

Kick-off meeting_Partner presentation

AdSWiM | Divisione Depurazione | CAFC S.p.A.

Kick-off Meeting | Udine | 9-10 April 2019

About the Organisation

CAFC S.p.A. is a stock company, publicly owned, working on in-house providing model.
The **shareholders** are **120 municipalities** out of the 135 in the Province of Udine

CAFC S.p.A. manages the **integrated water cycle** - drinkwater intake, treatment, transport, distribution, WW collecting and delivering to depuration plants, general maintenance and management of plants and networks.

Company size:

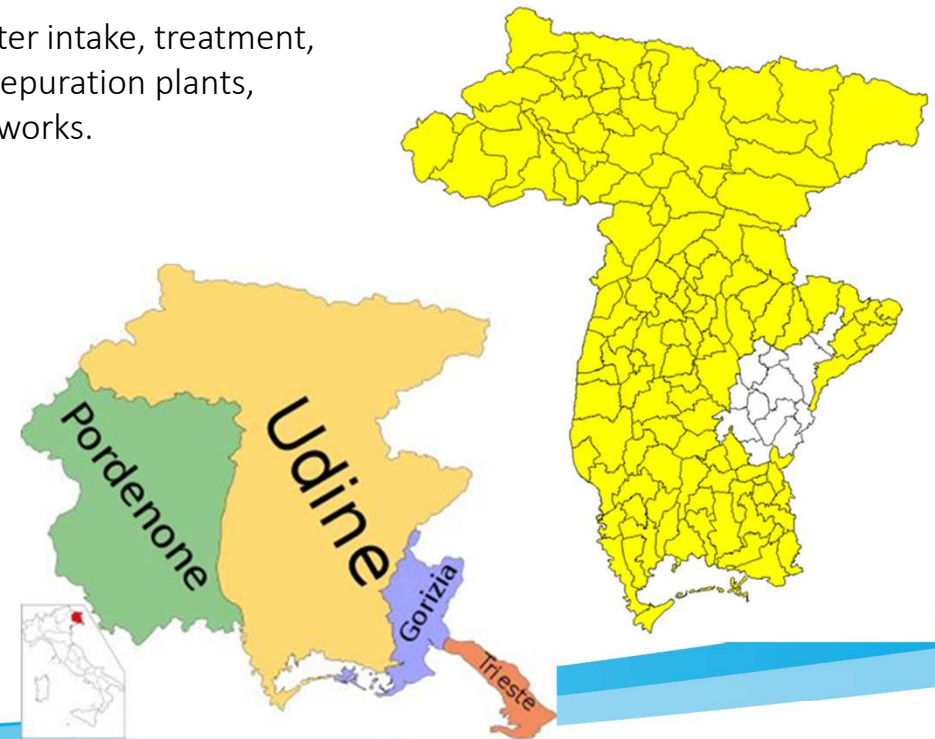
Area managed: 4,594 Km², people served: 477,697
(resident population) and 150,000 more people
in touristic resorts during summer
Over **206,000** users contracts

Networks length:

aqueduct 5,982 km, sewerage 3,595 km;

Local-sized plants:

no. 2,550 plants (aqueduct, sewerage,
depuration plants)



About the Organisation

FOUR MAJOR DEPURATION PLANTS:



Udine - 200,000 PE (urban)



