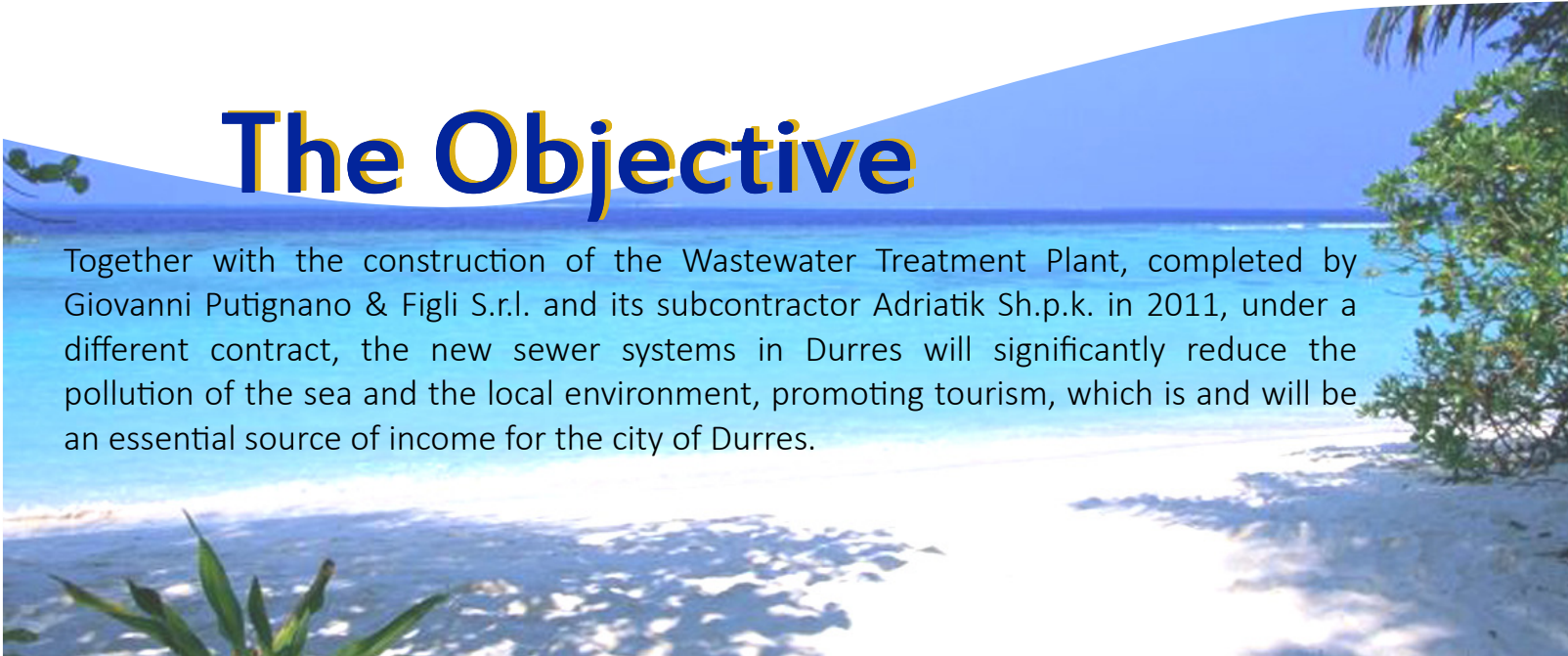




The Contract

The new sewer systems in Perroi Agait - Ura Dajlanit and discharge to the Durres WWTP were part of measures implemented under the Project “Construction of the Sewerage Systems in Golem, Durres and Lezha, Albania” - Europeaid/127584/C/WKS/AL financed by the European Union, represented for this Contract by the Delegation of the European Union to Albania.

The Italian company Giovanni Putignano & Figli S.r.l. and its subcontractor Adriatik Sh.p.k (Albania) have constructed the new sewer systems in Durres.

