



300



YEARS



**WORKING IN THE
PUBLIC INTEREST**

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WELCOMING MESSAGE

2020

will have been a special and difficult year for OiEau!

As for many organisations in France and in the world, our activity was particularly complicated by the health and economic crisis linked to the COVID-19 pandemic: the spring lockdown forced us to stop our face-to-face training activity on our sites for more than 2 months, and the almost total halt of international travel prohibited direct contact with our project partners. Our economic equation thus suffered a significant deterioration, fortunately alleviated by French national measures such as short-time working and state-guaranteed loans.

Beyond the economic balance sheet, however, the solidarity and adaptability of our teams (our collective "resilience"), the renewed relevance of our field of intervention and the robustness of our economic model are the main lessons to be learned from our response to the difficulties encountered. The teams have mobilised themselves more than ever in the association's project: implementation of health constraints, staff freeze, reduction of expenses, renewed commercial dynamism, adaptation of our working methods, have made it possible to preserve the dynamics of our projects and activities.

The crisis has thus accelerated the changes that are now essential: OiEau's digital training offer has been enriched and professionalized, and now covers all the possible combinations between face-to-face and distance learning; our training catalogue will focus from this year on a more readable offer, in parallel to the always wide and adaptable customised offers. Our website will have been completely revised by the end of 2021. In France and internationally, the measures taken have largely ensured the continuity of our projects and partnerships, for example through the "virtual missions" set up.

And above all, 2020 will have allowed the adoption of our new statutes in September, confirming the association's recognition as a public utility, the finalisation of a new 2021-2025 strategy, prepared jointly by the permanent teams and the members of OiEau, and the renewal of our Board of Directors.

Finally, 2020 will have been a special and encouraging year to prepare OiEau's 30th anniversary, in 2021!



Mr. BERTEAUD
President



Mr. TARDIEU
Director General

OiEau IN BRIEF

CREATION

The International Office for Water was established in 1991. It was born from the merger of 3 organizations: the Water Institute or Water Foundation (Limoges); the International Training Center for Water Resource Management (Sophia Antipolis) and the French Association for the Study of Water (Paris).

MAIN OBJECTIVE

Development of skills for better water management in France, Europe and around the world.

STATUTE

Non-profit association. Recognised of public utility, by Decree of 13 September 1991, with renewal on 16 September 2020. The modification of OiEau's statutes in 2020 in particular aimed at widening our statutory object to the fields of aquatic environments, biodiversity, the environment and the circular economy. Previously, only the field of water was covered in Article 1.

WORKFORCE & LOCATIONS

Nearly 140 employees spread over 4 locations in France. 45,000m² of educational units in Limoges and La Souterraine (France).

FUNCTIONING OF BODIES

In accordance with the modification of the statutes, **the board of directors** is now composed of 24 members, instead of 28 members previously. It includes different types of structures: full members who are public entities of reference in the field of water and biodiversity (e.g. water agencies, local authorities, etc.), economic actors involved in the management or use of water resources, international organisations, associations and French public operators competent in biodiversity and water resource management. Representatives of French ministries (Foreign and European Affairs, Agriculture, Foreign Trade, Ecological Transition, Industry, Health) may also attend board meetings.

In 2020, **the Board of Directors** met on 30 June and 15 December, and convened two ordinary general meetings on the same dates.

The **President**, Mr. Pascal BERTEAUD, represents the Association in all acts of civil life.

The **Managing director**, Mr. Eric TARDIEU, was appointed by the Board of Directors on 1st July 2017.

ORGANIZATION OF THE TEAMS



OiEau around the world

27 EU countries

Austria	Denmark	Ireland	Poland
Belgium	Estonia	Italy	Portugal
Bulgaria	Finland	Latvia	Romania
Cyprus	France	Lithuania	Slovakia
Croatia	Germany	Luxembourg	Slovenia
Czech Republic	Greece	Malta	Spain
	Hungary	Netherlands	Sweden

6 Mediterranean countries

Algeria	Lebanon	Palestine
Egypt	Morocco	Tunisia

6 European countries outside the EU

Armenia	Belarus	Moldova
Azerbaijan	Georgia	Ukraine

1 country in North America

Canada

10 countries in Latin America & the Caribbean

Bolivia
Brazil
Chile
Colombia
Cuba
Ecuador
Haiti
Mexico
Peru
Suriname

24 countries in Africa

Angola	Democratic Republic of Congo	Mauritania
Benin	Equatorial Guinea	Niger
Burundi	Gabon	Nigeria
Burkina Faso	Guinea	Republic of Congo
Cameroon	Guinea-Bissau	Rwanda
Central African Republic	Kenya	Senegal
Chad	Madagascar	Tanzania
Côte d'Ivoire	Mali	Togo
		Zambia

10 countries in Asia & Central Asia

Cambodia	Malaysia
China	Thailand
Laos	Vietnam
Myanmar	Kazakhstan
Nepal	Kyrgyzstan

&
150
partner organizations

FRANCE Mainland & Overseas

All mainland Regions
Guadeloupe
Guyana
Martinique
Mayotte
New Caledonia
Reunion



OUR VALUES

OiEau is a non-profit and State-approved association. The people's general interest is at the core of its practices, regardless of the type of activity carried out or partnership established. In 2019, all employees reaffirmed the common values that drive us.

The favored values by order of importance:

- 1
General interest & Public utility.
- 2
Independence & Neutrality from private interests.
- 3
Innovation & Performance.
- 4
Pride in implementing skills.
- 5
Protection of the Environment and Biodiversity.
- 6
Sense of knowledge sharing & networking.
- 7
Participatory water management for inclusion of all stakeholders.
- 8
Interculturality & Openness to others.

* Survey conducted from 06/25 to 07/05/2019.

OUR MISSIONS

OiEau covers small and large water cycles. It puts its technical, operational, institutional, legal and strategic expertise at the service of all water stakeholders. And this, at all levels, from a local authority up to national and transboundary policies.

In the field of Water and related activities, OiEau aims to:

- **Facilitate exchanges** between decision makers, designers, managers, industrialists, trainers, researchers and users concerned, to better face their problems together, coordinate their actions and disseminate their information.
- **Develop skills and partnerships** between French and foreign public and private organizations.
- **Carry out projects and programs of common and collective interest** to better meet the demands and needs of the International Water Community.

OiEau carries out its missions:

- **Worldwide**, as part of cooperation projects on the different continents.
- **In Europe**, to promote a concerted approach to the management of water resources and aquatic environments, on a continental scale.
- **In France**, to strengthen and multiply the actions of various public and private stakeholders in the sector.

OUR AREAS OF EXPERTISE

IN FRANCE AND WORLDWIDE



Continuing training for water and environmental professionals.



Use of water-related knowledge & information systems.



Technical and institutional support – Cooperation.



Networking of water stakeholders.

The new 2021 - 2025 strategy is launched



OiEau's 2021-2025 strategy was adopted during its General Assembly on 15 December 2020. Developed according to a participative approach, its launching is concomitant with the 30 years of OiEau, and also coincides with the updating of the association's statutes. The strategy allows accompanying the changes, the digital transition, the global climatic changes and the decrease in biodiversity, but also the long world health crisis which occurred in 2020.

« This strategy is the result of a collaborative approach initiated in 2017 in order to create a real adhesion of the teams to a common transversal roadmap for the next 5 years. The 3 axes of the strategy represent the major issues that OiEau will have to address in the coming years. It is essential to clarify our place in the implementation of national policies, to strengthen our international visibility and to consolidate our capacity to promote our expertise to our current and future partners and customers. I am confident in OiEau's positioning: transferring skills, cooperating with the concern of providing operational solutions to our partners all over the world. » Mr. TARDIEU - Director General - OiEau

The strategy

22 orientations, organised along three original lines

- Support public policies in France,
- To be a vector of change in the water sector,
- Strengthening the international dissemination of our skills.

For each of the orientations, "action sheets" are developed transversally by OiEau's departments and teams to operationalize the strategy. This internal plan allows organizing the means and monitoring the concrete implementation of the actions.

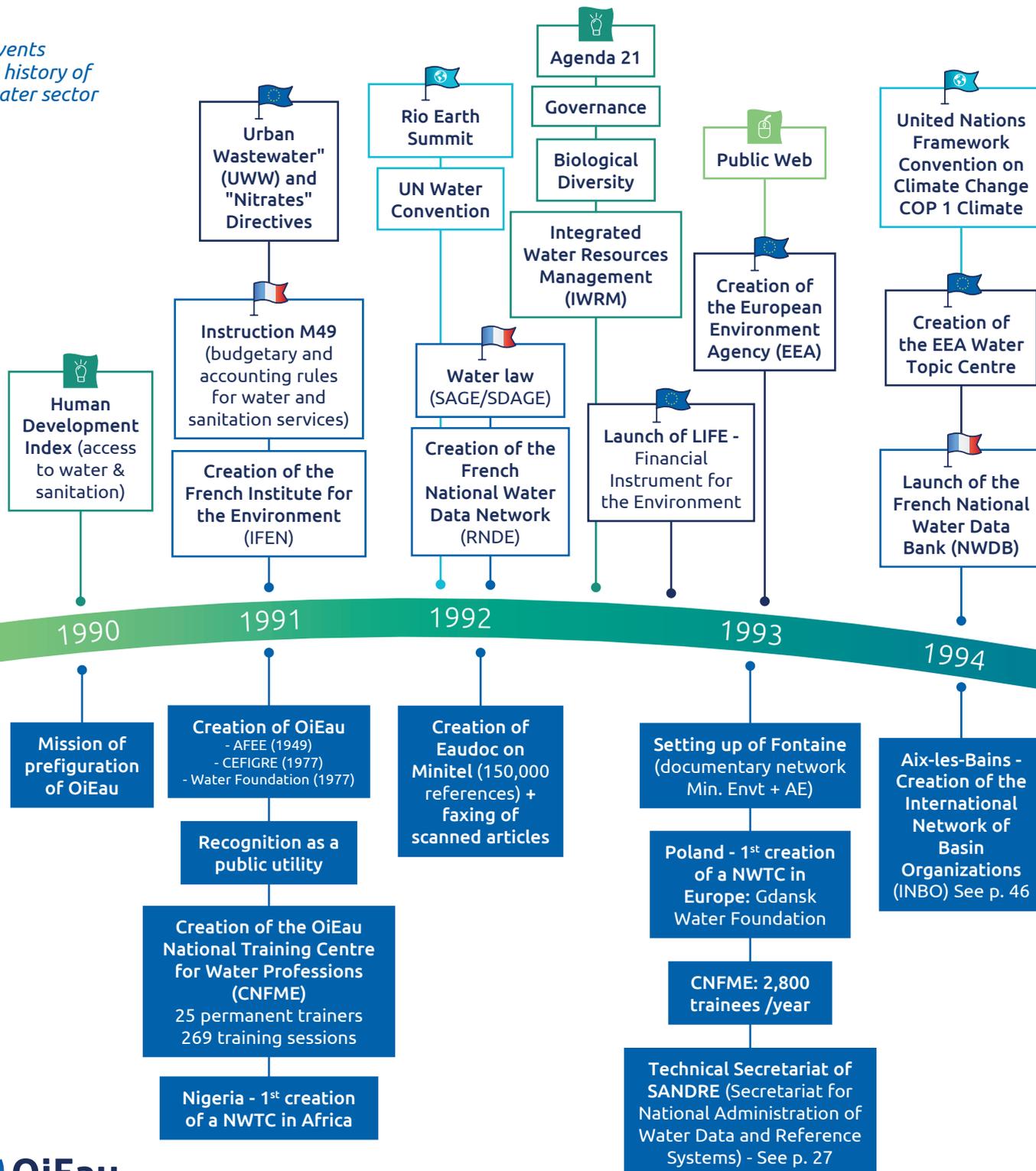


Information management	Digital transition	TRAINING	Water and sanitation services	Territory
	European projects		International cooperation	
	Biodiversity		Governance	
	Risk management		Data	
	Knowledge sharing		Innovation & pilots	
	INBO Skills		Partenariats	
Public policies	Partnerships Territory	WIS Water Information Systems		

THE HISTORY OF OiEau, WITHIN THE LARGER HISTORY OF THE WATER SECTOR

30 years of working in the public interest and of commitment to the environment

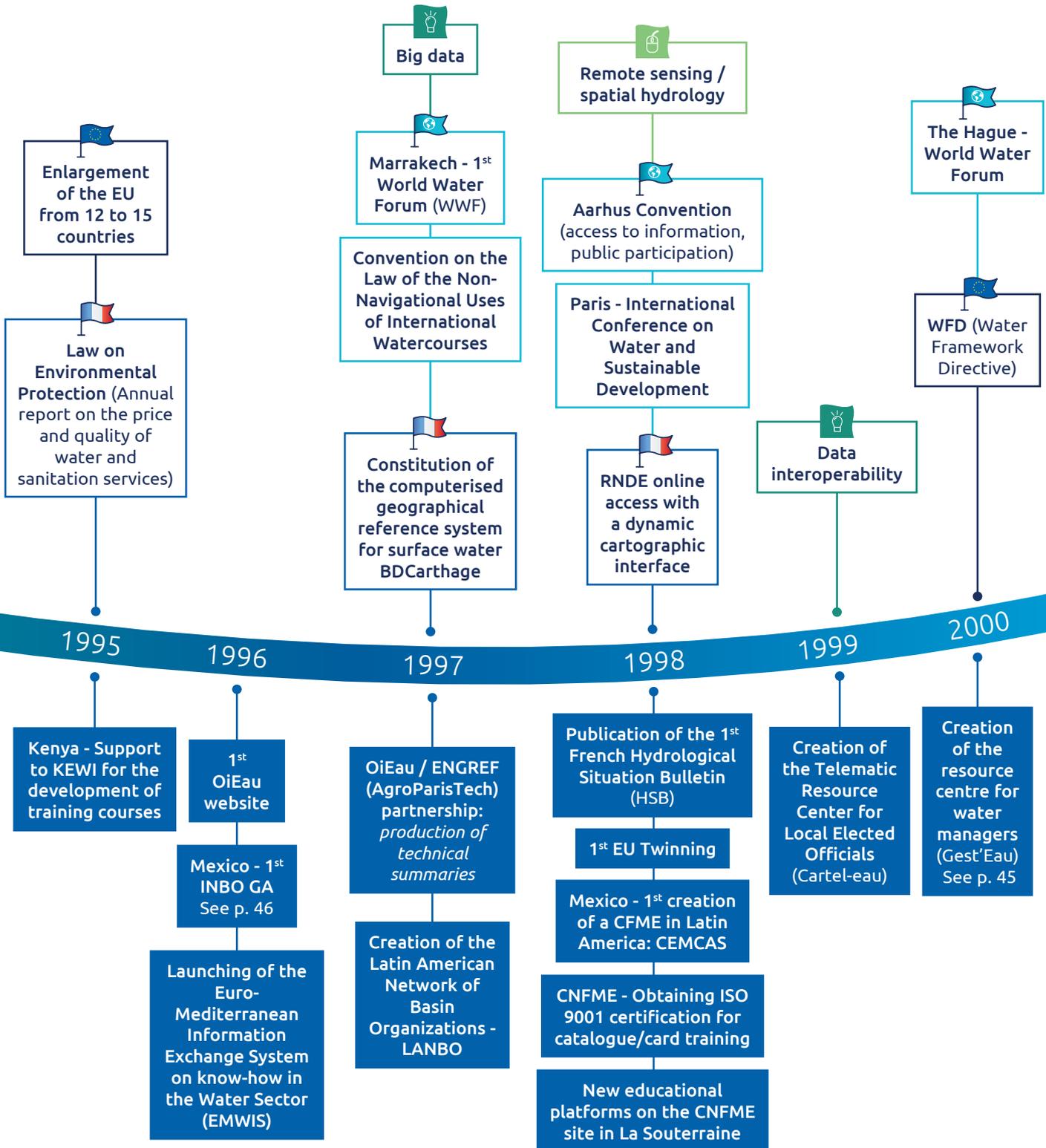
Key events
in the history of
the water sector



The following charts put the history of OiEau into perspective with milestones in the water sector, at different levels:



