

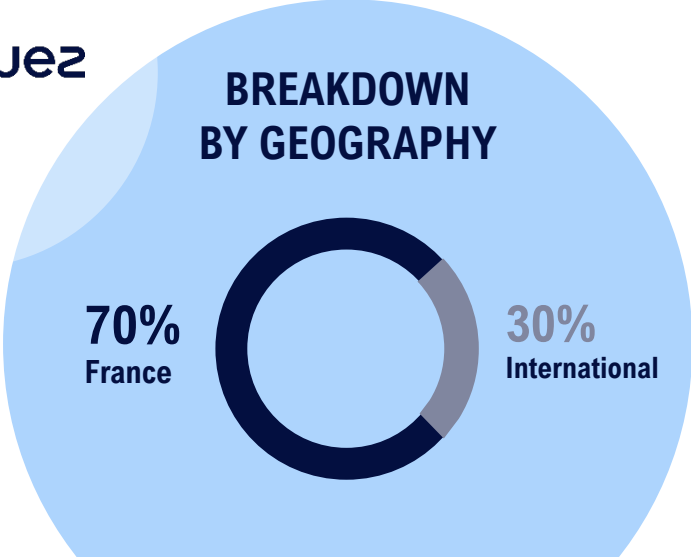
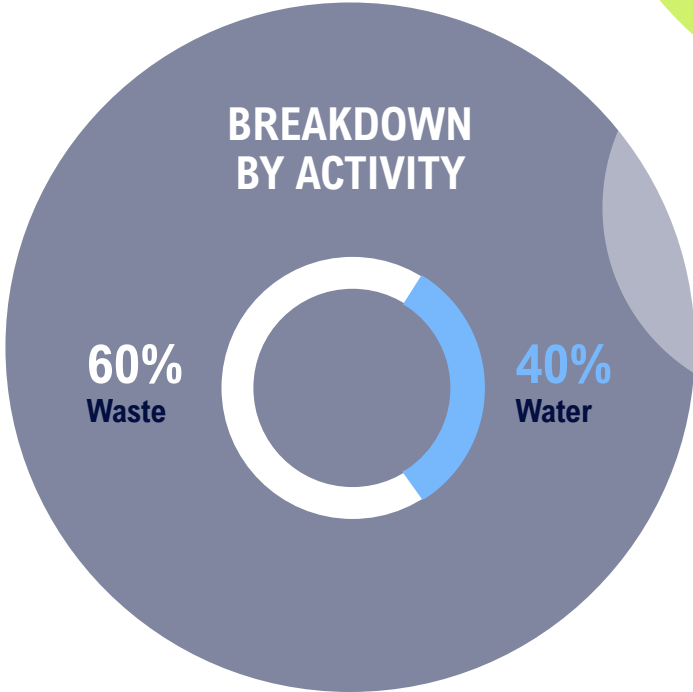


UCD[®]

**COMPACT WATER TREATMENT PLANT
SOLUTIONS BY SUEZ**

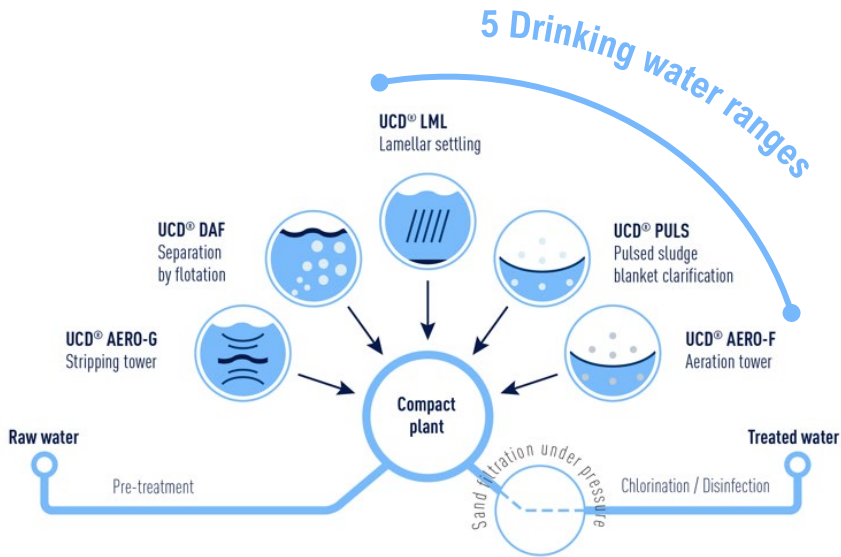
SUEZ HAS A DIVERSIFIED RANGE OF ACTIVITIES