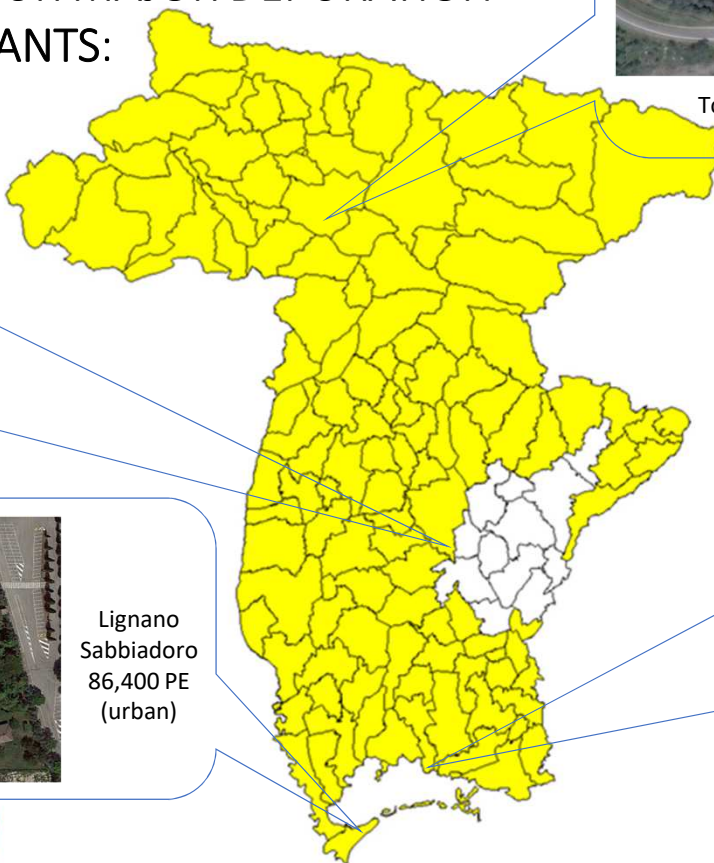
Lignano
Sabbiadoro
86,400 PE
(urban)



Tolmezzo - 143,000 People Equivalent
(mixed – urban/industrial)



San Giorgio di Nogaro
700,000 PE
(mixed – urban/
industrial)



LIGNANO SABBIADORO Waste Water treatment plant

Flow 21,000 m³/d

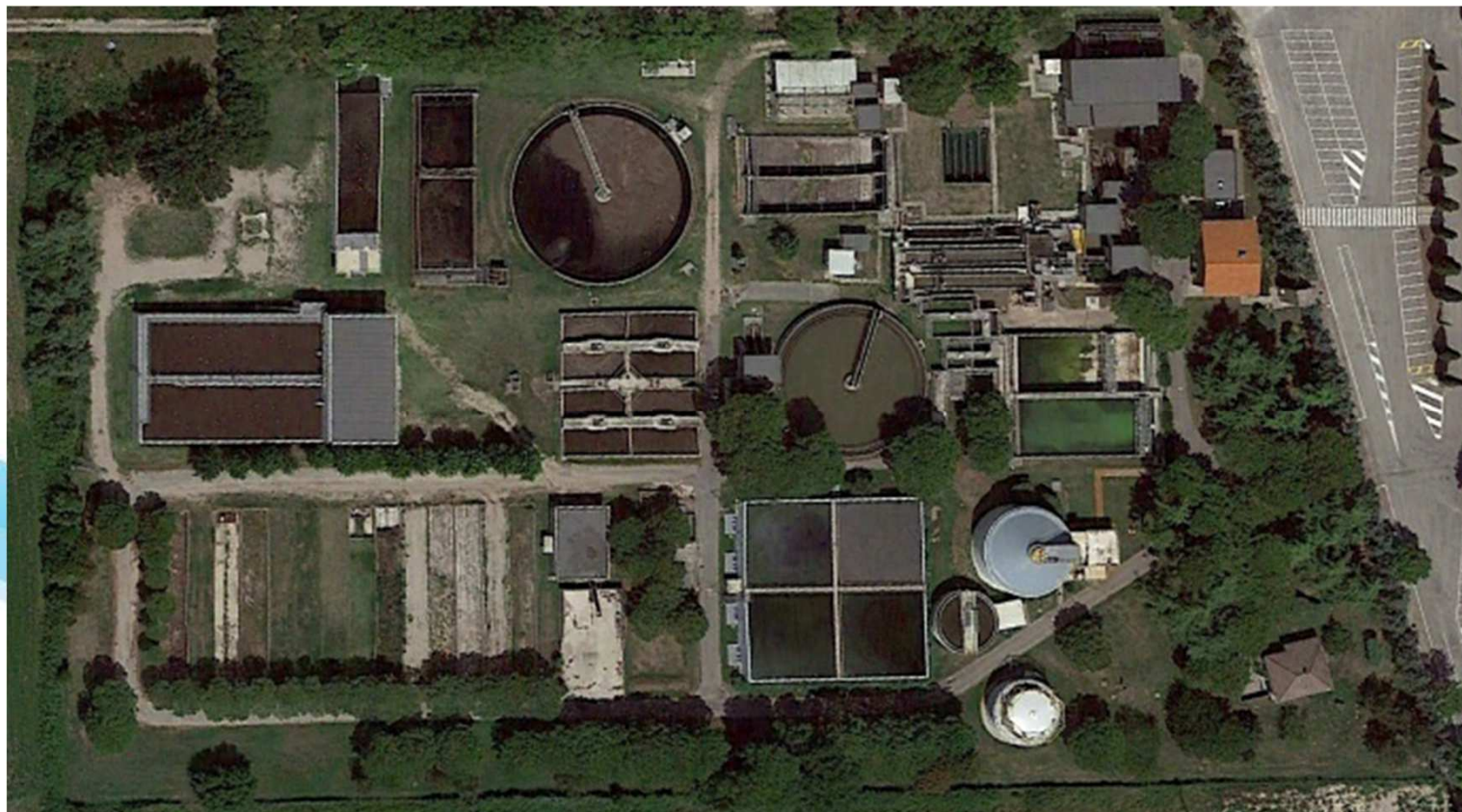
(strong seasonal variation – from 11,200 to 21,200 m³/d)