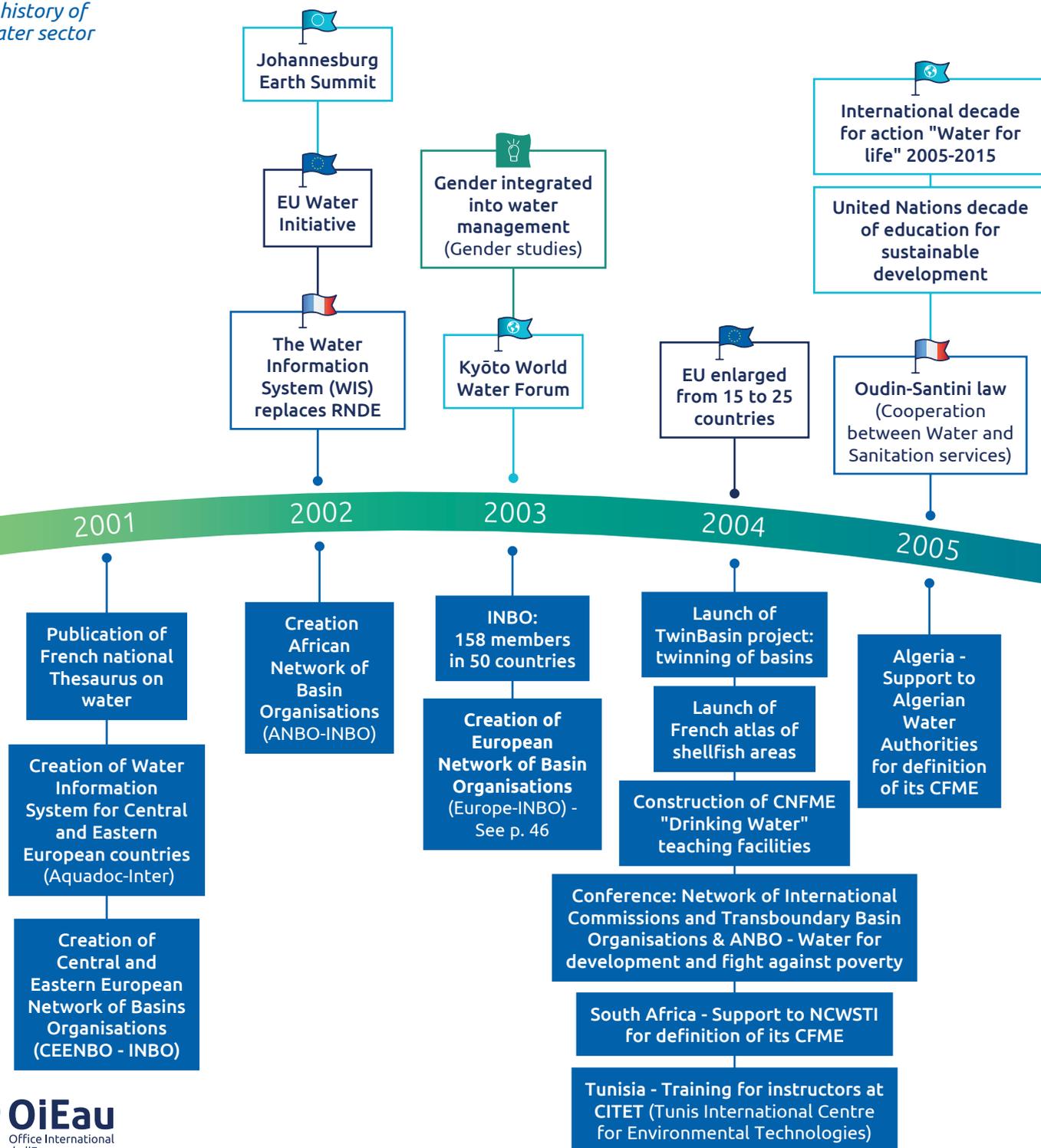
Abbreviations:
EEA: European Environment Agency - **GA:** General Assembly - **AFFE:** French Association for the Study of Water - **CATEC:** Certificate of Ability to Work in Confined Spaces
CEFIGRE: International Training Centre for Water Resources Management - **CFME:** Training Centre for Water Professions
PGSSE: Plans for the Management of Water Safety - **INBO:** International Network of Basin Organisations - **SAGE:** Sub-basin management plan
SANDRE: National Water Data and Repository Administration Service - **SDAGE:** River basin management plan



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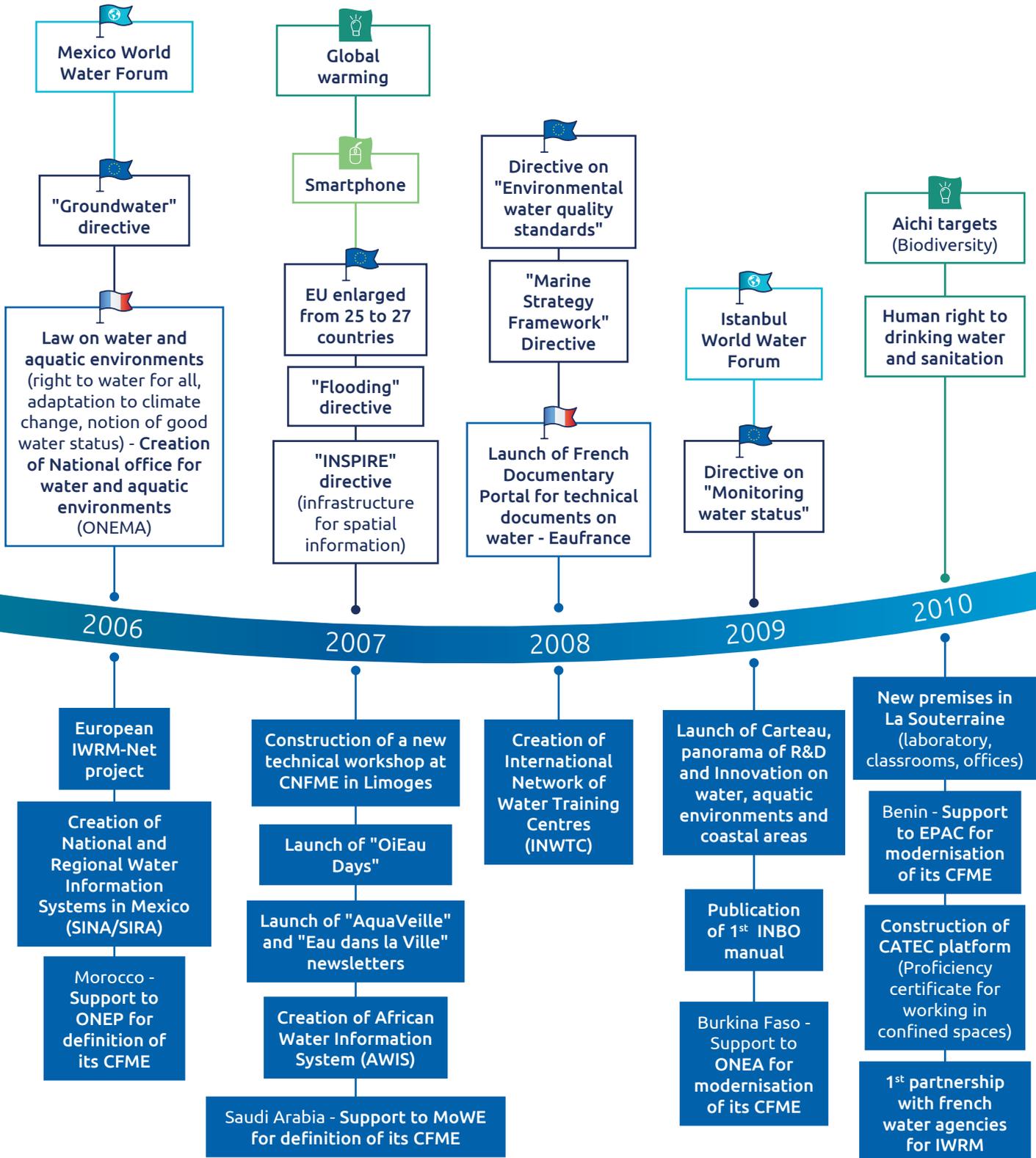
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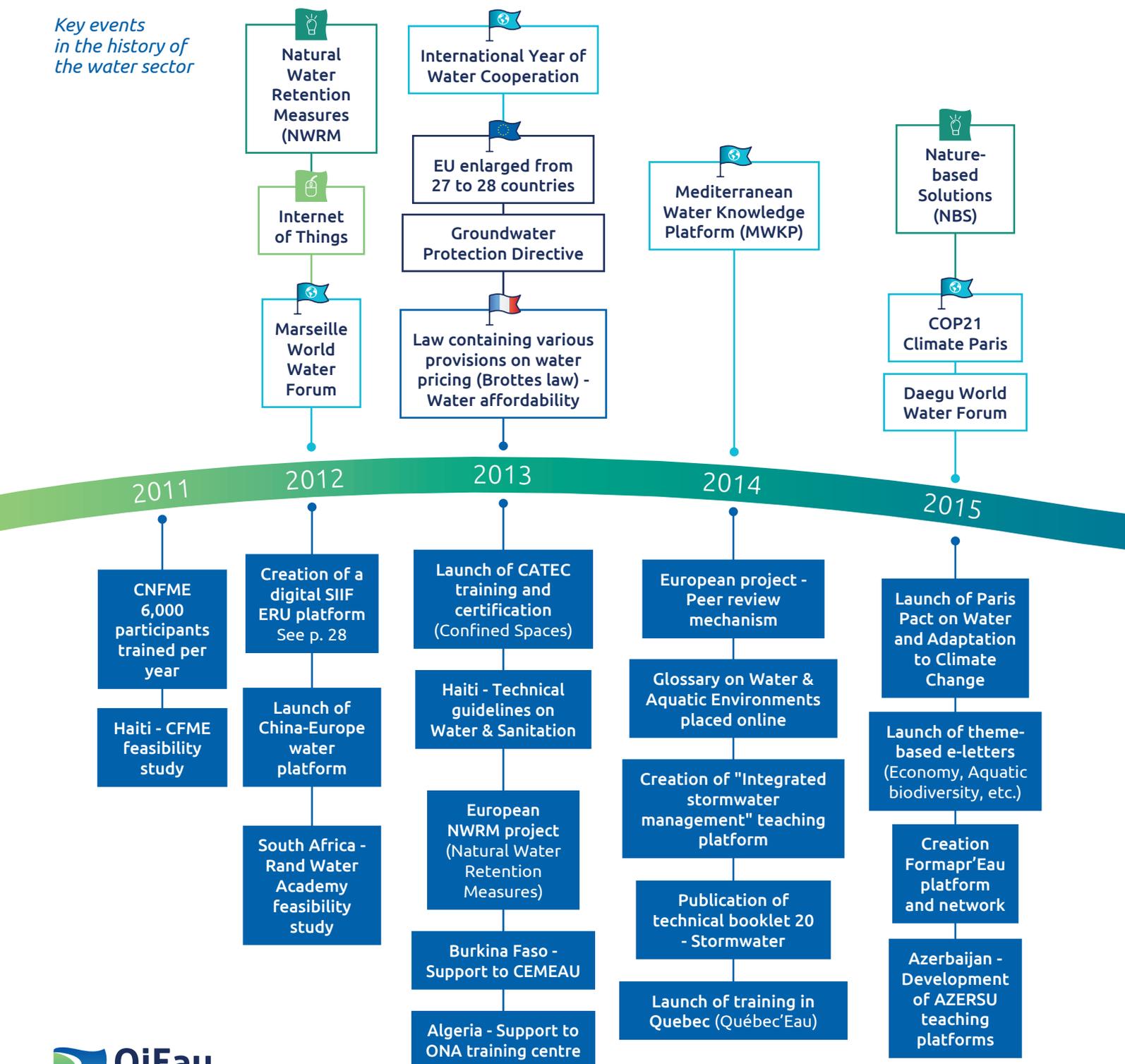
Abbreviations:
 CATEC: Proficiency certificate for working in confined spaces - CFME: Water training centre - INBO: International Network of Basin Organisations
 SANDRE: French National Service for Water Data and Common Repositories Management - IWRM: Integrated Water Resources Management



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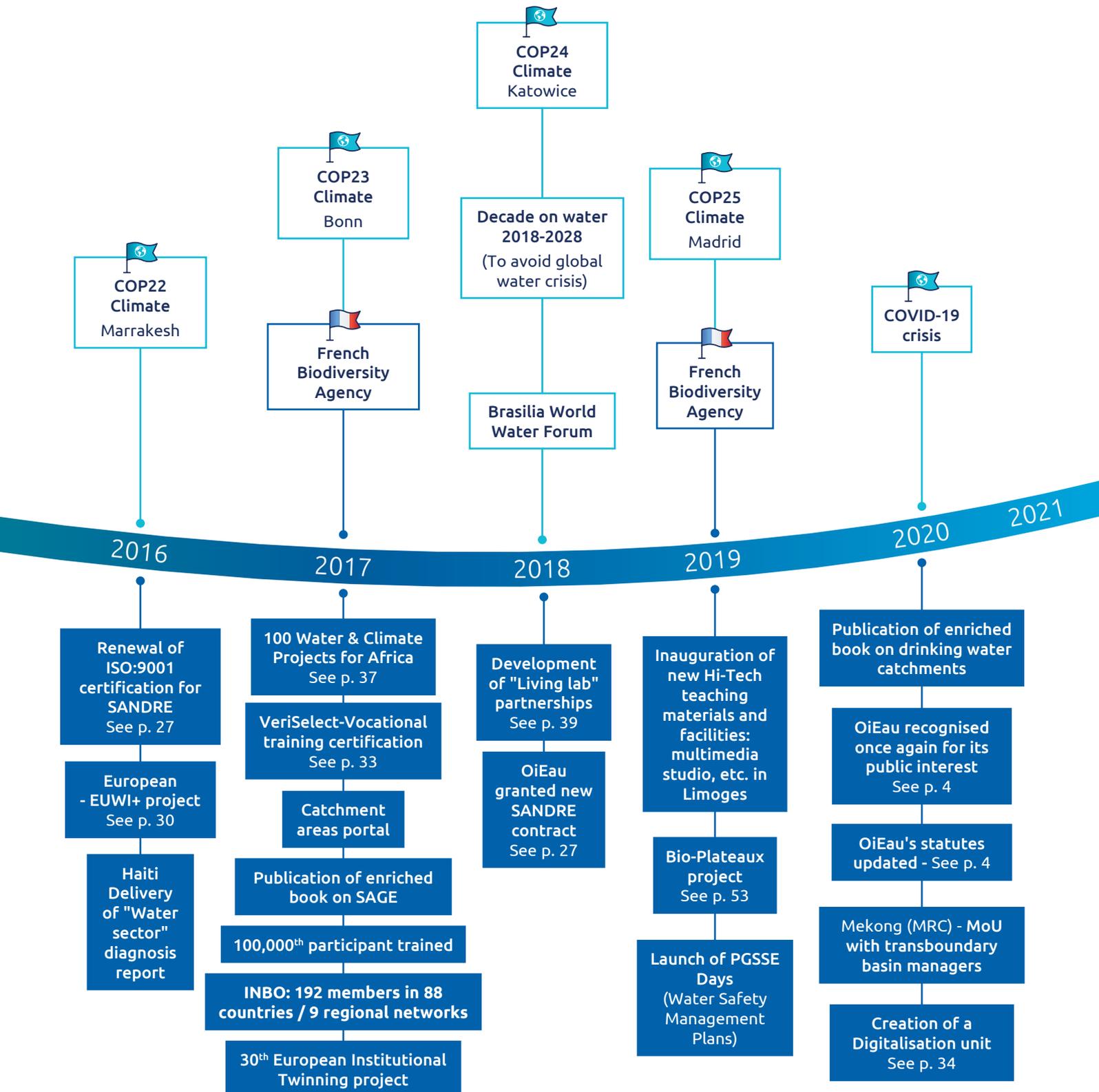
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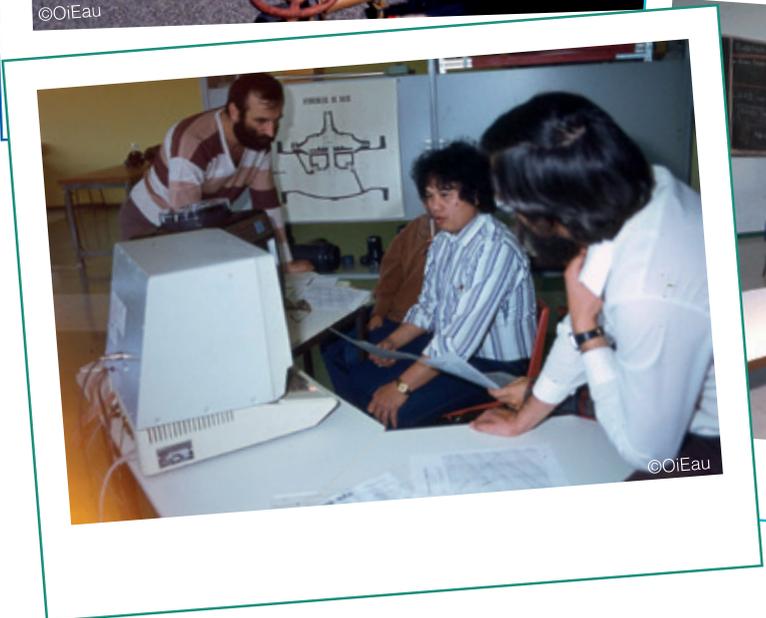
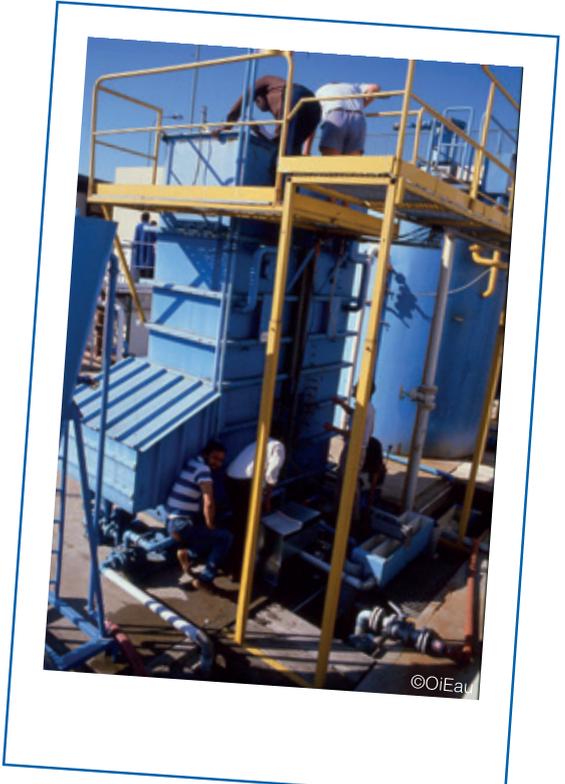


