



UCD[®]

**DECENTRALISED WATER
TREATMENT SOLUTIONS OF SUEZ**





SUEZ HAS BEEN A KEY PLAYER IN ENVIRONMENTAL SERVICES FOR OVER 160 YEARS

SUEZ supports local authorities and industries in managing essential water and waste services.

66 million

people provided
with drinking water

2 million tons

of secondary raw materials
generated per year

3,1 TWh

of renewable energy
produced from waste

4,2 million tons

of CO₂ avoided in favour of
its customers

35,000

experts and committed
employees

WHAT ARE SUEZ UCDS®?

The UCDS® (Decentralised Compact Units) are compact, modular, and containerized solutions designed to secure access to drinking water and sanitation.

The UCDS® are designed for districts in megacities, secondary cities as well as rural and peri-urban communities for municipal or industrial customers.

As experts in the drinking water treatment field, UCD® has also developed solutions for the treatment of wastewater, that includes micro-methanisation solutions for organic waste.



More than 260

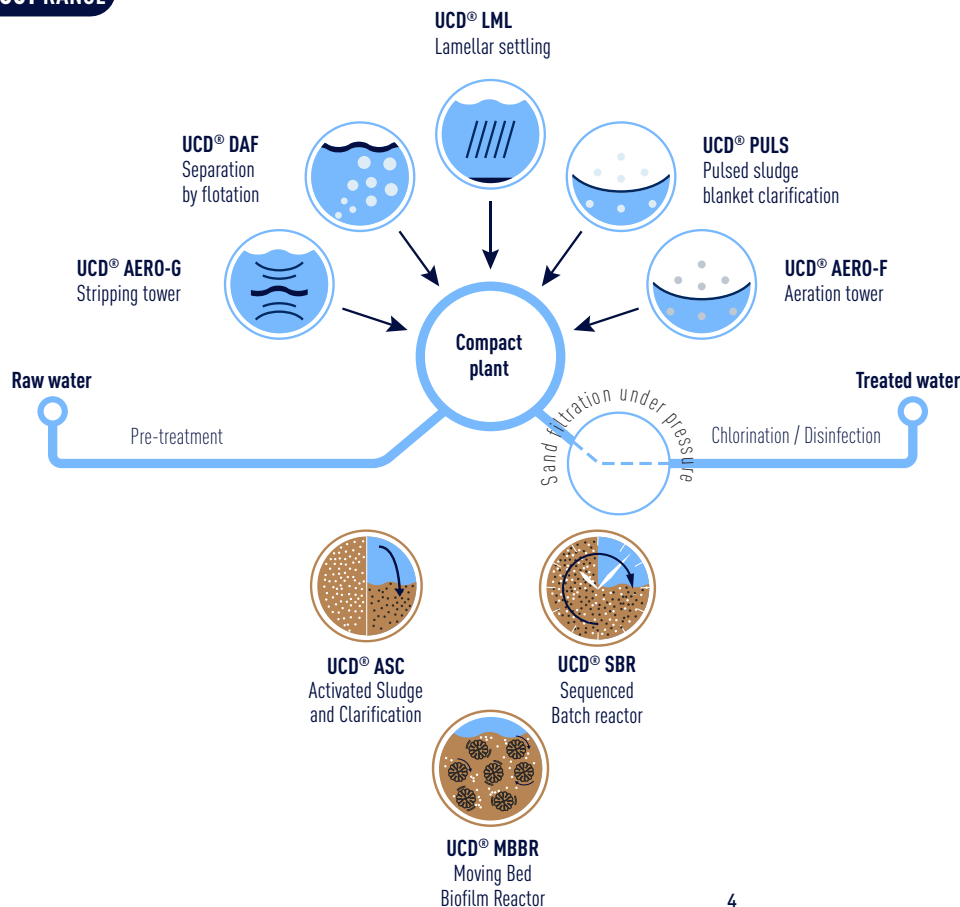
drinking water treatment plants supplied in 50 countries around the world

More than 1,300,000 m³

of drinking water produced every day with SUEZ UCDS®

OUR SOLUTIONS

PRODUCT RANGE



OFFERS

⇒ UCD®

Design and manufacture of water treatment units - 8 types.