9 Bn sales
40,000 employees
+1600 patents
9 R&D centers in France and Asia



OUR SOLUTIONS

OUR RANGES



OUR CAPACITIES

6 CAPACITIES
100 to 960 m³ /h
to order

2 CAPACITIES
15 to 50 m³ /h
on the shelf

OUR OFFERS

→ **UCD®**
Design and manufacture of water treatment units
-> 8 ranges

→ **HIGHFLOW**
Scalable plants to supply more than 40,000m³/d of drinking water per day

→ **Multi UCD®**
Integration of our units into a comprehensive water access program, from **feasibility studies** to **financing** and final delivery.

→ **Smart Village**
A solution integrating all the essential services needed to foster the socio-economic development of rural communities or peri-urban areas

→ **Services**
- Spare parts (PDR)
- Technical assistance
- Training

→ **Rehabilitation**
- Conventional and compact UCD stations

FEATURES AND BENEFITS



LIGHT & MODULAR FOOTPRINT

Because they are mass-produced and tested at SUEZ, **compact units** can be delivered and commissioned quickly and easily.

LIMITED CIVIL ENGINEERING

Easy to install in dense areas, they **take up little space** (2.5 times less than a conventional station) and require **little civil engineering work**.

MODULARITY

Thanks to their **modularity**, UCD allow for **better capex** phasing and make it **easier to extend plant capacity** over time.

ENERGY SOBRIETY

LOW-CARBON ENERGY

UCDs can be semi-automated or automated, and can incorporate low-carbon energy systems **powered by solar energy**.

ENERGY REDUCTION

- **Less energy** required for UCD construction than concrete WTP
- **Optimization of pump electrical consumption** through the use of variable speed drives

SUSTAINABLE AND RESPONSIBLE

QUALITY

- UCDs are manufactured from **high-quality raw materials**
- **Selected manufacturers** are subject to rigorous controls throughout the manufacturing process to ensure the safety and reliability of our equipment.

FOR LIFE

- UCD components have a **service life** of **over 15 years**.
- Our technologies have been patented **for over 26 years**, with **more than 260 references worldwide**.
- UCD units are **long-term solutions**

QUICK & EASY

START-UP

- **Assembly**, much faster than a conventional Water Treatment Plant, is estimated to take just **a few months**.
- **UCDs are manufactured in parallel with civil engineering works** on site, so that they can be delivered and installed as soon as they are received.
- The **UCDs are tested and validated in the workshop before being delivered to the site, where they are 100% operational** and require very little on-site intervention for commissioning.

OPERATION

- UCDs are **easy to use, resistant to changing site conditions, move easily** if needed
- **UCD's after-sales and operating assistance service** enables you to replace spare parts and optimize your existing installations to extend the life of your equipment.

IN FIGURES

UCD LML®

UCD® FAST 15 & 50



3,000 to 7,000
inhabitants

UCD® LML 100



50,000 inhabitants

UCD® LML 720



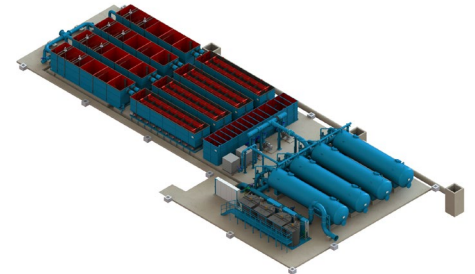
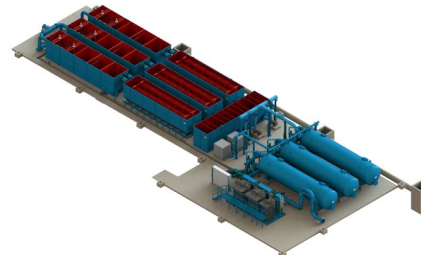
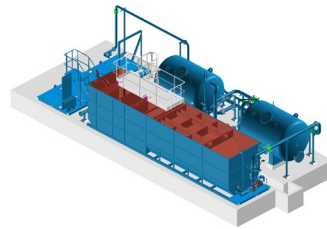
300,000 inhabitants

