer choices, to technology that assists us and helps us in everyday life.



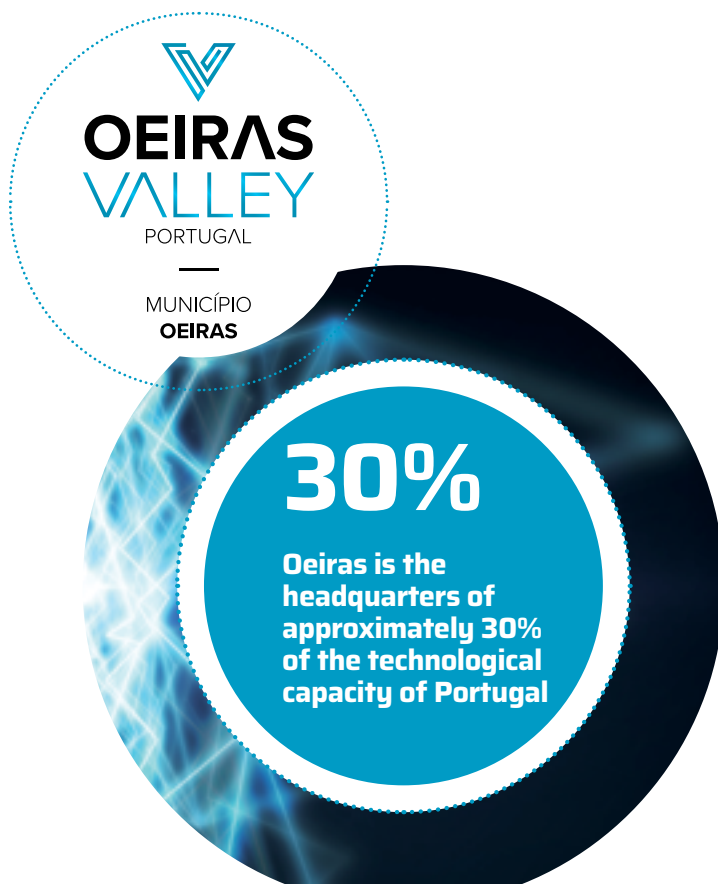
WHY OEIRAS?

It is home to some of the best, internationally recognised national scientific research centres, it has the largest concentration of technology-based companies and the highest percentage of doctorates in the country.

A serious investment in science and technology has to be a fundamental pillar of local development, designed for the long term and with global impact. Considering its small size of only 45 km², the municipality of Oeiras is already unique in Portugal in terms of its scientific and technological capacity. It is home to some of the best, internationally recognised national scientific research centres, it has the largest concentration of technology-based companies and the highest percentage of doctorates in the country.

In addition, Oeiras managed to reach top levels in education, being included among the municipalities with the best school results, having the lowest rates of retention and dropout in primary and secondary education.

This was made possible by an Oeiras development strategy that is based on technology-based innovation, and this small territory has reached top levels in all socio-economic factors. Today it is not only one of the richest municipalities in the country, but also the headquarters of approximately 30% of the technological capacity of Portugal - **Oeiras Valley**.



All this heritage and potential that exists in the municipality of Oeiras requires a strategic mindset that reinforces the role of **science and technology at the core of education, innovation and development**, designed in an integrated and coherent way.

So, now this model needs to be consolidated and accelerated by integrating its three key pillars (**education and society, innovation, internationalisation**) into a new development cycle. This involves launching an **ambitious strategic agenda that involves society, universities, research institutes and businesses** and, ultimately, reinforcing science and technology as part of the territory's identity.

The **Oeiras Science and Technology Strategy** wants to establish the municipality **as the national capital of science and innovation**. This will definitely contribute to reinforcing the **Oeiras Valley** brand as a symbol of a highly qualified territory with a dynamic and thriving economy, with knowledge and technology as a base for creating value.



OEIRAS SCIENCE AND TECHNOLOGY

EDUCATION AND SOCIETY, INNOVATION, INTERNATIONALISATION



Pillar #1

Science, Education and Society

The Science and Society pillar of action aims to **bring science closer to citizens and schools and to bring these closer to scientists and their institutions.**

As a large municipality in terms of its scientific and technological capacity, it has not yet been an exception in the sense that the majority of its citizens are detached from the science practised in Oeiras. In fact, in spite of the fact that in several research centres there are programmes aimed at schools for the dissemination of science and the promotion of scientific literacy, paradoxically, Oeiras schools are among those that visit these programmes and take advantage of the educational opportunities the least.

This gap between research and society has been identified as a common problem worldwide, and Oeiras could be a pioneer in resolving it, by building on what exists and designing an innovative strategy.