⇒ Multi UCD®

Integration of our units in a global water access program, from feasibility studies to financing, including final delivery.

⇒ Smart Village

A solution combining all the essential services needed to foster the socio-economic development of rural communities or peri-urban areas.

⇒ After-sales service

In order to ensure that our units continue to function properly, we offer the best solutions for replacing components and optimizing UCD® or SUEZ installations.

FEATURES AND BENEFITS



⇒ UCD® drinking water plants can treat groundwater as well as surface water (lakes, rivers, dams).



⇒ The assembly of a UCD® plant is much faster than a conventional one, ranging from a few days to a few weeks depending on the equipment implemented.



⇒ As the units are serially produced, pre-assembled and tested at SUEZ, they can be delivered and commissioned quickly. Their insertion in dense areas is simple, with a reduced footprint (2.5 times less space than a conventional plant) and limited civil engineering.



⇒ Risk control: full testing of the unit before delivery, reduced CAPEX and OPEX.



⇒ UCD® plants can be automated, semi-automated or fitted with solar roofs.



⇒ The SUEZ teams train technicians on site to ensure local management.



⇒ They are reliable and sturdy: patented technologies and more than 260 references worldwide for over 26 years.





MUNICIPALITIES

- ⇒ Rapid expansion of urban and peri-urban centers
- ⇒ Water production for autonomous districts and networks of a capital city
- ⇒ Addition of a treatment or rehabilitation phase



RURAL / DECENTRALISED AREAS

- ⇒ Village water management
- ⇒ Water supply for isolated and peri-urban areas



INDUSTRIES

- ⇒ Securing drinking water supply or wastewater treatment for living bases, hospitals, military bases

A GLOBAL AND INTEGRATED APPROACH

✓ A dedicated team is attentive to customers' needs to identify appropriate solutions in order to ensure the proper functioning of the installations

✓ Proposal of the best solutions for replacing parts or optimizing existing installations

✓ Start-up of the plant and training of local teams by SUEZ operators for a quick and efficient take-over of the installations

✓ On-site assembly under the supervision of SUEZ experts

✓ Follow-up with the client on the installation of the equipment to ensure the proper functioning and the achievement of the guarantees

✓ Ease of export processes related to customs to ensure equipment delivery (drafting of export documents, implementation of the entire delivery chain, organization of transport)



9 AFTER-SALES



1 COMMERCIAL



2 DESIGN



3 PURCHASING



4 MANUFACTURING



5 CONTROL



7 ASSEMBLY



8 COMMISSIONING



6 LOGISTICS

✓ Development of an offer that meets the client's needs from a technical, contractual, and possibly financial point of view in partnership with the client

✓ Design office dedicated to UCD® to offer engineering solutions

✓ Use of 3D design to adapt the innovation to the needs of each project in a very short time

✓ Network of 126,000 suppliers on 5 continents

✓ Commitments to suppliers in terms of social responsibility, sustainable development, ethics, health and safety

✓ Manufacturing of the units with reliable partners, based on their considerable experience with UCD®, and monitored for compliance with deadlines and quality, health & safety standards

✓ Quality control at each stage of the production of the units to ensure the traceability, safety, and reliability of the equipment

✓ ISO 9001 certified production standards

✓ Possibility of intervention by an independent certification organization

A RICH LEGACY OF PROJECTS AROUND THE WORLD

1992

LAOS – Thadeua:
1st UCD® LML
referenced 690 m³/d

1995

KAZAKHSTAN
– Janaozen:
Equipment and
capacity doubled
20 years later

1997

INDONESIA –
Multi sites:
Installation of
101 modules
200 to 300 m³/d

2004

IRAQ – Baghdad:
Delivery
program
of 19 UCD®

2008

TAHITI –
Papeete: Delivery of
the first UCD® in the
Pacific area

2012

MALI – Kalaban
Coro: A UCD® 960 to
support the growth
of Bamako

2015

IVORY COAST –
Songon:
Installation of the
first UCD® AERO-G

2016

IVORY COAST –
Multi sites:
40 UCD® deployed
as part of the
"Water for All"
program