4 lines x UCD® LML 960

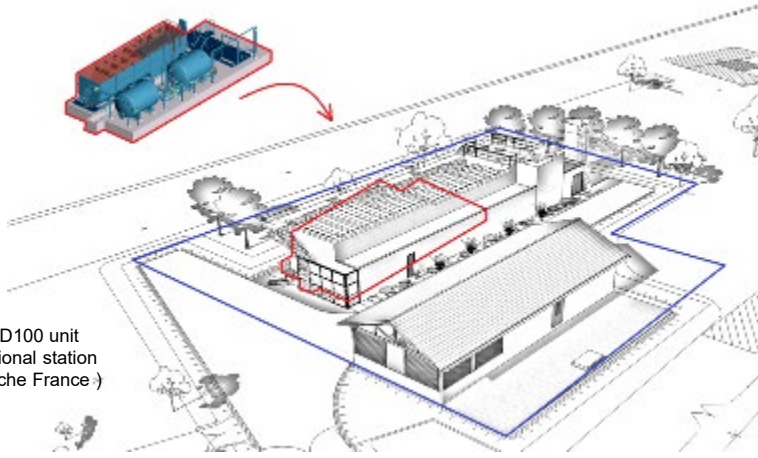


> 1,000,000
inhabitants.

**Average Water consumption: 50l/d/capita*



FOOTPRINT COMPACT UNIT UCD 100 (2300 M³ /DAY)



Footprint of a UCD100 unit versus a conventional station (Taponnas- Ardèche France)

- **UCDs are extremely compact**, making it possible to:
 - Reduce the space occupied by the processing line
 - Reduce the amount of civil engineering work required
 - Optimize use of space where land use offers significant added value, e.g. a downtown application
 - Enable an increase in production capacity within an available area or over time
- For example, a UCD 100 plant producing drinking water **for 50,000 people** occupies **less than 100 m²**.

OUR LML RANGE

UCD TYPE	UDC FAST		UCD LML						UCD HIGHFLOW				
Model	15	50	100	240	360	480	720	960	2 x 720	2 x 960	3 x 720	3 x 960	4 x 960
Production m3/Day	345	1150	2300	5520	8280	11 040	16 560	22 080	33 120	44 160	49 680	66240	88 320
Production per hour	15	50	100	240	360	480	720	960	1 440	1920	2 160	2 880	3840
Total dimension (M ² or M linear)	14,25 M ²	30M ²	13,5 x 6,4	26,4 x 6,3	26,2 x 10,5	45,3 x 11,8	45,3 x 12,8	45,3 x 16	45,3 x 26	45,3 x 32	45,3 x 39	45,3 x 48	45,3 x 64

UCD[®] Smart Village

THE SMART VILLAGE MEETS 11 GOALS SUSTAINABLE DEVELOPMENT

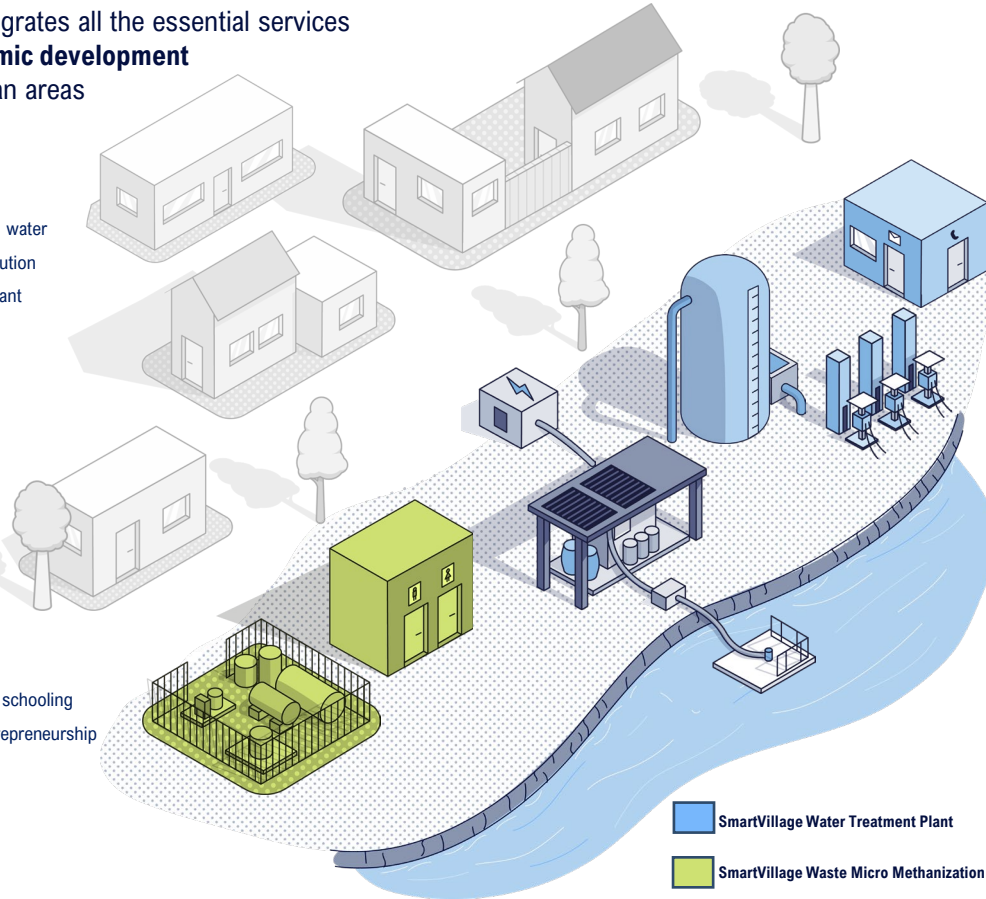
The Smart Village solution integrates all the essential services needed to foster **socio-economic development** rural communities or peri-urban areas