The Science and Society pillar of action aims **to bring science closer to citizens and schools and to bring these closer to scientists and their institutions.** The aim is to create a circular relationship between research and society, developing the interest, taste and

appropriation of science and technology in the daily life of citizens, contributing to their capacity for integration in the world of today and of the future. The aim is that it will educate children to be interested, rational, participatory, critical and creative, becoming model citizens in the appropriation and development of science and technology and in the identification of their impact. Finally, it hopes to promote a more open attitude towards society among scientists, recognising the advantages of this relationship.

To reach these goals, the **“Ciência Aberta a Oeiras”** (Open Science to Oeiras) programme, led by the Gulbenkian Institute of Science (IGC) in conjunction with the Institute of Chemical and Biological Technology António Xavier (ITQB), with National Institute of Agricultural and Veterinary Research (INIAV) and with other scientific institutions, is proposed. The success of the “Ciência Aberta a Oeiras” programme will depend heavily on the ongoing collaboration between the scientific institutions and the Oeiras City Council (CMO).

“CIÊNCIA ABERTA A OEIRAS” PROGRAMME

The “Ciência Aberta a Oeiras” Programme focuses on the annual development of the following initiatives:



SCIENTIFIC AGENDA

Scientific Agenda that facilitates the planning and dissemination of science communication events. This agenda, which may be quarterly, should contain updated information on all events related to science that will take place in the Municipality, demonstrating the scientific dynamics of the Municipality and making science more accessible to citizens.

EDUCATIONAL ACTIVITIES

Non-formal **educational activities** for various levels of education made available through the Oeiras Educa programme to be scheduled by the educators and teachers of the Municipality.



DEVELOPMENT OF EXPERIMENTAL SCIENCE EDUCATION

Development of experimental science education in all schools, focusing on basic education through the “Lab in a box” project.

PUBLIC EVENTS

Public events aimed at families, young people, adults and the senior community, with directed activities and scientists meeting with non-scientists.

EVENTS TARGETING

Events targeting more specific audiences, including: a) international seminars, meetings and conferences, even when targeted at expert audiences; b) informal conversations between policy-makers (in particular the CMD) and scientists of the municipality on various topics.





CITIZEN SCIENCE PROJECT

Citizen Science Project, involving scientists, the school community and the senior community in an innovative, open and collaborative model, allowing citizens of various ages to become an integral part of project design and development.

ART AND SCIENCE PROGRAMME

Art and Science Programme with the purpose of bringing science closer to different audiences, benefiting from the Calouste Gulbenkian Foundation and involving cultural and artistic associations, namely of the municipality.



CREATION OF CITIZEN ASSEMBLIES

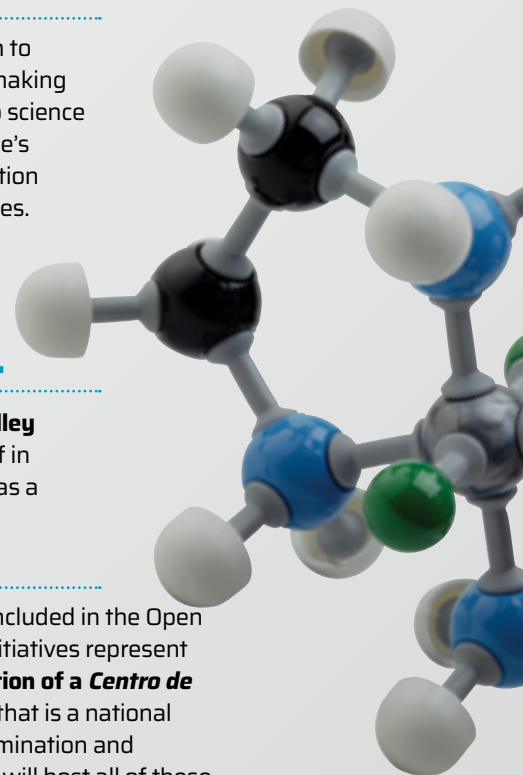
Creation of citizen assemblies to listen to citizens and involve them in decision-making processes, particularly those related to science and the impact of technology on people's lives, through a unique public consultation programme in Portuguese municipalities.

ORGANISE A SCIENCE FESTIVAL

Organise a science festival (Oeiras Valley Science Festival) that establishes itself in the national and European panorama as a landmark event.

It is considered that, as a whole, duly included in the Open Science programme in Oeiras, these initiatives represent the first steps towards the future **creation of a Centro de Ciência Aberta (Open Science Centre)** that is a national and European benchmark in the dissemination and communication of science. This Centre will host all of these initiatives, as well as the promotion of other activities (exhibitions, meetings, festivals, events) and can work together with other similar institutions, in Portugal and abroad.