Abbreviations:
CATEC: Proficiency certificate for working in confined spaces - **CFME:** Water Training Centre **PGSSE:** Water Safety Management Plans
INBO: International Network of Basin Organisations - **SAGE:** Water development and management schemes
SANDRE: French National Service for Water Data and Common Repositories Management

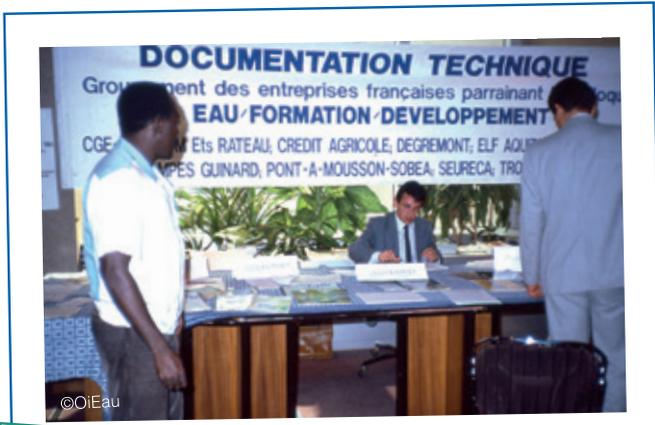


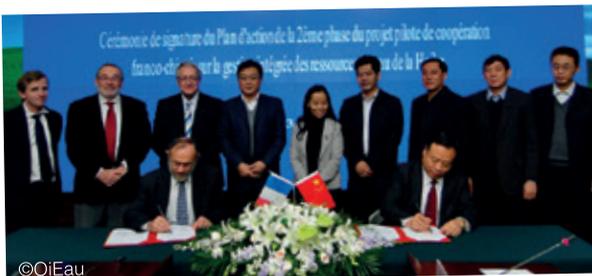
30 YEARS ON THE JOB





30 YEARS ON THE JOB





OUR HISTORICAL PARTNERS TALK ABOUT US



As water is a resource valued by one and all and plentiful in our region, each institution takes an interest in it at its own level, and for good reason! Our region is undoubtedly one of France's greenest and most well-preserved region, thanks to the rivers that irrigate it. Moreover, it was in Limoges that the first university courses on water was created. It boasts the presence of all levels of training, engineering schools and OiEau, which plays a major role in vocational training and is recognized for its public utility; more than one-third of executives involved in water followed a training course at our University. Today's wealth of opportunities is largely due to the presence of OiEau which has made it possible to adapt, improve and develop skills to better manage water.



The urban community, through its Regional Water Transition project, relies on the "Water Sensitive Cities" network, which aims to make cities liveable, resilient, sustainable and productive. By committing to this innovative approach on a national scale, we aimed to unite water-sector players and set up process that would provide a structure to companies in the water sector. Our first partner was naturally OiEau, which is an integral part of our steering committee and which assists Limoges Métropole in the whole implementation of the project. I emphasize the fact that we enjoy a favourable ecosystem in this field, and it is essential for us to rely on our local players in order to carry out large-scale actions and have long-term partnerships. Who better than OiEau to take part in the governance of this project?



Mr. GUERIN,
Chairman of Limoges Métropole



Since 2014, OiEau has worked with the French Development Agency (AFD) within the framework of a partnership aimed at coordinating action to reinforce the capacity of Transboundary Basin Organisations, especially large African rivers (Congo, Niger and Senegal). The activities are devoted to capitalising on and disseminating best practices, particularly in the field of hydrological knowledge and the planning of water resource usage. In particular, OiEau coordinates the working group on the altimetric measurement of rivers by satellites, initiated by the AFD and the CNES, whose work has many applications in these basins. All these activities are carried out in accordance with the commitments made by France in international agreements on transboundary rivers and resonate positively in the International Network of Basin Organizations (INBO), for which OiEau acts as Secretariat. For AFD, this represents an important collaboration aimed at meeting the challenges of adapting to climate change and preserving biodiversity through integrated water resources management (IWRM), which should be applied to many other situations observed in the projects we finance. OiEau's contribution is also worthwhile because of its detailed knowledge of IWRM mechanisms, in particular in its French model, in contact with the basin agencies.



Ms ROBERT,
French Development Agency
Head of Water and Sanitation Division.





The Secretariat for National Administration of Water Data and Reference Systems (Sandre) was set up in 1992 by the Ministry in charge of the Environment at the time. It became apparent at that time that, in order to exchange and compile all the water data collected by the public services (State and local authorities), and to be able to use them for decision-making or for steering public policies, it was necessary to harmonise these data, or today we would say make them interoperable. From the beginning, the Sandre was organised around a technical secretariat made up of OiEau agents who carried out most of the permanent work, supported by the main partners of the French WIS (Water Information System: Water Agencies, public establishments, ministries, decentralised departments, etc.) who played multiple roles: management of some reference data, business expertise during the drafting of the data models, validation and test of the implementation of the Sandre models, solicitation for the creation of new reference frames, etc. Under the aegis of its successive pilots (ONEMA - National Office for Water and Aquatic Environments, then AFB - French Agency for Biodiversity, then OFB - French Office for Biodiversity), the Sandre has constantly evolved, following the evolution of technologies and the needs of the actors of the WIS, and its technical secretariat has obtained ISO 9001 certification.



Having participated in the Sandre, as an expert for the ministry's decentralised services in the 2000s, and then since 2010 as the leader of the Sandre steering group (GPS), which came out of the SNDE, I have been able to appreciate their technical professionalism, but also, and above all, in the context of the SIE's partnerships, their human capacity to lead working groups, to build trust with their partners, to support them when difficulties arose, to propose innovative solutions to ever-new problems, etc.

This particular organisation (a technical secretariat that does most of the work, relying on many actors who provide it with material, and with a steering committee that has been more or less present over time) has been able to last as long as it has (30 years is a good age for an administrative organisation) because everyone was convinced of the importance of having this tool, the Sander, to help the services in charge of collecting, centralising, disseminating and analysing the millions of data on water collected each year in France, and that everyone, in various capacities, worked for its success and maintenance. The Sandre is a unique case in Europe, due to its longevity, the size of the reference systems generated and its professionalism.



Mr. COUDERCY
French Office for Biodiversity (OFB)



Since Sino-French Haihe River Basin Integrated Water Resources Management Project started in July 2011, Chinese and French partners have successfully implemented three phrase in three aspects of basin management, technical cooperation and capacity building. Zhou River Basin and Luan River Basin have been successively selected as the project areas, and the cooperation are carried out through planning, joint scientific research, technical exchanges, consultation and training, and exchange of visits. Chinese and French partners learned from each other and exchanged the experiences in integrated river basin water resources management, jointly completed Zhou River Basin Water Resources and Water Ecological Restoration Plan, and Luan River Basin Water Resources Protection Action Plan. The Methodological Guidebook on River Basin Water Resources Management Planning is also jointly elaborated and published. This project is not only the successful example of Sino-French bilateral water cooperation, but also the good model of China-EU Water Platform. The outstanding achievements of Haihe Project are attributed to the high attention from the ministries of China and France, as well as the active participation and good cooperation of all parties. Both Chinese and French partners look forward to pragmatic and deepened cooperation for the next stage in topics such as ecological restoration, water and biodiversity, and integrated river basin management.



Ms KANG JIE
Hai River Water Conservation Commission



OUR HISTORICAL PARTNERS TALK ABOUT US



Our partnership with OiEau, which began more than 15 years ago, has evolved into a partnership that is fully integrated into our policy of developing skills and professionalizing our teams.

The turning point in 2017 was OiEau's contribution to our qualification course for technical sales representatives. We have worked on totally personalised courses to develop the technical and commercial skills of the teams. OiEau supports us in various projects. More recently, in the development of a training course for point-of-sale teams which will be run by our AEP experts, certified by OiEau.

OiEau has many strong points. First of all, it shows a sincere desire to build a lasting partnership. This is expressed in its willingness to be attentive to all our needs.

Its curiosity makes it keen to understand us to better support us. We had the pleasure of showing people around different sites (platform, sales outlet, workshop). This was an opportunity to present our strategy and organisation and to enable experts from OiEau to carry out their work more effectively.

Finally, the quality of the sharing process. The content developed is co-authored by experts from OiEau and the Group. This network of knowledge brings richness and relevance to the content provided.

OiEau is a major partner. We are pleased with this cooperation and grateful for the quality of the support provided. Many thanks to the training supervisor and all his team.



Ms BOURSE
Head of Skills and
Communications
FRANS BONHOMME Group



The historical links between CICOS and OiEau date back to 2006 and have been established without interruption since then. Since 2006, CICOS has actively participated in European projects implemented by OiEau, ANBO and INBO (for which OiEau is the Technical Secretariat), in particular around the definition of transboundary IWRM performance indicators.



The European Facility selected in 2012 a Project presented by CICOS and OiEau for improving knowledge and participative planning. This Project, co-financed by the Rhine-Meuse Water Agency, allowed the implementation of training sessions on operational hydrology, as well as the beginnings of future platforms for stakeholders' dialogue.

Since 2015, the "Spatial Hydrology Working Group", created by French research and application institutions and led by OiEau, has chosen the Congo River basin as a pilot basin. Following the signature at COP22 of a Declaration of intent between CICOS and the French Government, many activities were developed with AFD financing and OiEau technical assistance.

A new phase of collaboration between CICOS and OiEau started in 2021 through financing agreements signed between CICOS, on the one hand, and AFD and FGEF, on the other. OiEau continues to play the role of Assistance to the Contracting Authority on this Project, which aims at improving adaptation to climate change by increasing knowledge on water resources and its operational application in the Congo River Basin.



Ms ENAW, born EFUNDEMAGBOR,
Secretary General of CICOS (International Commission of
the Congo-Oubangui-Sangha Basin)



Challenges during the first months!

As soon as the decree of 13 September 1991 was published, approving the statutes of the new International Office for Water, on the advice of the Council of State, it was necessary to organise the merger, under a single Directorate General, of teams from the French Association for the Study of Water (AFEE), the Limoges Water Institute, better known at the time as the "Water Foundation", and the International Training Centre for Water Resources Management (CEFIGRE), which had just been shut down and merged into this new unified entity.



First of all, the new Directorate General had to be set up in a head office in Paris. AFEE's original premises located at 21 rue de Madrid were chosen but they were cluttered from floor to ceiling with some 160,000 documents from the water library, not to mention the dilapidated walls and ceilings!

At the end of October 1991, the whole library was moved. It took two full semi-trailer trucks! It was reinstalled in the new premises located in Limoges, acquired, with the support of the Limousin Region, just next to our training centre. This move marked a major renewal, as this geographical proximity created a new regional centre.

But in Paris, all that remained were the empty, dirty premises in which to set up a Directorate General team. Initially the team consisted of only three people - I myself who was appointed Director General on 1st November 1991, and two assistants from the former AFEE - our loyal and efficient Téva and Elisabeth. We only had two desks from the 1950s, a table and a few old, worn-out chairs. We had two old-fashioned ball typewriters and no computer, except mine, on temporary loan from the Ministry of Agriculture!

At the beginning of January 1992, librarians from the six Water Agencies came to launch the new national documentary network called "Fountain". This first meeting was held in an empty room with only seven old mismatched chairs placed in a half-circle!

Negotiations had also just begun concerning the creation of the French National Service for Water Data and Common Repositories Management (SANDRE).

Fortunately, the first payments from the founding members arrived very quickly, and within a few weeks at the beginning of 1992, the Haussmann premises could be refurbished, new furniture bought, as well as real computers. New colleagues soon arrived, in particular two GREF Chief Engineers, made available free of charge (yes, those were the days!) by the Ministry of Agriculture, Philippe and Jean-Claude.

At the same time, we installed the new National Centre for Water-related Information and Documentation (CNIDE) in its new premises in Limoges. It was based on what was considered a revolutionary concept at the beginning of the 1990s, i.e. the remote consultation of digitised documents via the Minitel. Yes, that was the beginning of the 36-15 in France! Moreover, some people called us irresponsible fools for wanting to set up a national, and indeed international, documentation centre in the provinces, so far from the users in Paris. Thank you Google for proving us right a few years later!

That was 30 years ago and the OiEau adventure was just beginning!



Mr. DONZIER

Director General of OiEau from 1991 to 2017

OUR HISTORICAL PARTNERS TALK ABOUT US



I prefer to remember more personal stories related to relationships and direct contact with people as I think this aspect is very important.

THE INBO in Martinique in 2004: As well as the official sessions at the INBO World GA, at which Madeleine de Grandmaison was elected President of the network, I remember a meeting, organised by Jeanne Defoi I believe, held in a town hall in an inland area of the island, with local inhabitants interested in the issue of water. It was both fascinating and friendly. This was not simply a discussion between experts or professionals, it was a real open discussion between people without any reference to particular positions or postures. I remember the "snack" at the end - punch, grilled fish, sauce chien, fruit, etc. All in all, we had a really good time. Unfortunately, I have a sadder memory too: it was there that François Valiron had a fall that was to prove fatal. China, and in particular the 2003 International Yellow River Forum: In addition to our Chinese partners' obvious technical expertise and skills (our cooperation with China attests to this), I remember the gala dinner held in 2003. It was in 1998, unless I am mistaken, that I was invited to Paris (more precisely to the construction site of the SEDIF drinking water production plant in Méry-sur-Oise) to welcome the Crown Prince of the Kingdom of the Netherlands, who has since become the country's current King. The visit went very well and since then I have had no further contact with the Prince or his entourage. But he happened to be the guest of honour at the Yellow River Forum in 2003. At the gala dinner, all the participants went to greet him, including myself. I said that I had had the honour of welcoming him to Paris a few years earlier and he replied: Oh yes! Nanofiltration! ". I was both amazed and impressed. He could not have expected to meet a Frenchman in China who he had only seen once five years earlier. He remembered the visit.