INTEGRATED SERVICES

- ✓ Autonomous energy production of drinking water
- ✓ Smart standpipes for drinking water distribution
- ✓ Off-grid energy production thanks to the plant photovoltaic panels
- ✓ Sanitation services
- ✓ Recovery of latrine sludge and agricultural organic waste to produce cooking biogas

THE ADVANTAGES

- ✓ Surplus energy supplied to villagers
- ✓ Possible socio-economic services (wifi, telemedicine, education...)
- ✓ Relieve women of water and wood chores in rural areas for the benefit of education and schooling their children and other activities such as entrepreneurship
- ✓ Ensuring sanitation for all is achieved



UCD[®] Smart Village: Successful Bakro Demonstrator - Ivory Coast

Floating barge for pumping water from Lake Bakro



Treatment unit with photovoltaic roof and pumping to reservoir



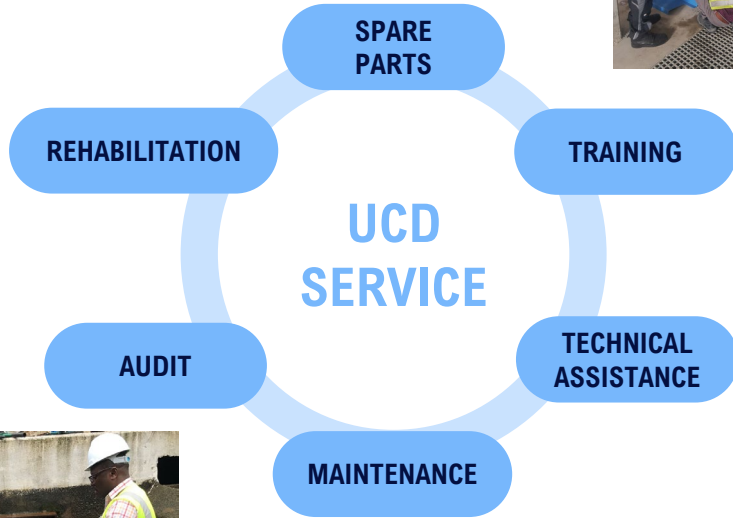
15 m treated water storage tank³



Smart fountain in the village

UCD SERVICE: After-sales service, rehabilitation and operational support

6 PILLARS



OUR OFFERS

SPARE PARTS

Supply of any spare parts required for maintenance of a compact or conventional water treatment plant. Simplified export logistics

TRAINING

Training modules tailored to your technical needs (maintenance, operational performance, inventory management, etc.) to improve the operational efficiency of your operation teams

TECHNICAL ASSISTANCE

Advanced supervision for real-time feedback on plant operating data and analysis

MAINTENANCE

Support in planning maintenance operations, facilitating proactive and efficient maintenance, notably by reducing maintenance times and unplanned downtime

AUDIT

Detailed audit of your facilities, via comprehensive inspections of your infrastructure