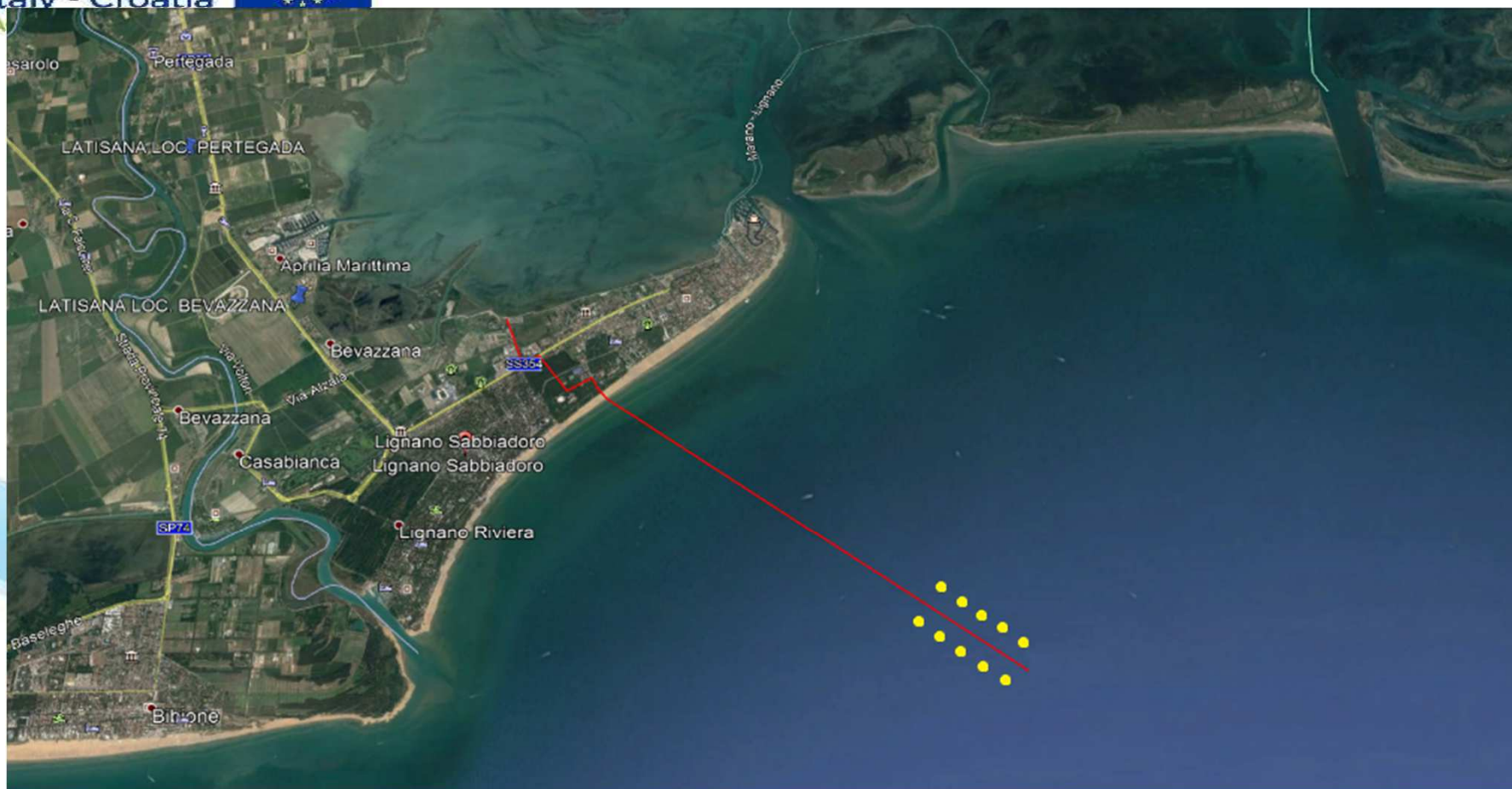
- Pumping station
- Filtration with automatic-screen
- Desilting and degreasing
- Oxidation to remove nitrogen
- Sedimentation
- Disinfection treatment with UV and peracetic acid
- Discharged through the undersea outfall (pipeline 6 km long)