Bolivia in 2007: Another seminar on water, at the initiative of the French ambassador. And two recollections: As is almost always the case, the price of water was the focal point of discussions. After the speeches, particularly that of Bernard Barraqué, we got down to practical aspects. The "monetary standard" chosen was the metro ticket in Paris, compared to the bus ticket in La Paz, the price of water usage and the average salary in each country. This kind of debate really brings you down to earth when mention the price of water in France, especially when you consider the quality of service.

I have many other recollections in mind. At random, the Libyan delegation's visit to Limoges and La Souterraine and the discussion on private sewage disposal, the corridors of the Kyoto World Water Forum and early images of the 2nd Gulf War, the session on international waters at the Istanbul World Water Forum, not forgetting of course, the 20th anniversary of OiEau in La Souterraine with a visit to the "training sewers" by the Prefect of Creuse and the President of the Limousin Region.

To conclude, I should mention the development of OiEau over the last thirty years with its challenges and opportunities and the recognition of its skills, quality of work and motivated staff. This recognition seems obvious now but it had to be acquired. I would like to recall the early "pioneers" - Presidents Henri Torre, then Jean Renard and the dedicated staff who were present and who knew everything. They are too numerous to mention - I fear I might forget some, though I knew almost all of them. Others will probably have done it better than me. What remains, anchored in my convictions, is the strength and essential nature of direct human relations and friendship which I believe are the real foundations of all action.



Mr. ROUSSEL

President of OiEau from 2009 to 2018.
Current member of the Board of Directors



The cooperation between OMVS and OiEau is a high quality cooperation which has lasted for almost twenty years. It is a valuable, efficient and demanding cooperation which has taken the form of a partnership that has enabled many activities to be carried out that meet the needs of our different structures, which are satisfied with it. Indeed, it concerns both very technical topics, related to the regional infrastructures of OMVS (dams, ancillary equipment, etc.), and institutional ones related to governance and quality monitoring.

OiEau and OMVS also share the permanent technical secretariat of INBO and ANBO respectively. Within this framework, OiEau and OMVS have regularly associated themselves in the major international initiatives for, among other things, promoting concerted and sustainable management of transboundary waters.



Mr. BEDREDDINE,
President of the OMVS "Dakar 2021" Committee



So much progress has been made during these last 10 years, understanding and good mood are the key words which guided this cooperation between OiEau and the Tonle Sap Authority of Cambodia. Privileged witness since the beginning, the "discovery" of Stung Sen under the monsoon in October 2012, by the Delegation of the Loire-Brittany / Rhine-Meuse Water Agencies - OiEau, led by Mr. Jacques OUDIN, will remain an unforgettable memory.



Mr. LIM,
Vice-Chairman
of the Tonle
Sap Authority.



Water Agencies have established a long-standing partnership with OiEau. Indeed, OiEau's missions and know-how overlap with our scope of action. For example, OiEau plays a role in standardising data for the national water data system, in training those involved in the water sector in our drainage basins and in developing integrated water resources management internationally.

Through its expertise, positioning and international recognition, OiEau gives high visibility to France's water management model. By organising events (e.g. for INBO and Euro-INBO), it is also in a position of influence.

We are faced with several major challenges and OiEau's support will be valuable in addressing them. One of our shared challenges is to provide support in the structuring of project management for small and large water cycles. Climate change is a cross-sectoral issue so it provides an opportunity for innovative cooperation.

It is in our interest to increase the exchange of best practices and experience feedback, as is the case with institutional cooperation where Water Agencies, supported by OiEau, work hand in hand with foreign authorities wanting to structure water management on the scale of their river basins.



© Romuald Goudeau

Mr. GUTTON
Director General - Loire-Brittany Water Agency

OiEau IN THE MEDIA IN 2020



MIDI LIBRE
Bassin de Thau : la récolte et la commercialisation de coquillages est suspendue
 Janvier 2020



REPORTERRE
Rivières à sec, nappes à plus bas : 2019, une année noire pour l'eau en France
 Février 2020



LA DEPÊCHE
Labarthe-sur-Lèze. Le SMIVAL présente les 32 km de haies plantés - Février 2020



FRANCE TV INFO
Les installations de production d'eau de la Guadeloupe auscultées par des experts de l'Office International de l'Eau
 Février 2020



RCI
Le syndicat Mixte de l'Eau adopté en plénière au Département - Mars 2020



PARC NATIONAL DES ECRINS
La restauration végétale d'une piste de ski du Champsaur citée en exemple
 Mars 2020



LA HOUILLE BLANCHE - REVUE INTERNATIONALE DE L'EAU
Colloque international « sécheresses, étiages et déficits en eau » - Mars 2020



JOURNAL DE L'ENVIRONNEMENT
Sécheresse : la région Auvergne-Rhône-Alpes sous pression - Avril 2020



NEWSLETTER PARCS NATURELS RÉGIONAUX DE FRANCE
Les mesures naturelles de rétention d'eau - Juin 2020



ENVIRONNEMENT MAGAZINE
L'UPGE et l'OiEau signent une convention-cadre - Juillet 2020



RECYCLAGE RÉCUPÉRATION + DECHETS.COM
Eau, économie circulaire : l'UPGE et l'OiEau synergisent
 Juillet 2020



LE SOIR
Les eaux usées sont surveillées pour prédire le retour du Covid-19 - Juillet 2020



B SMART
Quelles solutions aux pénuries d'eau ? - Juillet 2020



NEWSLETTER FREDON OCCITANIE
Un nouvel outil pédagogique pour tout comprendre sur la protection des captages d'eau potable ! - Juillet 2020



L'OPINION
Changement climatique, usage domestique ou agricole : la ressource en eau sous pression - Août 2020

Office International de l'Eau
la crise n'a pas asséché le volontarisme des équipes, ni tari le financement des projets

SOPHIA MAG,
ITW Stéphanie Laronde
Août 2020

REVUE L'EAU, L'INDUSTRIE ET LES NUISANCES

Inauguration d'un démonstrateur de plancher filtrant Triton™ de Johnson Screens sur le site de l'OiEau de La Souterraine - Septembre 2020

ACTU ENVIRONNEMENT

Rapportage - Eaux Résiduaire Urbaines
Septembre 2020

EST RÉPUBLICAIN

La Lizaine offre un parc naturel urbain aux habitants
Octobre 2020

LE MÉTROPOL

Agir ensemble au service du territoire - Octobre 2020

REVISTA DE MANABI

¿Qué hizo INUNRED en cuencas de los ríos Portoviejo y Piura?
Octobre 2020

FRANCE 3 LIMOUSIN

Vidange d'une des principales réserves en eau de Limoges
Octobre 2020

MINISTÈRE DE L'EAU ET DE L'ASSAINISSEMENT - BURKINA FASO

Gestion des données et suivi des ressources en eau. Les Agences de l'Eau renforcent leurs capacités - Octobre 2020

LE POPULAIRE

La gestion de l'eau nécessite une meilleure coordination, plus de mutualisation et une plus grande solidarité des acteurs - Novembre 2020

JOURNAL DE L'ENVIRONNEMENT

Life: la Commission sélectionne de 120 projets - Novembre 2020

REVUE L'EAU, L'INDUSTRIE ET LES NUISANCES

L'OiEau publie son rapport annuel 2019 - Novembre 2020

LE POPULAIRE

La gestion de l'eau fait débat au colloque de l'ONG Europa à Limoges - Novembre 2020

LE MÉTROPOL

Le pôle environnement NA se mobilise pour la ressource eau - Novembre 2020

LE POPULAIRE

Limoges Métropole et l'Agence de l'eau investissent 25 millions d'euros dans la station d'épuration - Décembre 2020

AQUI

Limoges Métropole amorce son projet de territoire en transition hydrique
Décembre 2020

ACTU ENVIRONNEMENT

La communauté urbaine Limoges Métropole se veut un territoire en transition hydrique - Décembre 2020

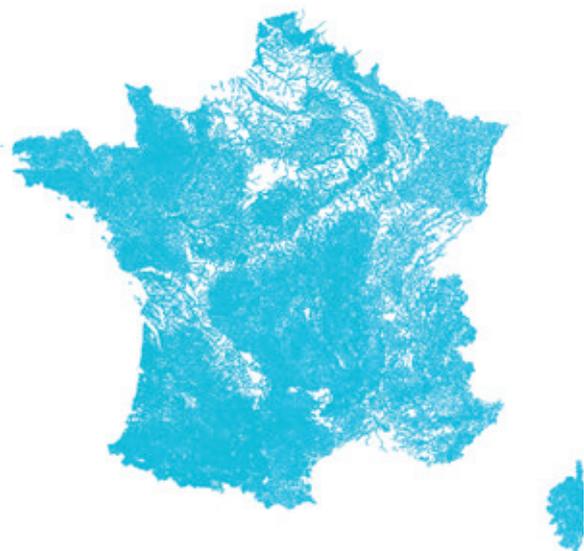
KNOWLEDGE DEVELOPMENT & WATER INFORMATION SYSTEMS

For 30 years, OiEau has not only been a water expert but also a digital specialist. The health crisis of 2020 confirmed this vocation and spurred on OiEau's digital transition, in all its activities. We have developed training, online courses, virtual classes, teaching capsules, tutorials and forums for trainers and learners. Our multi-media studio was put to use to create digital materials for the classroom and distance learning. All training materials were also put online on a learning management system (LMS) platform. OiEau now has state-of-the-art hardware and IT equipment (connected classrooms, capitalisation resources) that supports our unique teaching platforms in Europe. In its institutional and technical support missions, twinning and international multi-partner projects, OiEau uses digital tools to ensure progress in all its actions and to launch new projects. All the tools needed to carry out web conferences are used, ensuring stable links for several hundred participants. In some technical assignments, installations are fitted with online sensors with data transmission to enable our experts to diagnose and optimise certain processes in real time. Finally, to manage and disseminate data and information, OiEau is constantly improving its infrastructures to ensure uninterrupted and smooth access to the databases it hosts and manages. OiEau has adapted its training resources by integrating all the necessary preventive measures, hosting capacity and catering resources to ensure the highest level of health safety for learners wishing to come to our teaching platforms which are unique in Europe.

« *Our expertise in managing information and our IT resources have not only demonstrated our resilience, but have also paved the way for the future of all our activities in response to a long-term change in usage which has been spurred on by this global crisis* »

Mr. MEUNIER,
Director of Data, Knowledge
and Information Systems - OiEau

SANDRE reference standards at the heart of open data



Carte des cours d'eau de métropole BD TOPAGE®

OiEau has acted as the Technical Secretariat of SANDRE (National Service for Water Data and Reference-dataset Management) since its creation in 1992, now under a mandate from the French Office for Biodiversity (OFB). Its role is to define a common language and framework for the exchange of data on water, which is essential to our understanding of this resource.

The SANDRE provides technical solutions, allowing water stakeholders to disseminate water data, thus making it easier to use and compare the data. In this way, contributors feed large amounts of data into the French Water Information System (WIS), and share their data on water, aquatic environments and public water and sanitation services.

In 2020, in collaboration with the national Institute of geographic and forest information (IGN) and the OFB, OiEau helped establish the new

French hydrographic reference framework (BD TOPAGE®) and since then has disseminated it to the general public in the form of maps.

Moreover, a great deal of work involving many stakeholders (Forum of Atlantic Marshes, Natural Areas Conservancies, Water Agencies, BRGM, etc.) led to the publication of two data dictionaries and two exchange scenarios that will structure the collection and exchange of data, in the framework of pre-locations and inventories of wetlands. This work will eventually allow all data associated with wetlands to be centralised in a national database and thus ensure that these environments with their valuable biodiversity and numerous natural functions are better understood and managed.

Hydrometry studies carried out by the Central hydrometeorology and flood forecasting support office (SCHAPI) and French Waterways (VNF) have helped develop scenarios for the exchange of hydrometrical data by providing improvements in relation to the genealogy of hydrometric stations and simulation data.

In 2020, efforts were also made to constantly improve the quality of the data rewarded. Indeed, in its final report, the parliamentary mission «Public policy on data» aimed at opening data and public codes, states on two occasions that the data monitoring tools implemented by SANDRE are exemplary.

Thus, OiEau helped place WIS as one of the best open data performers in France and Europe.

The report:

https://www.gouvernement.fr/sites/default/files/contenu/piece-jointe/2020/12/rapport_-_pour_une_politique_publicque_de_la_donnee_-_23.12.2020__0.pdf

Key figures in 2020

Number of objects indexed
1,451,870



User-satisfaction

 **48,915**

Number of certificates of compliance with Sandre specifications issued

**Certification renewal
ISO 9001:2015**

Waste Water treatment in Europe the UWWTD SIIF project speeds things up

Adopted 30 years ago, Europe's Urban Waste Water Treatment Directive applies to all Member States. By focussing on one of the main sources of water pollution, it is part of the European policy aimed at controlling all types of pollution, and restoring the good status of water.

To measure the effects of this policy and its implementation, the European Commission has to analyse large amounts of data provided by Member States.

Today, the UWWTD SIIF (Structured Implementation and Information Framework) uses 11 algorithms and 9,000 lines of code to process all the data provided by Member States, i.e. 500 Mo of data every two years, with 150 different types of information. This data presents the situation for each conurbation, its treatment plants and the associated aquatic environments.

Made up of one European site and some related national sites, it includes an administration interface that can import data, process and

calculate compliance information and present it in the form of tables, maps and graphics.

Starting off with the initial situation (sheets of data and Excel processing), OiEau modernised the system, firstly using a prototype for some countries and then extending it to all countries and using it to evaluate the situation for each reporting (8th, 9th, 10th and now 11th).

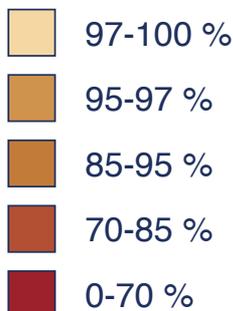
By demonstrating the pertinence of interoperable systems, the UWWTD SIIF laid down the basis for European information systems with greater flexibility, responsiveness and relevance for all users of this data.

According to **Mr. RAKEDJIAN**, a French specialist seconded to the European Commission, *"the implementation of this initiative has standardised the processes applied and reduced data processing time from 6 months to one week."*

Extracts from the 10th report, published in September 2020

Legal compliance (collection and treatment)

81%



 **510.30**
million inhabitants

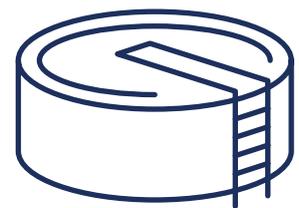
 **23,637**

conurbations including 1,056 large ones (>100,000 population equivalent)

612.60 

million population equivalent generated per year (11% of which comes from European capitals)

 **≈ 490 million**
bathtubs of waste water per day



21,995
treatment plants

- 340 plants with primary treatment
- 4,845 plants with primary and secondary treatment
- 6,810 plants with treatment stricter than secondary treatment (nitrogen and phosphorus mainly)

Tools for Water and Sanitation Services



Within the framework of a contract with the French Ministry for Ecological Transition and solidarity, OiEau has for the past 15 years provided support to users of the software suite MesureStep which allows sanitation services to manage and report self-monitoring data for waste water collection and treatment systems. In 2020, OiEau processed more than 250 requests for support on the use of MesureStep and on the resolution of errors reported by VERS'EAU, the national platform on which self-monitoring data is declared.

OiEau also organised several on-site training sessions for MesureStep users. OiEau is also involved in updating information videos on the use of the national water and sanitation services observatory (SISPEA) website <http://services.eaufrance.fr/>. For example, this platform enables the dissemination of indicators from Reports on the Price and Quality of Service (RPQS) drawn up every year by each water and sanitation service.

OiEau also provides expertise to services in

charge of water and sanitation, helping them review and organise information systems applied to water and enable them to meet the challenges of data interoperability (see SANDRE, P. 23).