The future creation of this centre, under the aegis of the "Ciência Aberta a Oeiras" programme, with all its educational and population dynamics, will be the corollary of the establishment of the municipality **as a territory of science, inclusive of all citizens.**



Pillar #2

SCIENCE AND INNOVATION

The municipality of Oeiras is in a particularly strong position to bridge this gap between research and the market. In addition to this scientific infrastructure, the municipality already has the capacity for the incubation of new science and technology-based business ideas.

Although Oeiras has established several research institutes in its territory (with particular emphasis on the field of life sciences), this research translates more into the publication of scientific articles in international journals, as well as participation in national and international scientific events. It is less focused on **value creation, in the creation of new enterprises and in high-skilled jobs.**

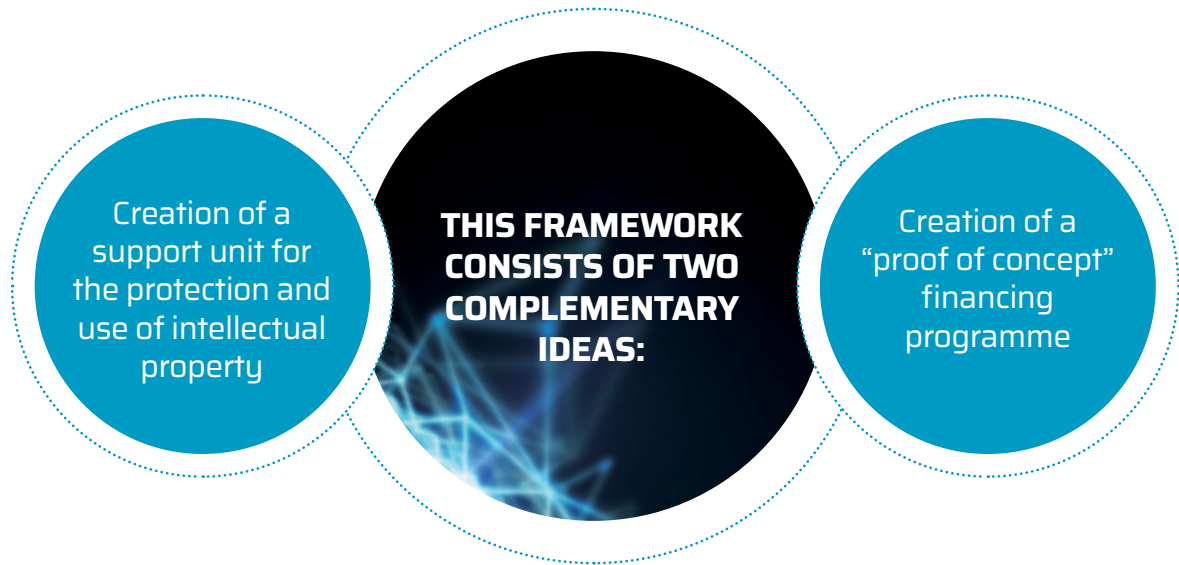
The Centros de Investigação em Ciências da Vida (Life Sciences Research Centres) based in Oeiras (IGC, ITQB and INIAV) need specialised support in the protection and valorisation of Intellectual and Industrial Property, as well as in establishing contacts with Industry. Consequently, despite the quality of the scientific performance of these Institutes and their national and international recognition as benchmark institutions in their respective areas, these activities are insufficient, with a small number of patents submitted and exploited to create economic value.

Once again, the municipality of Oeiras is in a particularly strong position to bridge this gap

between research and the market. In addition to this scientific infrastructure, the municipality already has the capacity for the incubation of new science and technology-based business ideas. It also has the right conditions for hosting and developing more incubation projects, particularly in the field of life sciences.

As such, all that are lacking are the **support structures for scientists and their teams in order to identify research results with the potential of being transferred to the economy, as well as funding and monitoring of the proof of concept**, which are important steps to be taken before an idea is mature enough to be hosted in an incubator of innovative startups.

Since the processes of protection of Intellectual Property and its valuation in exploitation contracts are complex and require a deep knowledge of legal protection mechanisms, the scientific component to be valued and the market, an effective valuation of knowledge, particularly in the areas of life sciences, requires dedicated structures as well as highly specialised human resources.



The Science and Innovation pillar aims to respond to these challenges by creating **a framework dedicated to the monitoring of scientists, to the identification of ideas with increased value, to guarantee support in methodological and technical issues involved in the protection and enhancement of knowledge and technologies, and to promote the support initiatives for the use of knowledge and technologies.**

In addition, support is provided for the creation of business incubators and acceleration projects, in order to create local development conditions from research to implementation.

The aim is to **close the gap between research and its implementation**, thus promoting innovation and leading to the creation of new businesses, employment and wealth. This will not only make the science that is carried out in the municipality more visible, but it will also have an impact on society and the economy.



Pillar #3

SCIENCE AND INTERNATIONALISATION

Given the location of the municipality, the current scientific infrastructure and the quality of life in the territory, there is clear potential to attract more scientists and entrepreneurs, since they know and value the environment of Oeiras.