Sewage sludge Line

- Sludge Thickening
- Dewatering
- Anaerobic Digestion

Lignano Sabbiadoro – waste water treatment plant





Lignano Sabbiadoro – city map and underwater outfall pipeline layout

SAN GIORGIO DI NOGARO

Waste Water treatment plant

Flow 37,000 m³/d

- Pumping station
- Filtration with automatic screen
- Desilting and degreasing
- Oxidation to remove nitrogen
- Sedimentation
- Disinfection treatment with peracetic acid
- Discharged through the under-sea outfall (pipeline 6 km long)

Sewage sludge Line

- Sludge Thickening
- Dewatering
- Drying

SAN GIORGIO DI NOGARO

Waste Water treatment plant





San Giorgio Di Nogaro – Underwater outfall pipeline layout

DISCHARGED INTO THE SEA

- CAFC CLEANED WASTE WATERS ARE DISCHARGED INTO THE SEA
- 2 CAFC plants directly affecting the northern Mediterranean BW quality:
 - SAN GIORGIO DI NOGARO
 - LIGNANO SABBIAADORO

Nutrients and trace in WW delivered to the recipient water body

- Phosphorus
- Nitrogen
- LIMITS ALLOWED
 - $N_{\text{tot}} < 10 \text{ mg/l}$
 - $P_{\text{tot}} < 1 \text{ mg/l}$

(D. Lgs. 152/06 e. s.)

POSSIBLE ACTIONS RESULTING FROM THE PROJECT

- Study and setup on new analytical devices
- Study and setup on new treatments on WW to reduce biological contamination
- Seabed redevelopment actions (e.g. artificial reefs installation)



CAFC Team

ing. Michele MION - project manager

michele.mion@cafcspace.com

+39 0432 517266

dott. Claudio FRANCI – scientific coordinator

franci.2c@libero.it

Thank you for your attention!