Thus in 2020 for example, OiEau provided contracting assistance to the Bresbe Valley inter-communal multi-purpose syndicate (SIVOM), helping it define its future Geographic Information System (GIS) on drinking water.

There were three stages to this mission:

- 1 Assessing the current GIS.
- 2 Specifying the technical requirements of the future GIS.
- 3 Drawing up the consultation file for the future GIS.

The creation of a local reference framework for drinking water and sanitation data is now being considered.

For MesureStep



250 requests for support processed

EUWI+, integrated water resources management in river basins for 30 million citizens in the vicinity of the European Union

The project «European Union Water Initiative Plus» (EUWI+) started in 2016.

It is the largest water resources management project funded by the European Union. It aims to align water management with the principles of the EU Water Framework Directive in Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

Austria and France organise the operational aspects of the project. Austria's Environment Agency has coordinated field measurements and the provision of equipment for monitoring the status of resources.

Thus, OiEau, mandated by the French Ministry for Ecological Transition and Solidarity, manages the elaboration of river basin management plans, stakeholder involvement and communications on this project.

In total, 11 plans were improved or developed for the very first time. It concerns 500,000 sq. km (50% of the surface area of the 6 countries) and 30 million citizens (40% of the population), part of which was involved in the consultations in 2019 and 2020.

OiEau also supports the countries in the development of their Water Information system to enable institutions in the sector to share their knowledge more efficiently.

Management plans are currently being submitted for adoption in each country, a process in which OiEau also provides its expertise in institutional

mechanisms.

The project also strengthens national legislation, through the work carried out by UNECE (United Nations Economic Commission for Europe) and OECD (Organisation for Economic Cooperation and Development).

The total cost of the project amounts to over 25 million euros.

"In Ukraine, the EU Water Framework Directive represents a totally new approach. It is based on environmental principles: the focus will not just be on quantitative and chemical indicators, but on the state of aquatic ecosystems." says **Ms OSADCHA**, an expert in charge of the Dniepr River Basin Management Plan. Hydrometeorological Institute of Ukraine.



Map of 6 countries and basins benefiting from management plans conducted in the framework of EUWI+ © Zoinet



Agreement with Mekong River Commission Secretariat



At a ceremony held on 9 September 2020, the Mekong River Commission Secretariat (MRCS) and the International Office for Water signed a partnership agreement to improve water resources management. OiEau is honoured to sign this Memorandum of Understanding with the MRCS, one of the most important basin organisations - the Mekong River is vital for 300 million people in South East Asia. The

agreement covers an ambitious range of potential cooperation topics to address the challenges of the transboundary Mekong Basin, including the technical interoperability of water information systems for data sharing and decision-making support and delicate policy coordination for planning and investment in large development projects, such as multi-purpose dams.

"This cooperation will allow us to intensify activities for good governance for water resources management and development, and collaborative data and information management for supporting decision-making, as embedded in the MoU." Dr **AN PICH HATDA** - CEO of the MRC Secretariat.

CONTINUOUS TRAINING FOR PEOPLE INVOLVED IN WATER, SANITATION, WASTE AND THE ENVIRONMENT

For most private and public sector organisations in France and around the world, 2020 was shaped by the health crisis and economic consequences that followed. OiEau was also affected, particularly in its professional training and educational engineering activities. Face-to-face training at the OiEau Training Centre and at customers' premises was cancelled from 16 March 2020, in accordance with the health regulations in force in France. It started up gradually on 8 June and was more fully resumed in September. As early as February, OiEau implemented protective health measures for its employees and the learners present on its sites, particularly at its Training Centre. This included providing hand sanitisers and personal protective equipment and reorganising classrooms to enable social distancing. However, OiEau was able to seize the opportunity offered by this unsettled period to make headway in the deployment of digital training in order to meet its customers' growing demand for the new educational formats to be used when they could not attend face-to-face training sessions. OiEau thus acquired new references and renowned expertise in distance learning in 2020. Moreover, OiEau, which is already ISO 9001 and VeriSelect certified, took advantage of 2020 to integrate the requirements of the French vocational training reform into its training processes to better prepare for its Qualiopi certification, scheduled for the first quarter of 2021. Great progress was made in this matter. Thanks to these adaptations, the expenditure control and marked resumption of face-to-face training sessions in September 2020, OiEau's Training Centre was able to maintain its activities, control its financial stability as well as possible and respond to the strategic challenges. These changes were made possible thanks to the great efforts of OiEau's teams and to the continued and renewed support and confidence of our customers during this difficult period.

« *OiEau's adaptability, responsiveness and teaching capacities enabled us to follow the "Water Law for stormwater management dossier" training course, which we fully appreciated* »

Mr. NICOLAS,
Director of Vialis Engineering and Design
Office - Guadeloupe.

over 40 years'
 experience

35 permanent
trainers

 350
training courses

& 600
sessions per year

6,000 
people trained every year

 All levels:
blue-collar workers,
technicians, managers

 Face-to-face
& remote and
digital learning

45,000sq.
metres
of teaching platforms for
on-the-job training

French water sector - a prospective study on jobs and water sector activities



OiEau plays an important role in various bodies and working groups in the French water sector (FFE)

which brings together the sector's main players. This Confederation includes more than 1,400 companies or entities and represents 125,000 full-time-equivalent jobs (FTE) in France.

In 2020, OiEau and the National Union of Water Companies and Industries jointly oversaw the FFE's Commitment to Employment and Skills Development (EDEC) study, carried out with the support of the Ministry of Labour.

This study (<https://eau-entreprises.org/actualite/eau-etude-emploi-competences-et-formation>), reveals the staff shortages in this sector of activity and the training requirements (13,000

FTE to be hired over the 2020–2025 period, particularly to offset the more than 7,000 people taking retirement) and it proposes solutions to deal with these problems and ensure the professionalisation of those involved in the sector. According to the study, it is particularly important to:

- streamline current in-house continuous vocational training by drawing on the Workplace Training Initiative (AFEST),
- draw on the benefits of the sector's continuous vocational training and its ability to secure and accelerate the response to requirements, especially in the short term vis-à-vis new challenges (e.g. managing water resources constraints, detecting and treating micro-pollutants, rainwater, GEMAPI, etc.).

OiEau training centre's Commitments to QUALITY



The satisfaction of its clients and quality of its service have long been priorities of OiEau. The training centre:

- **has held "ISO 9001" certification since 1998** for the design and realisation of training services for water professions, on its "catalogue and à la carte courses" in France.
- **obtained the "VeriSelect - Professional Training" certification in 2017**, which enables vocational training funders to check that the organisation complies with the quality criteria specified in 2015, as part of the vocational

training reform of 2014:

- Reception facilities, educational follow-up and assessment adapted to trainees.
- Teaching methods, technical resources and supervision in line with training offerings.
- Professional qualification and continuous training of staff in charge of training courses.
- Conditions in which the public is informed of training courses, waiting times and results obtained.
- Integration of trainees' feedback.
- **is committed to obtaining the "Qualiopi" certification** which is compulsory for all organisations involved in developing skills and that wish to receive public or pooled funding, as specified in Act of 2018 on "the freedom to choose one's future career".

Veolia technicians obtain Vocational Qualification certificates

On 14 June 2018, eight Veolia technicians started a 16 to 25-month work/training scheme at the industrial vocational training centre (AFPI) based in Istres, Provence (France), with a view to obtaining the Inter-branch vocational qualification certificate "Industrial Maintenance Technician" (CQPI TMI).

After these training courses, assessed by training supervisors and AFPI instructors, candidates prepared for a final individual evaluation which four of them presented in November 2019 and

the other four in June 2020. It took the form of a dissertation and a one-hour oral in front of OiEau assessors.

Based on the evaluation files provided by OiEau, a joint jury met in January and September 2020 and awarded CQPI TMI to 7 candidates, the 8th candidate having obtained a partial validation of skills.

On 8 December 2020, Veolia organised remote certificate awards, bringing together all participants and those involved in the process.

In 2020, OiEau stepped up the development of its distance learning offering!



100% distance learning: "Design of an agricultural irrigation pumping installation", 4-9 November 2020 - ©OiEau

In 2019, OiEau had already started professionalising its digital training offering to meet the growing demand for distance learning.

This choice was confirmed during the Covid-19 health crisis, to which OiEau adapted successfully, even stepping up its digital deployment.

As a major player in water-sector training, OiEau plans to establish itself as a major player in distance learning!

OiEau already offers more than 50 distance learning sessions, thanks to investments it has made over the last few years in equipment allowing the use of new technologies and cutting-edge innovations (video studio, interactive digital boards, fitted-out classrooms). In 2020, to support this deployment, OiEau created a Research and Development unit dedicated to digitalising its offering.

This momentum will continue in the coming years. Moreover, a catalogue of distance learning courses will be published in 2022.

To meet the requirements of its customers in various sectors of activity, OiEau provides training models and products that combine face-to-face, and distance learning via digital technology:

- **The co-modal mode**, with the trainer in the classroom and trainees in both the classroom and at a distance.
- **The mixed mode**, with face-to-face sessions

supplemented by distance learning, either tailor-made or based on the sessions offered in the general catalogue.

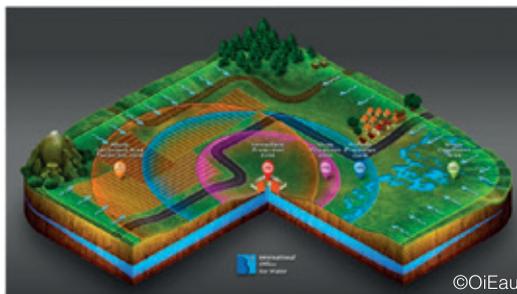
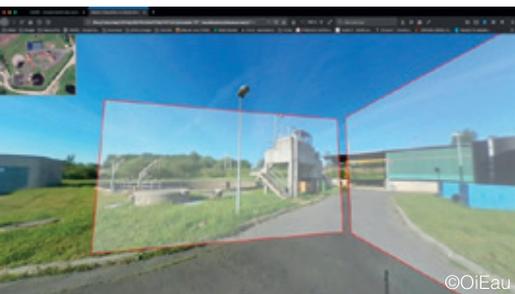
- **The totally remote and live mode.**
- **The totally remote mode**, completely independently, with the possibility of interacting with a trainer off-line.
- **Web conferences:** INBO webinars (see p. 42), catchment webinars, Gest'eau RDV (see p. 41).

These formats remain focused on the character of the expertise provided and the human interaction with the trainer as these are pivotal and well established at OiEau.

These distance learning formats supplement face-to-face training and in 2020 they allowed the Training Centre to pursue its activity and reach trainees based all over France, Overseas and internationally.



100% distance learning: "Choice of a technical solution : automatism, remote management" 2-4 December 2020 - ©OiEau



Digital productions made in 2020

- 50 educational videos lasting 2 to 5 minutes, covering all OiEau's training topics,
- 30 videos demonstrating technical operations,
- 1 interactive video with a self-training module showing the problems that can arise when transporting chemicals by sea,
- 1 website aimed at learning and practising questions and answers related to the "Authorisation to intervene near networks" (AIPR) training course, offered by OiEau

Our tools

Video studio, online learning platform dedicated to distance learning, smart rooms equipped with audiovisual equipment, interactive whiteboards, video-conferencing platforms, editing software, YouTube and Vimeo channels.

"It was interesting to share knowledge and learn. At first, I was a little reluctant to participate in the distance learning format, but everything went very well!"

Mr. T. - Eau de Paris water agency

"The first EPNAC Journées Techniques seminar (Evaluation of new wastewater treatment plants for small and medium-sized communities) was a great success. The organisation and coordination of this totally remote learning event encouraged discussions between participants and speakers while at the same time controlling the speaking time of each participant. This was a key objective of the day and it was achieved!"

Mr. GARNAUD-CORBEL - French Biodiversity Agency (OFB)

Some key figures for distance learning in 2020



45

sessions organised
(i.e. 10% of sessions)

313



people trained



Over
2,000

participants
for the 25 webinars

- A preference for co-modal method for "Catalogue" courses
- A preference for **totally remote learning method** (virtual classes) for "tailor-made" courses

Number of departments involved at OiEau: **ALL OF THEM!**

Training courses to meet the needs of water syndicates, public utilities and local authorities

The training of local authorities is historically one of the major actions of OiEau's Training Centre. It is carried out on many topics. In particular, training courses on the transfer and implementation of new responsibilities such as GEMAPI represent a growing demand of the local authorities. Metropolitan areas are also faced with the reorganisation and evolution of their public services. Training on the management of services, associated with technical training, is a permanent activity of OiEau, currently driven by several phenomena. The first of these is the evolution of the age pyramid of the operating staff, whose renewal is becoming necessary. The second is the movement to return to the public-private partnership management method,

helped by the enlargement of the perimeters induced by the Notre law. Finally, the challenges of optimisation, use of new technologies, the fight against emerging pollution and the protection of health safety are increased by climate change.

From the metropolises of Bordeaux, Lyon, Strasbourg, Nancy, Reims, to the Lodevois syndicate, via the SIVEER or the communities of Moulins or Marmande, nearly 1,000 agents trained within local authorities and public operators benefited in 2020 from OiEau's pedagogy and its unique facilities, with an equal share between "catalogue" training courses and "à la carte" training courses at our customers' sites.

Distribution of drinking water always at the core of training



The governance of drinking water networks has been OiEau's key area of expertise since its creation and the training available in this field is constantly renewed.

Transferring skills to collectivities, managing assets, operations, design and sizing, laying down and constructing networks: all these subjects covered in OiEau's training schemes allow the different learners to increase their skills and prepare drinking water services for the challenges of the future.

Some important figures on French networks:

- 875,000 km: latest estimation of length of drinking water pipes in mainland France, almost 40% of which were laid down before 1970.
- approximately 10% of water is lost through pipes and treatment plants.

- approximately 20.20% is lost through leaks during distribution.

Improving throughput and maintenance, renovating and renewing networks are subjects of ever-increasing importance because we need to be able to rise to the enormous patrimonial challenges of the coming years, particularly in the context of adaptation to climate change, in France and worldwide.

With more than 80 training courses devoted to these subjects, OiEau supports those involved in these efforts which will be increased in the coming years.

"In the face of climate change, our water resources are becoming more and more precious and we will have to be even more vigilant in protecting them. The training course "Diagnosing drinking water supplies" given by OiEau provided information on regulatory and technical matters to enable my Service to prepare for them." Mr. G., Technical Director of an Inter-communal Sanitation and Drinking Water Agency (SIAEP)

Ministry of the Armed Forces training and technical support missions



French military sites are equipped with drinking water, rainwater and waste-water treatment facilities. The Defence Infrastructure Department's Central Management (DCSID), in charge of its infrastructures, chose OIEau to develop the skills of its

the facilities that supply drinking water to troops on the ground.

According to **Ms SÉRADIN**, who is responsible for environmental protection at ESID (Defence Infrastructure Department Establishment) in Lyon, the three OIEau training courses allowed her to focus on the regulatory framework and clarify interpretations and expectations. The combination of scientific, technical and practical aspects covered in the training courses provided her with the tools she needed to fulfil her objectives more effectively, in terms of water.

personnel, in terms of managing and running their facilities.

So in 2020, OIEau provided training in "Drinking Water", "Waste Water Treatment Plants (WWTP)" and "Rain water" to 270 learners (7,560 training hours). This four-year contract includes 6 sessions per year at OIEau's sites to allow trainees to come to our teaching platforms to practice the manipulations used in the trade.

In addition to the training courses, OIEau was asked to carry out a diagnosis of operations at the WWTP and propose optimisations and investments. OIEau is also doing work to upgrade



A skills reference framework for Veolia Water's Ile de France plant managers



The Choisy le Roi treatment plant produces and distributes drinking water to nearly a third of the inhabitants of Ile de France. This plant

and the related network are managed by station managers, whose profile meets certain very specific requirements in terms of knowledge, know-how and interpersonal skills. In parallel with the implementation of several training courses, the International Office for Water was commissioned to draw up a reference framework of activities and skills specific to the job of station manager. Following this service, VEDIF decided to continue its collaboration with OIEau by supporting the development of their training plan for future station managers.

TECHNICAL AND INSTITUTIONAL SUPPORT

Support activities followed the same trajectory as those of previous years, despite health constraints.