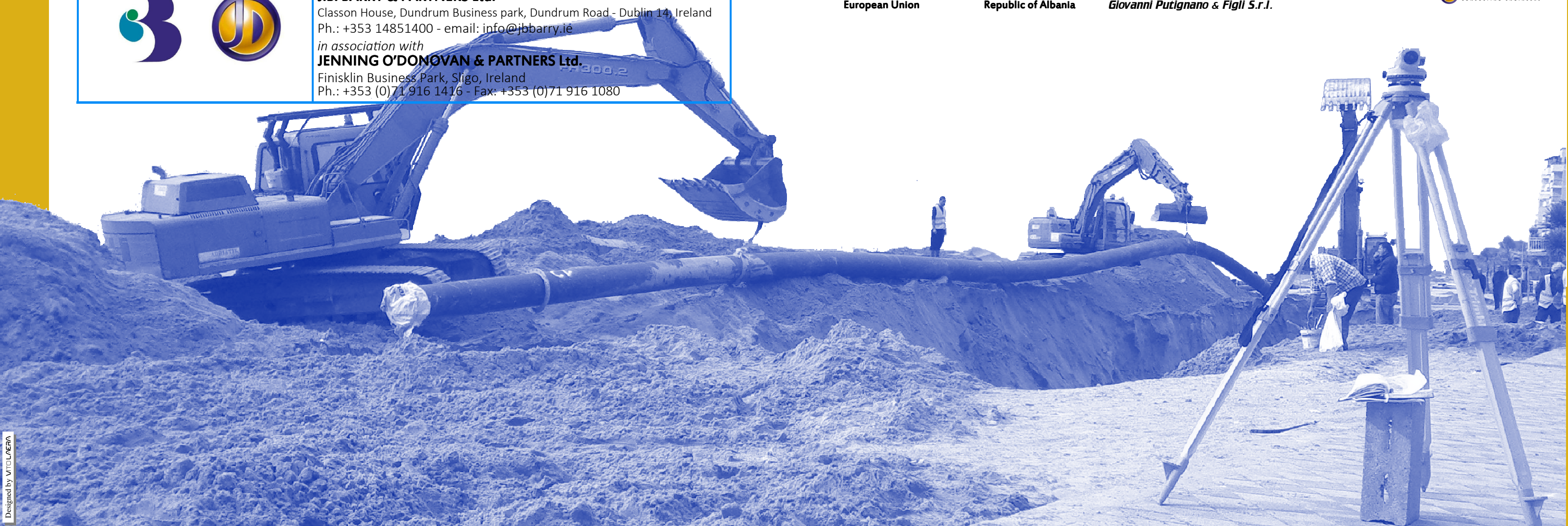


The Objective

Together with the construction of the Wastewater Treatment Plant, completed by Giovanni Putignano & Figli S.r.l. and its subcontractor Adriatik Sh.p.k. in 2011, under a different contract, the new sewer systems in Durres will significantly reduce the pollution of the sea and the local environment, promoting tourism, which is and will be an essential source of income for the city of Durres.

Designed by VITO LEE

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DURRES

The new Sewerage Systems in Perroi Agait - Ura Dajlanit and discharge to the Durres WWTP



European Union



Republic of Albania



Giovanni Putignano & Figli S.r.l.



Jennings O'Donovan Consulting Engineers



The existing sewer network with six pumping stations was installed in the Plazh area of Durres in the mid-1970's. The existing concrete gravity collector pipe was in very poor condition: it was heavily silted and suffered from excessive infiltration. Sections of the old collector, especially between existing pumping stations (EPS) EPS5 and EPS6, had been diverted and damaged by building construction. Manholes were of poor construction and often were without covers. From EPS3 to EPS5, the existing concrete collector was duplicated by a DN630 PVC collector pipe, which continued to function as a secondary gravity sewer into EPS4 and to a manhole approximately 300m before EPS5 where the PVC collector reconnected to the concrete collector.

Branch sewers connect into the existing concrete collector. The full extent of legal and illegal connections into the main collector system is not documented.

The existing pumping stations comprised a dry well configuration of reinforced concrete construction set below ground level with a superstructure of concrete block under a reinforced concrete roof. The wet wells were heavily silted. Generally, the pumping stations were in poor condition with numerous defects including defective pumps and exposed electrical equipment. EPS1 and EPS2 were no longer operational. During rainfall events, the pumping stations could not handle the flows with the result that the collector became surcharged and the manholes overflowed.

The final pumping station, EPS6, discharged into an open drainage channel.

Therefore, although there was an existing sewer network, it was in very poor condition and barely functioning. In addition, there had been significant development along the beach area in Durres. As a result the existing sewer network was unable to cope with the sewage loading and there were numerous raw sewage discharges to the beach causing pollution.



The European Union have provided almost 10 million Euro in funding to Albania for a comprehensive new sewer network in Durres. Giovanni Putignano & Figli and its subcontractor Adriatik have successfully completed the Works, consisting of the following main elements:

- More than 12,800 m (of which 2,800 m on the beach) of OD280-OD1000 pipe installed
- All pipes installed in presence of high groundwater table
- Open-trench installation of pipe in busy road (Rruga e Plazhit) without causing heavy inconveniencies to the population / tourist industry
- Trench boxes and sheet piles used for trench sides support
- Dewatering of trenches with well-point system and/or with pumps
- 290 (100 on the beach) plastic manholes installed
- 2,000 m of secondary network installed in the beach section
- No. 3 crossings of roads (Ura Dajlanit) and railway line with no-dig method (pipe-ramming)
- No. 5 interception (with old collectors) concrete chambers constructed
- No. 5 existing Pumping Stations (PS) refurbished without stopping the operation of the existing system (over-pumping during the duration of the Works)
- No. 5 (3 on the beach) new pumping stations constructed
- Construction of control building at each pumping station
- Installation of submersible pumps and related piping
- Installation of MV and LV switchboards, transformer and emergency generator at each PS
- Permanent power connection of all pumping stations



The new sewerage system constructed in Durres collects the sewage from the beach area (Perroi Agait to Ura Dajlanit) and pumps to the new Durres Wastewater Treatment Plant (WWTP) through the existing pumping station EPS6 and the new pumping station NPS9, which receive also the flow from Durres city.

The new interception chambers allow a connection between the old collector and the new sewer network in the Plazh area: the old collector is not completely abandoned, but some sections will serve as spare lines, once all the secondary network connections will be moved to the new pipeline.

The existing pumping stations EPS1, EPS2, EPS4, EPS5 and EPS6, now refurbished as wet-well type with submersible pumps, are fully operational. The new pumping stations NPS1/1, NPS1/2, NPS1/3, NPS8 in the beach area and NPS9 on the rising main to the WWTP complete the new system.

At each pumping station, all the electromechanical equipment (switchboards, transformer, etc.) are installed in a control building, the access to which will be granted only to authorized personnel of the local Water Company (UK Durres). The operation of the pumping station is fully automatic through water level switches, which start/stop the pumps, based on the incoming flow; an emergency generator allows the operation of the station also in case of power cut-off.

EPS6 no longer dumps raw sewage into the open drainage channel but instead pumps to the WWTP, where the sewage is treated and purified both with mechanical (screening, de-sanding) and biological systems before being discharged as clean water to the drains and to the sea.