2017

INDONESIA –
Medan:
Implementation
of the 3rd phase of
the UCD® plant
extension for
77,000 m³/d

2019

GHANA – Upper East Region: 1st UCD® deployed
in this country

MALAYSIA – Losong and Pulau Baghia: 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/d

2020

BENIN –
Gobe and Lifo:
2 UCD® LML for
60 000 m³/d

2021

PHILIPPINES –
Calawis: Delivery
of 80,000 m³/d
of treated water
for the Manila
metropolitan area

2022

INDIA – Salauli:
1st UCD® DAF 250

FIDJI – Nagado:
Last of a set of 9
UCD® installed in
Fiji for a total of
76,000 m³/d

EMBLEMATIC UCD® REFERENCES

AROUND THE WORLD



ALGERIA - Tichy Haf (AFRICA)

Installation of 1 plant and its extension, thanks to an active cooperation of more than 20 years with the local partner of SUEZ.

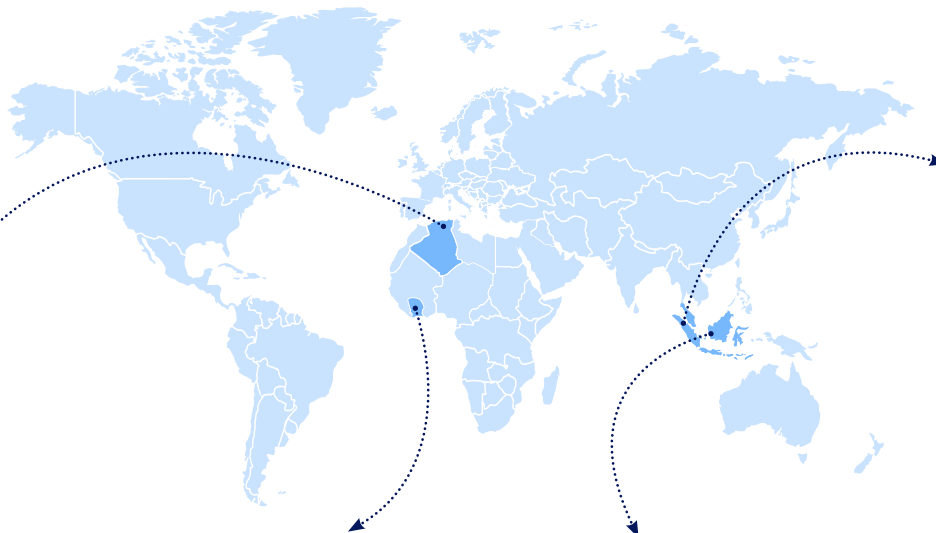
✓ 50,000 m³ per day of treated water



SAINT LUCIA - Dennery (LATAM)

Successful installation of a decentralized production unit, achievement validated by a 2nd station in extension.

✓ 25 years of presence in the Caribbean
✓ On 7 sites and 4 countries (Guyana, Jamaica, Nicaragua, and St Lucia)



IVORY COAST - 40 UCD® (AFRICA)

Bringing drinking water to all areas of the country.

✓ More than 130 units across Africa in over 20 countries



MALAYSIA - Losong et Pulau Bahagia (ASIA)

Securing the water supply of the Terengganu region with the implementation of 2 new plants.

✓ 64,000 m³ per day of treated water



INDONESIA - Medan (ASIA)

Increase of the plant's capacity by 79% in 20 years, thanks to the plant's modularity.