In 2020, 103 collaborative projects covering a wide range of expertise were undertaken:

- Auditing – Consultancy
- Creating networks of stakeholder, including users and civil society
- Assisting with project management
- Implementing regulations and funding mechanisms
- Setting up Information Systems

for a wide range of stakeholders: ministries, local authorities, water and sanitation utilities, national and transboundary basin organisations, funding bodies,

Internationally, OiEau adapted its operating methods, strengthening its network of partners and local correspondents. In order to pursue projects with the various stakeholders, OiEau set up "virtual" missions which enabled the implementation of planned activities, project management, technical and administrative follow-up, the organisation of steering committees, technical meetings, official ceremonies, etc.

For example, this was the opportunity to sign key agreements such as the MOU with the Mekong River Basin Commission (MRC) Secretariat on 9 September.



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Fiware4Water: digital technology serving the water sector



The digital revolution provides concrete solutions for the water sector. Yet, the sector is still a long way from having fully exploited its potential. The **Fiware4Water project**, funded by the European Union and coordinated by OiEau, aims to overcome the obstacles hindering the digital transition of the water sector.

FIWARE is an open source platform aimed at improving data interoperability. It defines standards so that data can be easily reused by different systems. FIWARE has already been adopted by "smart cities", particularly in the building and transport sectors. Fiware4Water demonstrates the FIWARE platform's potential in the water sector.

On the basis of this FIWARE architecture, the project must build its own digital structure, adapted to the water sector. Current projects include a low-cost sensor that measures various drinking water parameters, web applications to display data in real time and smart data models

to better detect leaks, water quality anomalies or even to forecast water availability and demand.

The models are based on artificial intelligence and "machine learning" using a huge amount of data, including historical data. Fiware4Water takes into account the threat of piracy by emphasising the importance of cyber-security in the development of digital solutions.

To develop these solutions, partners involved in the project use four demonstration cases to carry out tests on the entire water cycle in real-life conditions. These tests bring together researchers, local authorities and water utilities.

The project is also putting together a wider network of European and global players via three demonstration networks. These networks will continue to refine and offer open-source solutions based on the FIWARE architecture that address the needs of more decentralised and efficient water management.



Nitrates - evaluation of France's national action plan under review



In 2014, France adopted a national and a regional programme of action (NPA and RPA) in accordance with the requirements of the European Union's 1991 "Nitrates" directive, aimed at reducing pollution from nitrates of agricultural origin and from eutrophication.

Indeed, every Member State is expected to draw up a programme of actions that apply in zones

vulnerable to nitrate pollution, specified on its territory.

In 2020/2021, this NPA is being revised. In the framework of a contract with the French Ministry for Ecological Transition, OiEau, together with the engineering firm SCE, have been entrusted with the environmental evaluation of this revised NPA. A report shall be produced on the environmental impacts expected as a result of these revisions and the report shall compare how the environment would develop in the absence of these revisions.

This is an old subject of ongoing importance, given the essential nature of nitrogen in agriculture. It is used to fertilise land (in the form of organic matter from husbandry or in mineral form) and unless it is totally consumed by the plants being cultivated, excess nitrogen in the form of nitrates can lead to water pollution (eutrophication, contamination of resources used for the production of drinking water, etc.)

Vassivière Lake: renovating the collective wastewater network

Vassivière Lake is an ideal base for the development of outdoor leisure activities. The offering is specifically designed for a discerning clientèle of tourists who want to enjoy nature in a safe and unspoilt environment. In the 1970s, the Vassivière Lake water agency built a collective sanitation network to fully control the treatment of wastewater in the lake's drainage basin. The result is an extensive and complex system, given the topography of the site. In 2020, the water agency set itself the task of completely renovating this network, with innovative solutions for the collection and treatment of wastewater. For this purpose, the lake's water agency entrusted OiEau and its partner VRDeau with the "operation control of the renovation of Vassivière's collective sanitation works". OiEau's mission was to assist the water agency in the administrative implementation of the project and to provide advice to ensure the financial equilibrium of the

investment programme. The considerations were based on the durability of the works, their depreciation and changes in the conditions of governance.



Vassivière Lake: a well-preserved natural environment ©OiEau

100 Water and Climate Projects for Africa - Incubations at mid-term



©OiEau

With more frequent and intense floods and droughts, reduced river flows, degradation of aquatic ecosystems and rising sea levels, it is becoming urgent to adapt ourselves so we can rise to Water and Climate challenges. More ambitious and innovative projects are needed all over the world, particularly in Africa.

At the 1st "One Planet Summit" (December 2017 in Paris) a commitment was made to ensure the "100 Water and Climate Projects for Africa" were developed within 5 years.

Within this framework, 12 of the initial incubations funded by French water agencies received OiEau's technical assistance in 2020. We support local stakeholders on the territory with technical design and funding of projects and then help them benefit from funding opportunities offered by backers.

For example, supported by the Adour-Garonne water agency, the incubation project managed by OiEau on the Senegal river basin, in partnership with the Company for the Development of the Coteaux de Gascogne (CACG- France), was the result of close collaboration with the Senegal River Basin Development Organization (OMVS) and the Company in charge of managing and operating the Diama dam (SOGED). The pre-concept note addressed to the Adjustment Fund with the assistance of the Observatory of Sahara

and Sahel is being prepared, the overall sum amounting to US\$14 million.

In addition to Water Agencies' commitment, 50 other projects have already joined the "100 Water and Climate projects" initiative, to date. The overall coordination of the initiative entrusted to INBO (see p. 42) will continue until the end of 2022, in close collaboration with the French Ministry for Ecological Transition and solidarity and all the players concerned.

According to **Mr. HANE**, the Director of Clientèle and Recovery at SOGED *"This project is a real opportunity for OMVS to use spatial imaging in the management of water resources and to help river basins become resilient to climate change. In particular, it will enable SOGED to improve existing management tools like MOSIS (Sharing Satellite Observations for Service Innovation), better integrate populations' priorities (bush fires, river bank erosion, river sedimentation, etc.) and improve our action aimed at ensuring the performance of facilities, water services and the social economy."*



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Institutional cooperation for IWRM in Equator

The partners appropriated phase 3 of the project funded by the Adour-Garonne Agency very well and this allowed OiEau to ensure the smooth continuation of activities in a context of institutional merging and the Covid-19 pandemic in Equator.

Action was taken at several levels:

- At the Manabí drainage basin level, with officials from the Zonal Directorate to support the planning initiative from the Portoviejo (pilot), Chone and Jipijapa Basin Councils, to share water data and seek funding and thus ensure the implementation of the main measures identified in practical terms.
- At national level, with officials from the Ministry of the Environment and Water (MAAE) to capitalise on what was learnt from the Manabí experiment in terms of governance, planning, consolidating information systems and the National Water Fund proposal.

Most of these discussions were organised



remotely using online tools, which helped ensure activities continued at a steady pace throughout 2020.

Progress in the project made it possible to identify, in consultation with the MAAE, areas of work for the next phase in 2021- 2022.

The Somone - an IWRM laboratory in Senegal



The Somone lagoon (Ramsar site). - ©OiEau

In 2012, Senegal adopted a new development strategy to speed up its path towards "emergence". In this country where water is such a precious and limited asset, a sustainable type of management is essential in order to support its growth model and meet current and future needs. This is the thrust behind the Integrated Water

Resources Management (IWRM) policy developed by Senegal's Ministry of Water and Sanitation. It takes a decentralised approach for each river basin. Therefore, for purposes of management and planning, the country has been divided into 5 units and 28 sub-units, based on an administrative and hydrographic rationale.

In the middle of the strategic triangle formed by Dakar, Thiès and Mbour, the sub-watershed of Somone was chosen by the Water Resources Planning and Management Department (DGPRES) as a pilot river basin for the development of participative tools, bringing together different water users.

Within this framework, the technical support provided by OiEau and the Seine-Normandie Water Agency since 2019 has allowed Senegal to hold an Assembly of Basins for the first time and set up the Somone planning and water management sub-committee. This new body will now play a central role in implementing the IWRM in the region.

Test pilots and support an important partnership with EDF



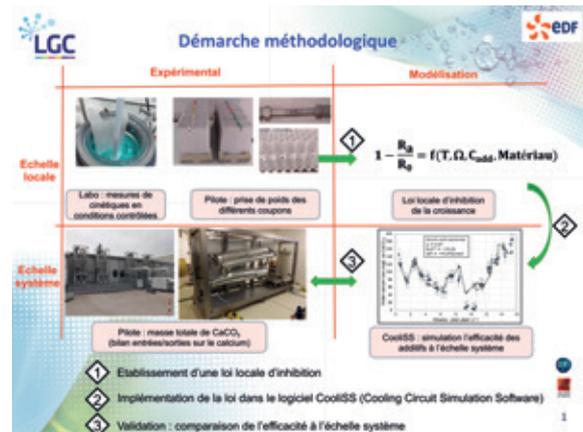
Within the framework of its research and development activities, EDF is working on improving the performance of nuclear power station cooling circuits.

To do this, in 2007, EDF entrusted OiEau with the task of designing, producing, installing and maintaining several test and treatment pilots (conditioning, filtering, treating, disinfection, small scale reproduction of the whole tertiary circuit).

After calling upon OiEau to renovate the cooling towers of the Chatou facilities in 2020, EDF decided to enter into a new framework agreement with OiEau, involving the maintenance of installations up until 2024.

"Since I have been in charge of PERICLES installations, I appreciated working with OiEau, above all for its

responsiveness and answers that are adapted to our technical problems, and also because of their flexibility, the way their projects are organised and their adherence to safety instructions on our site." Mr. CHHIM, Research Engineer - In charge of the PERICLES laboratory in Chatou, EDF R&D.



OiEau teaching platforms supporting R&D



OiEau's training courses are recognised for the practical application of training on teaching platforms which are unique in Europe and designed especially to enable learners to carry out manipulations that are impossible under real conditions. This specific feature is regularly used as part of research support missions. In 2020, manufacturers and research centres used OiEau's platforms to fine-tune their work:

- **"Leak research" platform:** INRAE studied new calibrated leaks to gain a better understanding of how pressure and leakage rates are linked. INRAE and OiEau continued to work together, producing a mobile pilot that allows tests to be carried out in the field.

- **"Advanced waste water treatment" platform:** when OiEau's activated sludge treatment pilot was renovated, an interchangeable filter floor to carry out the tertiary treatment was installed. This enabled the company Aqseptence to conduct comparative tests on its different technologies.
- **"Pumping" platform:** pursuing the partnership initiated in 2017, Schneider Electric improved its ability to detect pumping defects: an additional instrumented pumping line was created. At the end of 2020, the results obtained seem promising.



FACILITATION AND DEVELOPMENT OF WATER STAKEHOLDER NETWORKS

This activity, firmly anchored in OiEau's DNA, involves coordinating various networks of stakeholders in water and environmental sectors in France, Europe and internationally. In 2020 the activity continued and adapted. As face-to-face meetings and events became impossible due to the health crisis, OiEau implemented new methods that finally renewed participation and creativity in the exchanges. Through virtual conferences, OiEau brought together a large number of stakeholders from many countries: ministries, international organisations, local authorities, water and sanitation utilities, national and transboundary basin organisations, manufacturers, research centres, funding bodies, universities, elected representatives, etc.

« *INBO's online events, held monthly, attract participants with a wide variety of profiles from different geographic regions and the simultaneous interpretation into French, English and Spanish overcomes the language barrier. The events offer a unique opportunity for water management specialists to discuss their experiences and improve the different facets of Integrated Water Resources Management (IWRM) at river basin level, i.e. planning, governance, knowledge and funding. Above all, they are an opportunity to address the challenges of adapting to climate change and preserving biodiversity.* »

Dr. AMARA,
President of INBO (see p. 46)

Networks facilitated by OiEau or in which it participates:

- Network of documentalists contributing to the Water and Biodiversity Partnership Documentary Portal (see p. 49)
- Network of stakeholders involved in water development and management schemes (SAGE) and environment contracts (see p. 45)
- Network of water intake area facilitators
- Network of stakeholders involved in the protection and restoration of water-courses • Eau dans la Ville, the agency that helps local authorities in matters related to drinking water, collective and non-collective sanitation
- Network of stakeholders involved in wetlands • International network of Basin Organisations (INBO - see p. 46)
- Global Alliances for Water and Climate (GAfWaC) • Global network of basins working on climate changes (UNECE / INBO)
- International Network of Water Training Centres (INWTC)

In 2020, the national SAGE seminar was replaced by remote technical days



Extract from the post-it activity "Play on words" on SAGEs.

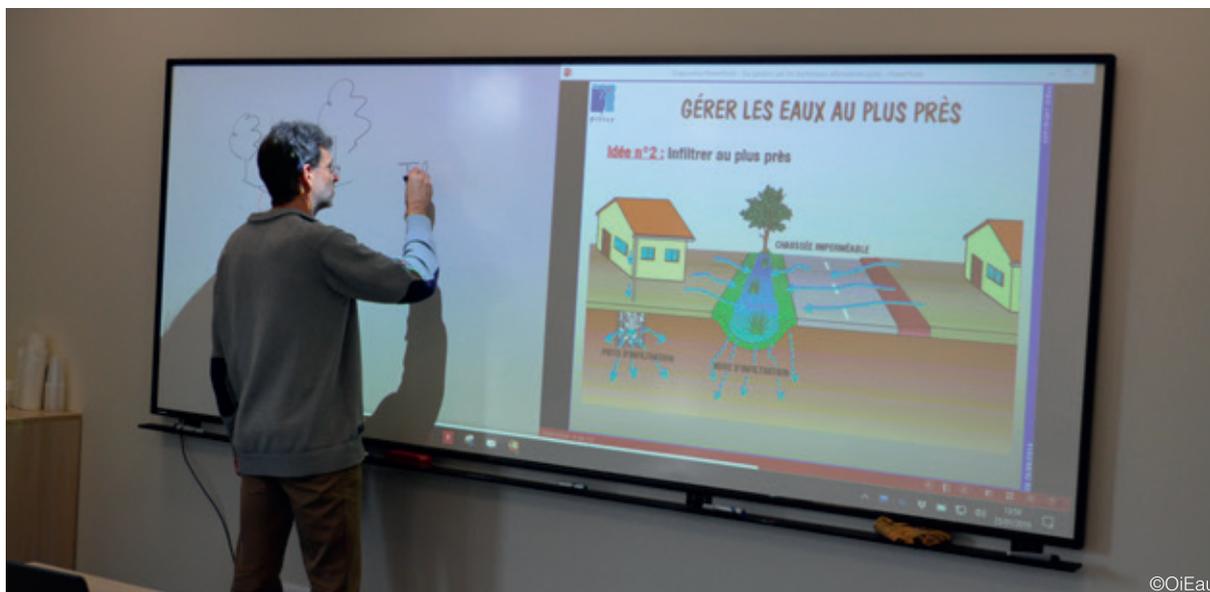
The technical days on water development and management schemes (SAGE) took place on 21, 22 and 29 September 2020 in a totally online format. Organised by the French Ministry for Ecological Transition, they brought together more than 300 participants for all the sequences: SAGE coordinators, stakeholders in development, central and decentralised State departments, Water Agencies, researchers, etc.

The theme was "SAGE schemes - water at the heart of territories" and many topics were discussed, ranging from synergies between water stakeholders and land use planning, quantitative management, integrated

stormwater management and the link between aquatic environments and territorial resilience. Issues specific to the coordination of SAGE schemes were also on the agenda, such as the running of Local Water Commissions (LWC), participatory approaches and communication. After an opening plenary session on the legal framework, participants attended various workshops and technical conferences. The morning of 29 September concluded the event with a presentation of the SAGE regulations database and a review of the work carried out in the workshops. Although the remote format did not offer the conviviality of previous national SAGE seminars, these days were an opportunity for SAGE stakeholders to see each other again or meet for the first time, to discuss the problems they face and to share their experiences. OiEau helped organise these days by drawing up the programme, mobilising the Gest'eau resource centre and running three workshops. OiEau also gave two presentations of a study concerning the way non-point source pollution is integrated into SAGE schemes and on the launching of the LIFE Eau&Climat project (see p. 50).