REHABILITATION

Participation in the complete rehabilitation of water treatment plants

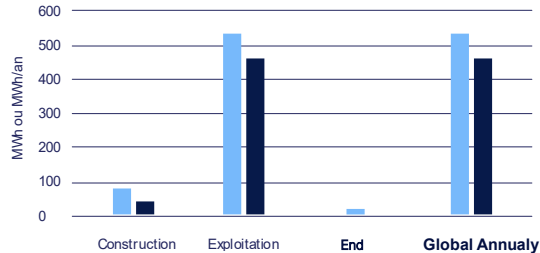
INNOVATION AND SUSTAINABLE DEVELOPMENT

SUEZ's UCDs® help to achieve the following **Sustainable Development Goals**:

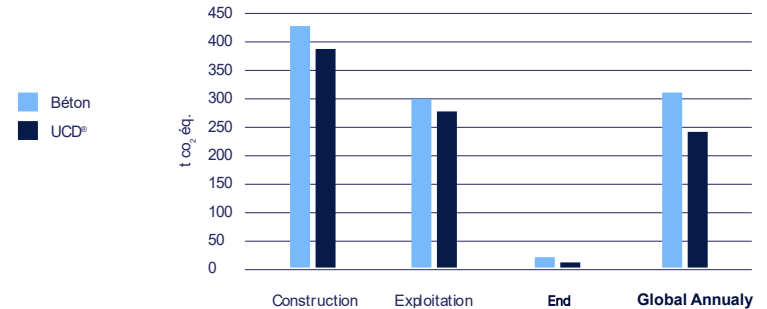


COMPARISON UCD® LML WITH CONVENTIONAL PLANT

ENERGY CONSUMPTION



GHG EMISSIONS



UCD's carbon footprint®

Good results from the LML (lamellar settling) model vs concrete one

-23 %

greenhouse gas (GHG) emissions thanks to a lighter construction, transport by boat, the use of solar power.

-10 %

energy consumption.

A RICH HERITAGE OF ICONIC PROJECTS WORLDWIDE

1992

LAOS - Tadheua :
1^{er} UCD[®] LML
referenced 690 m
/d³

1995

KAZAKHSTAN
- Janaozen:
Equipment
and capacity
doubled
20 years later

1997

INDONESIA -
Multi-site :
Installation of
101 modules
200 to 300 m³/d

2004

IRAQ - Baghdad :
Program
delivery
of 19 UCD[®]

2008

TAHITI -
Papeete: Delivery
of the first UCD[®]
in the Pacific zone

2012

MALI - Kalaban
Coro: A UCD[®] 960
to support
Bamako's growth

2015

IVORY COAST -
Songon :
Installation of the 1
UCD^{er}® AERO-G

CÔTE D'IVOIRE -
Multi-sites :
40 UCDs[®]
deployed as part of
the "Water for All"
program

2016

INDONESIA -
Medan:
Commissioning of
the 3^{eme} extension
of the UCD plant[®]
for 77,000 m³ /d³

2017

GHANA - Upper East Region: 1^{er} UCD[®] with a
capacity of 20,500 m³/d deployed in this country

MALAYSIA - Losong and Pulau Bahagia:
Delivery of 64,000 m³ /d of treated water for the
city of Terengganu

ALGERIA - Tichy Haf: Installation of 2 UCD[®]
LML with a production capacity of
33,000 m³ /d, followed by an extension
in 2021 with another UCD[®] LML for a total
production capacity of 50,000 m³ /d³

2019

BENIN -
Gobè and Lifo:
2 UCD[®] LML for
60,000 m³ /d³

2020

PHILIPPINES -
Calawis: Delivery
of 80,000 m³ /d of
treated water for
Metro Manila

2021

INDIA - Salauli :
1^{er} UCD[®] DAF 250

FIDJI - Nagado:
Last in a series of
9 UCDs[®] installed
in Fiji for a total of
76,000 m³ /d³

2022

REFERENCE

KALABAN CORO, MALI: INFRASTRUCTURE RESILIENCE AND SPEED



In 2012, SUEZ installed a UCD unit® LML in Kalaban Coro - Bamako (Mali). Since then, it has been serving part of the city of Bamako's water needs by treating water from the Niger River. The UCD unit® supplied drinking water to the population while the conventional plant was under construction.

This is a good example of how the two systems can complement each other: a compact, fast solution was implemented to ensure the rapid availability of drinking water for the population.

This was later supplemented by a traditional plant. The parallel existence of these 2 infrastructures guarantees continuous access to water, even in the event of operational hazards.