✓ 77,000 m³ per day of treated water



FIJI - 9 UCD® (PACIFIC)

Supplying 3 islands in the archipelago.

✓ 8,000 m³ per day of treated water

KALABAN CORO, MALI: INFRASTRUCTURE'S RESILIENCE AND RAPIDITY



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

This is a good example of the complementarity of the two systems: in order to ensure the quick availability of drinking water for the population, a fast and compact solution was set up at a specific time.

This was later supplemented by a traditional plant. The simultaneous presence of both infrastructures guarantees permanent access to continuous water, even in case of operational hazards.

UCD® plant deployed
in 10 months

22,000 m³/day of drinking water
delivered to inhabitants

FIJI, A SOLUTION ADAPTED TO INSULARITY



SUEZ implements adapted solutions to facilitate access to drinking water in the Pacific. This region of 180 million km² of scattered islands, with a population of 12 million inhabitants, of which 81% live in rural areas, is facing high costs for materials and services.

These islands are especially vulnerable to the impacts of climate change as they are exposed to a high occurrence of cyclones, floods, and droughts. All these elements, and consequences of insularity, constrain more than elsewhere the capacity to deliver essential services by established operators; 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), 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 of additional capacity
for drinking water treatment

9 different sites on the Fiji archipelago with a
capacity to supply approximately 250,000 people

INDONESIA, MALAYSIA, AND THE PHILIPPINES: MODULARITY AND RAPID EXPANSION TO RESPOND TO EXPONENTIAL URBAN GROWTH



In Medan, Indonesia, a city of more than 3 million inhabitants, SUEZ started 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 m³/day to 33,120 m³/day, then to 41,400 m³/day and more recently a new extension for a total of 74,520 m³/day.

The adoption of UCD® solutions has enabled the plant's growth to be well adapted to the population's need for water. These solutions are now applied in densely populated areas such as Manila in the Philippines and Pulau Bahagia in the state of Terengganu in Malaysia.

74,500 m³/day

79% increase in the treatment capacity of the plant between 2001 and 2021

These solutions are now applied in densely populated areas such as Manila in the Philippines and Pulau Bahagia in 2,2 million inhabitants in the 3rd largest city in Indonesia supplied by a plant built with SUEZ UCD®

IVORY COAST: DECENTRALISED SOLUTIONS FOR SECONDARY TOWNS



In 2019, the Ivory Coast government, through ONEP, trusted SUEZ with its UCD® solution to support the "Water for All" program.

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

In addition, the reliability of the UCD® project has enabled ONEP to receive financing from the BPI (Banque Publique d'Investissement) - France with very favorable loan conditions and thanks to an EXPORT PASS set up in 2019. This is an example of a multi-UCD® offer.

40 UCDs®

32 cities - 1 million inhabitants

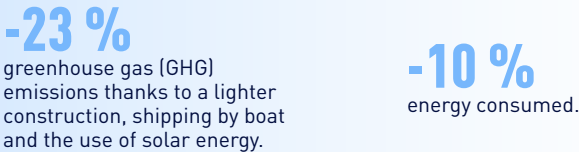
92,000 m³ of drinking water produced per day

INNOVATION AND SUSTAINABLE DEVELOPMENT

SUEZ's UCDs® contribute to the achievement of the following **Sustainable Development Objectives**:

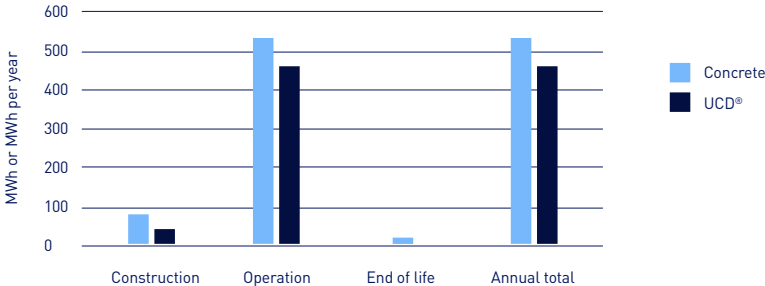


The UCD® carbon footprint
The good results of the LML model (lamellar settling)