For further information:

<https://www.gesteau.fr/vie-des-territoires/retour-sur-les-journees-techniques-sage-2020>



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Webinars - INBO's new tools in 2020

In 2020, despite geographical remoteness due to the world pandemic, OiEau continued to ensure the Permanent Technical Secretariat for the International Network of Basin Organisations (INBO).

Central to its message and actions are the promotion of Integrated Water Resources Management with its main partners (UNECE, UNESCO, OECD, etc.), joint contributions to major international events (www.riob.org), and members' sharing of experiences on challenges and best practices in sustainable management of water resources, adaptation to climate change and conservation of biodiversity.

INBO also demonstrated its innovativeness by developing these exchanges in digital format. For example, it organised a series of monthly webinars in three languages (French – English – Spanish), with simultaneous interpretation.

Multilingualism, free access, inclusiveness and now digital environments are fundamental to INBO. They ensure that acquired river basin management skills are exchanged all over the world. From the Amazon and Mekong basins, to the Great Lakes of Africa and the groundwater of the Sahara and Sahel.

These webinars put the emphasis on interactivity (via online surveys and question/answer sessions for example) and have been well received by people with increased participation for each new webinar, both in terms of numbers and geographical diversity. Those who up until now have been unable to attend INBO activities in person (mainly due to the cost of travel) have clearly taken advantage of this new opportunity.

INBO webinars, regularly organised in partnership with the Geneva Water Hub, the International Secretariat for Water, etc. have recorded more than 180 participants from more than 65 countries. They cover themes like:

- "IWRM at basin level: a resilience factor to the global health and economic crises?" (July)
- "Water information systems, governance and the interest of remote sensing: for an informed management of water resources at national level and basin level" (September)
- "Cost of climate change adaptation at basin level versus cost of inaction" (October)
- "City- basin dialogue: INBO-IWA methodological guide on cities connected to their basin"

(November)

- "Participation of Stakeholders, Civil Society and Youth in the management of the basins of rivers, lakes & aquifers" (December).

Presentations of speakers and video recordings are available on INBO's website (www.riob.org/webinars).

INBO is also playing an important role in the first stages of preparations for the next World Water Forum to be held in Dakar in March 2022 at which the following themes will be discussed - international cooperation projects, water resource management at basin level (including transboundary), water information systems, etc.

INBO's 28th newsletter (published at the end of 2020) gives a detailed account of INBO's activities in 2020.

"To ensure proper governance, it is crucial to monitor water resources at the Amazon basin level. This allows a more comprehensive collection of data on hydro-climatic events, the quality of water, better planning for hydraulic engineering works and early warnings for example. Consequently ACTO ensures the implementation of hydraulic monitoring

networks to facilitate water resource management via a regional approach: the Amazonian hydrological network (AHN) and regional networks that monitor the quality of water (RMCA), erosion, transport and sedimentation (RETS)". Ms MOREIRA LOPEZ, General Secretary, Amazon Cooperation Treaty Organization (ACTO). Webinar "Governance of Water Information Systems", 15 September 2020.

"It is essential to mobilise funding now, not only for water infrastructures, but also to develop networks to monitor water resources, to make pressure measurements for different uses and to collect hydrological data". Mr. NDOUR, Director of Water Resource Management and Planning at the Ministry of Water and Sanitation – Senegal.



A European workshop to study the issue of "Water" in the new CAP



Essential for the growth of crops and also for livestock, water is a vital component in agriculture, which in turn strongly influences water resources. Non-point source pollution of agricultural origin, for example, is one of the main causes of the degradation of water masses in Europe

The Common Agricultural Policy (CAP) is a major mechanism for changing agricultural practices in the European Union (EU). A reform of both the framework and content of the CAP has been agreed for the period 2021-2027, with 2021 and 2022 being transition years. The aim is for the new CAP to play a greater role in combating climate change and protecting biodiversity and natural resources.

This reform is also intended to comply with the European "**Green Deal**", the roadmap to make the EU economy more sustainable and environmentally friendly.

Thus, within the framework of the 18th International Conference "**Europe-INBO 2020**", the International Network of Basin Organisations (see p. 46) organised an online workshop on the topic "**New CAP: an opportunity for water policies?**", Monday 9 November 2020.

Its objective was to facilitate the exchange of experience on challenges, problems and solutions related to synergies (or lack thereof) between the CAP and European water policies, in particular the Water Framework Directive (WFD).

Attracting more than 140 participants from different countries, this workshop opened with an overview of current interactions between agriculture and water in European policies (in particular the WFD and the CAP), followed by planned developments. The French Office for Biodiversity (OFB) also presented its recommendations on the subject.

Two working sessions allowed participants to exchange opinions and contribute ideas, live. Firstly, discussions focused on current synergies or stumbling blocks between the CAP and water policies, and secondly, on possible recommendations and perspectives for better coordination between these two policies. During the sessions, participants gave feedback on their own experiences. Reports on this workshop will be drawn up and discussions on these topics will continue in 2021.



OiEau encourages local elected officials to protect natural environments



Aquatic environments and wetlands in our territories offer many advantages. When they are in good condition, they help preserve the quantity and quality of water resources; they are home to many animal and plant species - some of which are specific to these environments - and they enhance landscapes

This year, a rather unusual year, OiEau took advantage of the local elections in France to organise two events targeting local and inter-communal elected officials. The aim of these meetings, which were held online, was to raise participants' awareness and illustrate, through testimonies from committed elected officials, some practical solutions that can be implemented locally.

The first meeting entitled "**Wetlands in my town? What good news!**" was held on 16 October and attended by more than 120 participants, most of whom were elected officials, with Ms Frédérique Tuffnell, Member of Parliament, opening the meeting. Four testimonies from enthusiastic elected officials demonstrated that it was possible to make local wetlands an asset rather than a constraint.

The second meeting entitled "**Rethinking water in cities: using nature to develop my area sustainably**" took place on 4 December and brought together 200 participants,

mainly local elected officials, technicians and project managers. Four experience feedback presentations illustrating the concept of permeable cities, followed by discussions allowed participants to understand this topic on different levels.

These events were made possible thanks to financial support from the French Office for Biodiversity. Replays are available on OiEau's YouTube channel.

A town's natural heritage makes it attractive

Mr. BARBIER, the Mayor of Muttersholtz in Alsace (France), presented the numerous initiatives his town has taken to preserve and enhance its natural heritage, which have earned it the label of capital of biodiversity . Rather than fighting the flood-prone nature of the area, the wetlands were put to good economic, tourist and cultural advantage. They are now an integral part of the town's heritage.

"Muttersholtz is not simply a wetland area within the town, it is a town within a wetland area! "

Virtualisation of "Water & Biodiversity" conference for documentary portal partners a great success!



Despite the very unusual context due to the pandemic, contributors to the Water & Biodiversity Documentary Partnership Portal <https://www.documentation.eauetbiodiversite.fr>, members of the documentary skills network on water, aquatic environments and biodiversity held their biennial conference in autumn 2020.

Those working in information-documentation met virtually and followed a series of six webinars organised jointly by OiEau and the French Office for Biodiversity (OFB). Webinars followed a common thread, i.e. the monitoring process and its different stages: the sourcing, collection, selection, dissemination of data and information and an openness to collaborative monitoring

The twenty or so participants carried out original and practical experiments using innovative tools and methods (creating RSS feeds, comparing monitoring tools, tools to create monitoring newsletters, etc.). Time was set aside for discussions and this ensured a certain fluidity in the documentalists' transmission of knowledge. It was also an opportunity to become more competent in monitoring, to recognise the potential offered in terms of increased visibility, within each institution. Certain practical changes were introduced immediately after the sessions (implementation of a monitoring tool, new production of newsletters, better command of a newsletter distribution tool, etc.) with real time savings.

Finally, these webinars were also an opportunity for the documentary skills network to consider collaborative monitoring.

Feedback from participants was very positive on the organisation of the video-conference, the theme chosen and the periodicity decided upon.

Therefore, this virtualisation in the transmission of knowledge corresponds to current expectations and to a deep and lasting tendency to modify the way training is provided.



The collaborative Documentary Portal presents a wealth of documents selected by its various contributors. In 2020, the most downloaded document was "Sizing of ex ante compensation for biodiversity damage. State of the art of approaches, available methods and current practices" proposed by the French Office for Biodiversity. The interests of the portal's visitors, which are very varied, have also focused on the hydromorphological characterisation of watercourses, feedback on water and urban planning, the study of the costs of collective sanitation operations (networks, stations, pluvial) and documents on riparian forests.

SOME CROSS-SECTORAL PROJECTS

Our association's four activities, its statutes, its values of independence and commitment to better management of resources and uses make it a key ally of the sector's stakeholders.

This strategic role is reflected in global projects that bring together our know-how in strengthening capacity through training and expertise, data and information management, improved governance and facilitation and consultation. The coordination of these complementary activities makes it possible, over several years, to carry out structural projects for a sector or a complex theme such as, for example, increasing the resilience of water services and resources to climate change or integrating "Water and Biodiversity" issues.

The support we provide is expressed at multiple territorial levels, to political decision-makers as well as to technical operators, and is permanently based on the evaluation of the effectiveness of the actions carried out.

« *While integrated approaches to the management and use of resource are applied to multiple territorial scales, OiEau is establishing itself as a centre for strategic resources and decision support for multiple private and public actors.* »

Mr. LAROYE,
Sales, Marketing and Communication
Director - OiEau



Support & training - synergy in OiEau's international missions



OiEau is able to offer vocational training, support missions and advice all at the same time.

Thus, OiEau regularly proposes projects that include a preliminary diagnosis of infrastructures, technologies, organisations, operations, etc. which allows areas of improvement to be defined. This advisory phase can then be usefully

supplemented by training courses for staff in charge implementing these improvements. Whether face-to-face or distance learning (with enhanced capacities in 2020), these training courses become real vectors for supporting change. By taking better account of the situation on the ground and the local context, they actively contribute to the awareness, commitment and motivation of learners, and in particular, they strengthen their skills in areas for improvement.

Two examples of projects developed using this methodology, in 2020:

- Diagnosis and training of the Bouar drinking water supply network for the ICRC (see below).
- Diagnoses and training on industrial effluent treatment (tyre manufacturer in Ivory Coast and South East Asia. Stakeholders in the agri-food sector in the Indian Ocean, etc.).

OiEau is working for the ICRC in the Central African Republic

The International Committee of the Red Cross (ICRC) has for many years been working in the Central African Republic to improve the living conditions of the most vulnerable populations. In 2012 - 2013, this country was affected by civil war which caused a lot of damage to its drinking water facilities. The ICRC has provided a great deal of assistance to the Central African Water Supply Company (SODECA), the country's drinking water operator, for many years.

Bouar, in the west of the country, is the county town of the Nana-Mambéré prefecture and has a population of about 60,000. Here, SODECA's water network has been malfunctioning since the crisis. To help the ICRC and SODECA better identify these network malfunctions and prioritise the investments needed to restore the water service, OiEau was commissioned to carry out a technical study on the ground. This mission enabled it to carry out an inventory of the installations and facilities and prioritise the investment required. This work will eventually allow new water specialists to be identified who could help improve and rehabilitate the urban

drinking water network in the city of Bouar. Several technical and financial partners have already been approached in this respect.

This study is part of a long-standing partnership with the ICRC which began 20 years ago and led to the signing of a framework partnership agreement (MoU). This strong willingness to work together is expressed through an intelligent combination of training and technical support in the field.



Field visit at one of the secondary reservoirs - ©OiEau

OiEau - a partner for manufacturers

Improving water resource management requires the commitment of all parties. It is particularly important to mobilise industrial players and OiEau will continue to support them in the coming years.

In 2020, manufacturers actively called upon OiEau to provide technical assistance to optimise water treatment processes. Here are three examples of how it supported players in different sectors.



Nestlé Good food, Good life

In 2020, OiEau provided Nestlé with technical support at its production sites in Challerange (Production of Dolce gusto coffee pods) and in Rosières-en-Santerre (Production of Mousline purée) to enable the sites to improve the reliability of their water treatment plants and the compliance of their discharges into the natural environment.

Mr. PETER Technical Manager of Nestlé France says: "OiEau is a recognised partner with which Nestlé France has worked for many years. Its training services are a reference within our organisation and are even perceived as a recognition by employees who benefit from them. *"Faced with two critical industrial situations we turned to the OiEau as a last resort. Regarding the first one, OiEau helped us understand, through pertinent analyses, the path that led us to the incident. For the second one, by acting upstream we were able to remedy a difficult situation, thus avoiding the consequences that all operators fear. In detail, but in light of these experiences, OiEau is now our first port of call and, in addition to training our employees, we ask it to audit all our sites to ensure optimal operations. I can only say thank you"*. A partnership to be continued.



Total and OiEau teams sign an agreement. ©OiEau

On 17 September 2020, OiEau signed an agreement with Total Group concerning support in strategic matters like:

- Integration of geo-referenced data into TOTAL's Geographic Information System (GIS): surface and groundwater.
- Expertise and advisory assignments concerning industrial clean water and effluent treatment and recovery.
- Support in the Group's strategic matters:

- Study on the risks and opportunities of wastewater reuse (REUSE)
- Solutions based on nature.
- Adapting to climate change.

- Assessing skills, supporting the training programme and validating skills.
- Supporting Research & Development.

This collaboration gave OiEau the opportunity to:

- Produce a methodological guide for assessing the risks and opportunities of external reuse of treated industrial water, with which a matrix was associated. It consists of about forty multiple-choice questions and allows each site to decide whether it is pertinent to initiate a REUSE study.
- Provide spatial data on water in France, incremented in TOTAL's GIS. This involved:
 - Identifying measurement sites.
 - Implementing the data collection infrastructure.
 - Collecting physico-chemical measurements, available in Opendata for the last 10-year period (data produced as part of the French water information system).
 - Creating the table associating the physico-chemical parameters.
 - Organising and delivering the dataset.

In 2021, this work will be continued in other geographical areas.



In 2020, Carambar & co, which groups together nearly fifteen brands of sweets and chocolates such as La Pie qui Chante, Kréma and Poulain, called upon OiEau to provide technical support at one of its industrial sites.

The action plan drawn up after the diagnosis enabled the site to achieve its objectives with regard to the wastewater treatment plant. The partnership between Carambar & co and OiEau is expected to continue in 2021 as the Group has 7 sites in France.

Mr. AIMÉ, Technical Manager says: *"The support came up to our expectations both in terms of time-frame and expertise; [the specialist from OiEau] was very instructive and attentive to our remarks"*.

BIO-PLATEAUX platform to share information on water and biodiversity in aquatic environments



Initiated in 2019 in partnership with the Guyana Water Board and stakeholders in Brazil and Suriname, the **BIO-PLATEAUX project** aims to improve cooperation in order to settle transboundary water and biodiversity issues in the Oyapock river basin (French Guyana and Brazil) and the Maroni river basin (French Guyana and Suriname).

In 2020, the BIO-PLATEAUX project implemented the recommendations made by the Guyanese, Surinamese and Brazilian authorities at the Cayenne Conference of November 2019, i.e. coordinate the newly created network of technical stakeholders and develop an online platform.

In spite of the difficult context of 2020 due to the pandemic, the challenge facing OiEau in this transboundary project was to maintain momentum by organising regular exchanges via remote working tools.

Water management sheets on the three territories identified stakeholders in each country and were validated by the respective focal points (Anton de Kom University, Amapa Agency, Guyana Water Board).

Then, the three territories' institutions and technical stakeholders met regularly within the framework of theme-based transboundary technical groups to jointly define their needs, with a view to enhancing knowledge on hydrology, the quality of water and aquatic environments.

Short-term products were prepared for high priority issues (e.g. daily hydrological bulletins

per basin making data from all three countries available). Long-term work was also undertaken to take stock of existing resources, identify shortcomings and plan responses in terms of data production, sharing and dissemination.

By adopting an approach based on partners' expectations, OiEau developed a digital platform for sharing documents, data, information and experiences on water and aquatic biodiversity in the Oyapock and Maroni river basins. The technical specifications were drafted jointly across borders in three languages in order to integrate the expectations of the platform's future users.

The tool obtained is available via the following link: <https://www.bio-plateaux.org/fr>. It provides intuitive access to existing information, while offering dynamic map visualisation processes accessible to everyone.