UCD plant® deployed
in 10 months

22,000 m³ /day of drinking water issued to
more 250, 000 residents

REFERENCE



FIJI, AN ISLAND SOLUTION

SUEZ implements tailored solutions to facilitate access to drinking water in the Pacific. This region, made up of islands scattered over 180 million km², with a population of 12 million people, 81% of whom live in rural areas, is faced with high costs for materials and services.

These islands are also particularly vulnerable to the impacts of climate change, as they are exposed to frequent cyclones, floods and droughts. All these factors, the consequences of insularity, place greater constraints than elsewhere on the ability of existing operators to deliver essential services. Barely 20% of the population has access to a public water service, one of the lowest in the world.

In Fiji, in 2013 the national water and sanitation operator, Water Authority of Fiji - WAF, has allocated funds for the reinforcement of existing sites and the construction of new drinking water plants with the technical choice of decentralized compact UCD plants®.

73,000 m³/day treatment capacity
of drinking water

9 different sites on the Fiji archipelago that can
supply approximately 250,000 people

REFERENCE



PHILIPPINES: INSTALLING A LARGE-SCALE STATION WITH SPEED

In the Manila metropolitan area, we have supported strong demographic growth by providing access to water through 4 Decentralized Compact Units 960 (UCD®).

These compact, modular solutions can be deployed much faster than a conventional drinking water production plant, so they can meet urgent needs.

Commissioned in 2023, the 4 UCDs® at the Calawis site will be able to produce up to 80,000 m³ of water per day.

80,000 m³/day

Business managed in 10 and a half months

Access to water for 900,000 peoples

REFERENCE



INDONESIA & MALAYSIA : MODULARITY AND EXPANSION IN RESPONSE TO URBAN GROWTH

In Medan, Indonesia, a city of over 3 million inhabitants, SUEZ has launched a Public-Private Partnership (PPP). A UCD solution[®] was chosen in 2001. Since then, the plant has been expanded three times, from an initial capacity of 16,560 to 33,120 m³ /day, then to 41,400 m³ and more recently a further extension for a total of 74,520 m³/day. The adoption of UCD[®] solutions and its Modularity concept has enabled the plant's growth to be well adapted to the population's need for water.

In Malaysia these solutions were also installed in densely populated areas in Losong and Pulau Bahagia in the state of Terengganu being chosen by its compact design.

74,520 m³/day

Increased treatment capacity
by 79% between 2001 and 2021

2.2 millions inhabitants in Indonesia's 3^{ème} city
served by a plant built with SUEZ UCD[®]

REFERENCE

CÔTE D'IVOIRE: DECENTRALIZED SOLUTIONS FOR SECONDARY TOWNS



In 2019, the government of Côte d'Ivoire through ONEP has put its trust in SUEZ with its UCD solution® to support its "Water for All" program.

40 compact units have been deployed to accelerate access to water in 32 secondary towns across the country. As a result, more than a million Ivorians have benefited from continuous access to quality drinking water in just 24 months.

In addition, the solidity of the UCD project® has enabled ONEP to benefit from financing from France's Banque Publique d'Investissement with very favorable credit terms and thanks to a PASS EXPORT set up in 2019. This is an example of a multi-UCD offer®

40 UCD®

32 towns - 1 million inhabitants

92,000 m³ of drinking water produced per day

Solar Impulse label (for UCD® LML, UCD® FAST)

SUEZ UCD solutions® have been awarded the "Solar Impulse Efficient Solution Label", designed to highlight existing techniques that are both clean and cost-effective, and have a positive impact on quality of life.

We have developed a photovoltaic offer coupled with these plants to meet the aspirations of our current and future customers (reduced operating costs, energy autonomy in an isolated context, sustainable development issues, renewable energies).



AERO-G

- ✓ Customer needs driving innovation
- ✓ Pollutant removal by air entrainment
- ✓ Implementation in Ivory Coast
- ✓ 1.5 million people living far from the center of Abidjan now have access to drinking water
- ✓ 18 months to provide them with drinking water
- ✓ CO removal rate₂ : 87%.
- ✓ SUEZ Innovation Trophy





UCD® LML AND FAST



UCD® DAF



UCD® PULS

SERVICE AND AFTERSALES



✓ A dedicated team to ensure pilot study, installation, plant commissioning and maintenance. sav.ucd.fr@suez.com

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