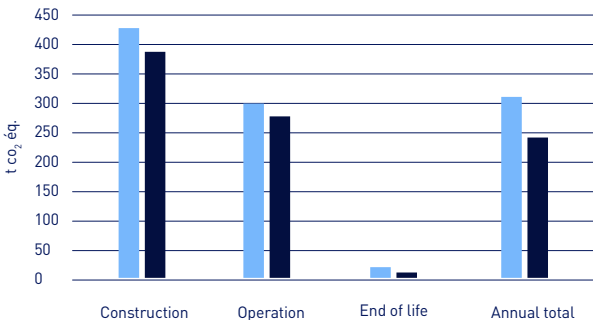


COMPARISON OF UCD® LML WITH CONVENTIONAL PLANT

ENERGY CONSUMED



GHG EMISSIONS



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

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

We have developed a photovoltaic offer combined with these plants to meet the ambitions of our current and future customers (reduction of operating expenses, energy autonomy in an isolated context, sustainable development issues, renewable energy).



AERO-G

- ✓ Innovation in reply to the customer's needs
- ✓ Pollutant removal by air entrainment
- ✓ Implementation in Ivory Coast
- ✓ 1,5 million inhabitants far from Abidjan's downtown now have access to drinking water
- ✓ 18 months to provide drinking water
- ✓ CO₂ elimination rate: 87%
- ✓ SUEZ Innovation Award

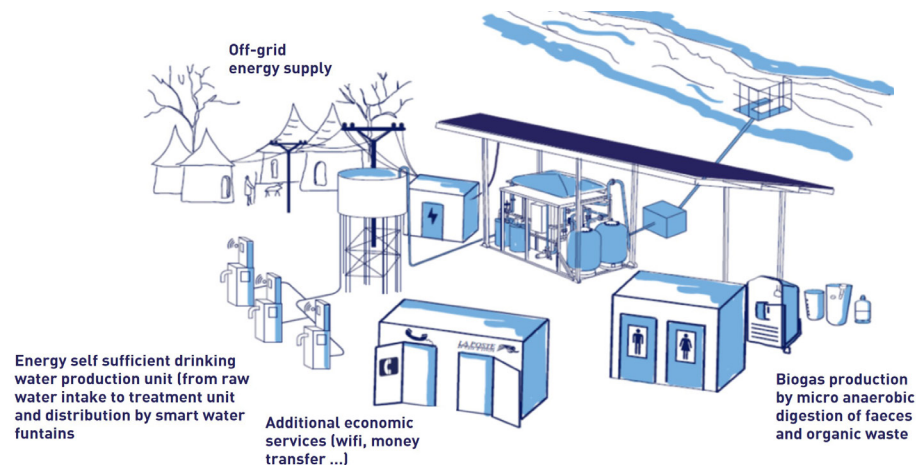


UCD® Smart Village

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

INTEGRATED SERVICES

- ✓ Energy self-sufficient drinking water
- ✓ Supply and distribution chain using photovoltaic panels and smart standpipes
- ✓ Off-grid energy distribution
- ✓ Sanitation services
- ✓ Recovery of latrine sludge and organic agricultural waste to produce cooking biogas



BENEFITS OF THE SMART VILLAGE

- ✓ Additional energy provided to the villagers
- ✓ Possible additional socio-economic services (wifi, remote medicine, education...)
- ✓ Relieve women of the burden of fetching water and wood in rural areas in favour of education and schooling for their children and other activities such as entrepreneurship
- ✓ To ensure the ambition of sanitation for all



UCD® LML



UCD® FAST



UCD® DAF



UCD® PULS

AFTER-SALES



✓ A dedicated team is available for pilot study, installation, commissioning, and maintenance of the stations.

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