The unique position of Oeiras as the headquarters of scientific centres of excellence and of science and technology-based companies with a strategic vision, is an excellent starting point for becoming a very attractive territory on an international level. That is, for national and multinational companies in the field of Life Sciences, as well as for Institutions of Higher Education and Advanced Training.

There are a number of examples of cities and regions where local and national investment in the excellence and internationalisation of scientific research has led to a multiplier effect, resulting in a considerable increase in the number of scientific institutions and science and technology-based companies, attracting critical mass and generating jobs. This is the case in cities and regions such as Cambridge¹ (UK), Boston², Flanders³, San Francisco (Silicon Valley), among others.

As Science, Technology and Innovation are people-driven, it is essential to attract the brightest and most creative minds to live and work in Oeiras, bringing their experience and knowledge. Given the location of the municipality, the current scientific infrastructure and the quality of life in the territory, there is clear potential to attract more scientists and entrepreneurs, since they know and value the environment of Oeiras.

¹ "Why Cambridge is at the heart of Britain's economic recovery"

<https://www.independent.co.uk/news/business/analysis-and-features/why-cambridge-is-at-the-heart-of-britains-economic-recovery-9134717.html>

² "How Boston Became 'The Best Place In The World' To Launch A Biotech Company" - <http://www.wbur.org/bostonmix/2017/06/19/boston-biotech-success>

³ <http://www.vib.be/en/business-opportunities/Pages/Biotech-economy.aspx>

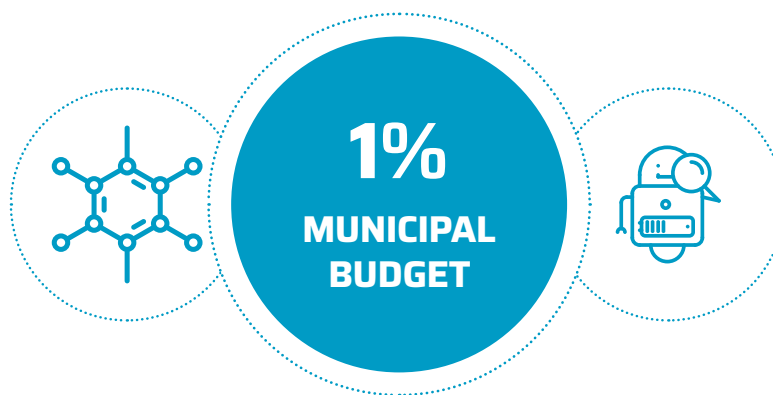
So, in order to accelerate the internationalisation of Oeiras, based on the large-scale public promotion the territory's features, several integrated initiatives are defined.

- **Create a formal programme** of visits, hosting the best scientists in the world, through sabbaticals, courses and workshops, which requires the dedication of facilities specifically for internationalisation activities. This is a successful strategy in many places that have become known worldwide for their scientific internationalisation, including, among others, the EMBL (Germany), Cold Spring Harbor Labs (USA), Marine Biology Labs (USA), the Kavli Institute for Theoretical Physics (USA).
- **Take advantage of Oeiras' focus on sustainability, equal opportunities and social cohesion**, as well as the Instituto Gulbenkian de Ciência's experience working in developing countries, particularly in the PALOP countries, in order to develop specific and personalised activities with scientists from these countries, including sabbaticals and workshops, both in the local environment and in developing countries themselves. While it is true that most scientists live in the developed world, it is no less true that there are bright minds everywhere. Countries that learn to identify and support this human potential will be those who are ahead of research in the future and will contribute to overall sustainable development.
- **Design low-cost scientific equipment (Lab in a Suitcase)**, which can be used both in local laboratories and exported under the Made in Oeiras brand. Opening science and making Oeiras an attractive location also requires the supply of necessary products and equipment, so the design and experimentation of equipment is relevant to the promotion and expansion of Oeiras as a territory of science.
- **Create science and innovation awards** to recognise national and foreign scientists and entrepreneurs in order to project the international image of Oeiras as a territory of science and innovation.

The development of these initiatives foresees the creation of a dedicated infrastructure: the **International Collaborative Center**, a magnet for researchers and entrepreneurs from all over the world that will place Oeiras on the international map of science and innovation.

A LASTING COMMITMENT

The continuous assessment of the development of the Oeiras Science and Technology Strategy, as well as the results it will produce, will shape the Municipality's commitment to this important aspect of the establishment of the **Oeiras Valley** brand.



Therefore, the Municipality plans to allocate **1% of the municipal budget** to the development of **the Oeiras Science and Technology Strategy**, starting in 2020, which shall be met by a sustained and lasting commitment to this strategy.

CONTACTS

www.oeirasvalley.com




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