The BIO-PLATEAUX project is financed by the European Union as part of the INTERREG Amazon Cooperation Programme (PCIA), by the General Directorate for Territories and the Sea (DGTM), the Guyana Water Board (OEG) and the National Centre for Spatial Studies (CNES).

"The mission of Guyana's hydrological surveillance unit is to monitor the water levels of Guyana's rivers and to make this data available to the general public. The BIO-PLATEAUX platform is designed to complement the French national "Vigicrues" system in this field. It also provides access to data produced by bordering countries, where available. All this work can only be done properly with the participation of counterparts in Brazil and Suriname." says **Mr. MASSON**, Hydrological surveillance unit - General Directorate for Territories and the Sea (DGTM) de Guyana.



LIFE Eau&Climat project: Supporting local decision-making for climate-adapted Water Management

Adapting to climate change is a major goal in water resource management. The LIFE Eau&Climat project (Supporting long-term local decision-making for climate-adapted Water Management) aims to help local stakeholders enhance their knowledge and to encourage them to address this challenge. This four-year project, managed by OiEau, was launched on 1st September 2020.

It is designed to help local water resource management stakeholders assess the effects of climate change, factor them into their planning and implement adaptive measures.

This project brings together 14 partners with local water management organisations that are responsible for water development and management schemes (SAGE) as well as scientific and technical bodies. Its total budget amounts to 3.7 million euros, of which 2 million euros is provided by the European Union, with French co-financing from Water Agencies and the Environment and Energy Management Agency (ADEME).

The various initiatives will involve developing decision-making tools for local stakeholders, facilitating the mobilisation of these stakeholders, improving access to water-related climate data, and stepping up exchanges between researchers and managers.

The project also seeks to promote the reproducibility of the results obtained in other territories, in France and in Europe, particularly through training.



For further information:

<https://www.gesteau.fr/life-eau-climat>



UNION EUROPÉENNE

Ms SIAUVE (OiEau), the project coordinator, "The LIFE Eau&Climat project aims to allow local water management stakeholders, and in particular members of Local Water Commissions (LWC), to take current and future effects of climate change into account in a very practical way. First of all this will involve creating tools to assess the vulnerabilities of their territory and defining local adaptive strategies. This will also be achieved by making the necessary hydro-climatic data available and by informing, raising the awareness of and training all those who need to be mobilised, i.e. elected representatives, members of the Local Water Commissions (LWC), engineering firms, major French water sector stakeholders, etc."

Les 21 SAGE du projet LIFE Eau&Climat



Le projet LIFE Eau&Climat (LIFE19-0101-01-01) a reçu un financement du programme LIFE de l'Union européenne.

"Water Treatment Technician" vocational diploma - partnership with Apprentice Training Centre (CFA) in Ahun

A vocational diploma is a certificate issued by the French Ministry of Labour, stating that the holder has mastered the skills, aptitudes and knowledge required to practise a trade. The Ministry delegates the training and the organisation of examinations to Training Centres that comply with a certain number of statutory commitments. They then obtain an Accreditation issued by the Prefect of the region.

Problems recruiting water sector specialists are foreseen over the next 5 years (see p. 33), so OiEau has joined forces with the Apprentice Training Centre (CFA) in Ahun (Creuse) to propose a training course and certification of skills. The

course is a 10-month work-study programme that leads to a professional qualification as a Water Treatment Technician.

The CFA in Ahun and OiEau will complement each other, sharing teaching and allowing participants to practice on OiEau's technical and educational facilities. The aim is to start the first training course in September 2021.

For those OiEau training modules concerned, this process will allow professionals who had previously followed modules included in the OiEau training catalogue to obtain the certification, via the Validation of Prior Experience (VAE).

Martinique – Assistance in updating and managing the ODYSSI customer database



In the municipalities of Fort de France, Schoelcher, Lamentin and St Joseph, the ODYSSI authority applies the water and sanitation policy of CACEM (Urban Community of Central Martinique). It must ensure constant distribution, optimise the output of its network and adapt to recurrent droughts caused by climate change.

To achieve this, it is essential that ODYSSI ensure its financial stability. One avenue for improvement is to ensure the proper management of customers and debt collection. To do this, a totally reliable "subscribers" database is needed. However, due to successive transfers and inaccurate updates, the data gradually deteriorated.

"By improving our customer database, we can obtain revenue without having to make investments and this will improve our service and our assets", says Mr. RENE-CORAIL - Assistant General Manager - ODYSSI

As part of an operation initiated in 2020 and to be completed in 2021, OiEau is assisting the water authority to analyse the customer database, detect inconsistencies in names and addresses and "repair" it so the authority's legitimate revenues can be better collected.

This regularisation will reduce invoicing and collection costs and increase revenues by 5-8%.

To carry out this task, OiEau calls upon its technical know-how and data management skills to:

- Analyse the consistency of the "Subscribers" database.
- Cross-check with other "addressed" public records and make initial corrections.
- Support and train teams on the ground who are in charge of fine-tuning and correcting any remaining errors.

Ever since its creation, OiEau has been able to rely on the complementarity and synergy of its statutory activities to expand and also to pool risks and mitigate any sudden, specific decrease in revenue from its activities (decreases related to the hazards of international projects and also the State's withdrawal of financial support, etc.).

Unfortunately, in 2020, the health crisis hit the association hard and jeopardised all its activities: its water training centre was officially closed, international travel was stopped and the main grant was suddenly reduced by €400k compared to 2019.

In this context, the net result was negative at € 646k.

Statutory missions

OiEau's revenue can be broken down according to its main statutory missions:

- Educational Training and Engineering (ETE)
- Facilitation of Stakeholders' Networks (FSN)
- Data, Knowledge and Information Systems (DKIS)
- Technical and Institutional Support (TIS)

€12.1 M

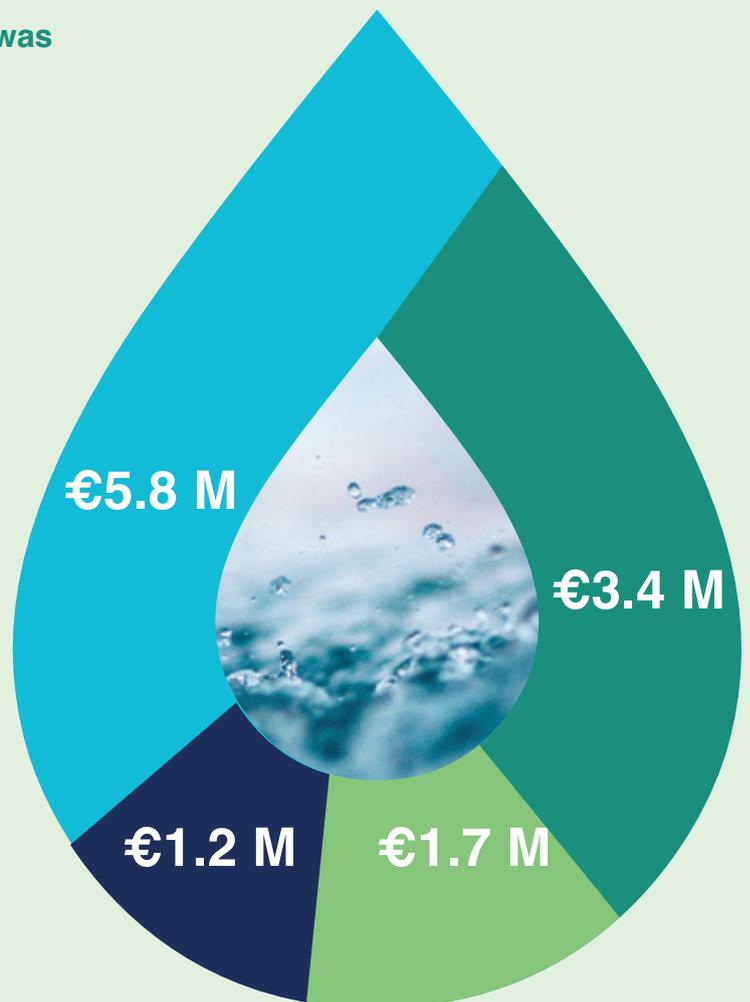
REVENUE FROM ACTIVITIES IN 2020

down 23% on the previous year

141

EMPLOYEES AT THE END OF THE FINANCIAL YEAR

Despite its difficulties, the association managed to keep its workforce



The main revenue families

OiEau's revenue from activities can also be broken down into the main accounting families. This makes it possible to see the proportion of subsidies and also the breakdown of commercial revenue between **France and the rest of the world** (according to the nationality of the backer):



Major expense items

For OiEau, the main expense items are Payroll, Purchases and Consumables, Depreciation & Provisions, and Taxes. The trend since last year is as follows (as a percentage of Operating Income):

	2020	2019
Payroll	66,9 %	56,8 %
Purchases	29,6 %	34,5 %
Deprec. & Prov.	6 %	4,5 %
Taxes	3,4 %	4,1 %

Challenges

The financial year of 2020 proved particularly challenging for the association. This led to a significant deterioration in results. Fortunately, the commitment of its staff and level of its funds will enable it to overcome this temporary setback.

Faced with this health crisis, OiEau was able to invest more rapidly in the digitisation of its training courses. It also changed its international working methods by making greater use of video-conferencing to maintain strong links with local partners.

The association must now:

- restore a level of profitability that allows it to continue to invest in its production tools (technical platforms, digitisation of certain actions, remote project management, etc.),
- continue to diversify its activities and customers in light of reduced public funding,
- make judicious use of new, highly skilled human resources in order to respond rapidly to the latest developments and new needs in the water sector.

PERSPECTIVES

Assistance to the contracting authorities according to OiEau



For many years, OiEau has been regularly solicited for traditional assistance missions. The independence and the developed services ensure valuable advice and expertise for the contracting authorities wishing to launch contracts for intellectual services: drawing

up of specifications, analysis of offers, follow-up of execution are carried out by OiEau.

The evolution of the water stakes, crossed with the topics of resilience to climate change and biodiversity, subject the contracting authorities to new more integrated and territorialized problems. OiEau's vocation is to help the various stakeholders to engage in these territorial projects. It implements complex ecosystem approaches, data analyses allowing decision making, open consultation processes, but also research for co-financing. The latter are justified by the territorial scale and the different functions and services provided by the overall project.

The PTGE (Territorial Water Management Projects) are new tools which will carry out this OiEau activity in the coming years. OiEau is already at the side of Limoges Metropole by accompanying it in its strategic and technical reflections for the creation of a "Territory in Water Transition".

Framework agreements: "agile" public contracts

The application of the global support strategy is expressed naturally in the implementation of complex, multi-annual projects. These either respond to specific public tenders or to large-scale calls for projects from national or international funders, in particular the European Community.

In the first case, there has been a notable increase in consultations based on "framework agreements with subsequent contracts". This specific procedure makes it possible to draw up a long "framework" contract, specifying the challenges and objectives, often strategic, while allowing the various tasks to be detailed as the project progresses. The "subsequent contracts" are then updated as necessary.

These framework agreements provide real agility in a structured support process with a number

of prioritisation and evaluation criteria. Constant adaptation to the on-the-ground realities helps consolidate progress.

Two important examples can be highlighted in the Overseas Departments that are designed to be of great benefit to the populations. In a difficult context when services are often poorly maintained and the media often focuses on the "water crisis", it is crucial to restore trust between water stakeholders and users.

- **In Guadeloupe**, OiEau assists inter-communal cooperation public establishments (EPCIs) in charge of water and sanitation on behalf of Guadeloupe's Water Authority via a contract based on a framework agreement. The latter incorporates training and assistance as well as monitoring of progress. In

particular, when preparing a single management body, OiEau's work involves inventorying human resources and helping in the planning of joint management of services, while striving to ensure stakeholder consultation, legal robustness and technical and financial optimisation.

- **In Martinique**, the same type of initiatives are being implemented for Odyssi (see p. 55), the island's largest water and sanitation authority, which operates water and sanitation services for the CACEM (Urban Community of Central Martinique).

In the framework of its missions in these two overseas departments, OiEau will assist in studying and optimising customer files and invoicing, analysing skills and internal organisations, providing technical training in operations, diagnoses and expertise at treatment facilities and in the data management and service supervision project.

Large-scale projects on shared themes

OiEau also works on projects in which the cross-sectoral nature is confirmed by the overlapping of topics and multiple activities, by the diversity of technical and financial partners and stakeholders involved, and by the enhancement of innovation and various, shared resources. The Bio-Plateaux and CARIBSAN projects are exemplary in many respects. They combine skills and expertise with OiEau's networking and information management capacities.

The CARIBSAN project seeks to promote the plant-based filters (PBF) process for wastewater treatment throughout the Caribbean. Financed by the INTERREG project, AFD and the Martinique and Guadeloupe Water Authorities, it includes 3 main areas of activity:

- Deploying the technology by identifying sites for implementation, and conducting technical studies for the construction of sites using PBF;
- Providing training and transferring skills to public and private organisations
- Disseminating the results to all stakeholders in the Caribbean region via the development of an online

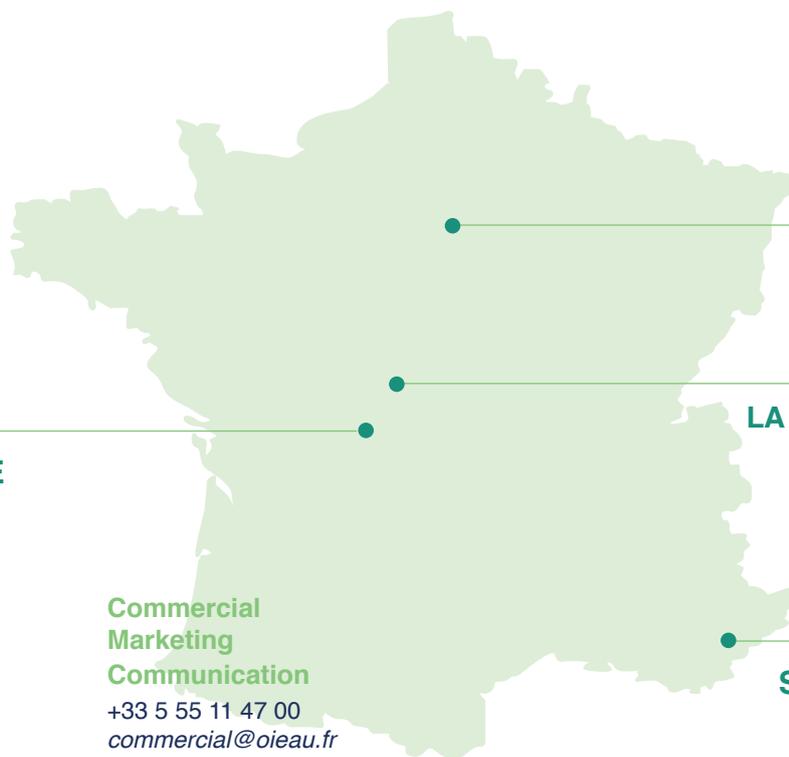
platform dedicated to feedback.

CARIBSAN is a multidisciplinary project conducted by OiEau, INRAE, the water and sanitation stakeholders of Saint Lucia (WASCO), Dominica (DOWASCO) and Cuba (INRH) and, of course, Guadeloupe and Martinique's Water Authorities.

The BIO-PLATEAUX project (See p. 53) involves the Transboundary Coordination of Water and Biodiversity. It is funded by the Interreg Amazon Cooperation Program (PCIA) under the coordination of the Territorial Authority of French Guiana (CTG). It is supported by the Regional Directorate of Territories and the Sea (DGTM), French Guiana's Water Authority (OEG) and the National Centre for Space Studies (CNES). It aims to ensure that French Guiana and its neighbours Brazil and Suriname share information on water and biodiversity associated with aquatic environments.

OiEau initiated and managed the implementation of this project with three other partners: French Guiana's Water Authority (OEG), Anton de Kom University of Suriname (AdeKUS) and the Amapa Economic Development Agency (Agência Amapá) in Brazil. The organisation of a high-level international conference in Cayenne in 2019 enabled a transboundary working group to be set up on a permanent basis and initiated practical cooperation between the territory's stakeholders to enhance the sharing of information and to work towards the future creation of a transboundary observatory.





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