

PROJECT

## PIXEL

### Port IoT for Environmental Leverage

**Funding:** European (Horizon 2020)

**Duration:** May 2018 - Apr 2021

**Status:** Complete

**Total project cost:** €4,890,223

**EU contribution:** €4,890,223



[CORDIS RCN : 214640](#)

#### Background & policy context:

Ports are a great example of heterogeneous information hubs. Multiple stakeholders operate inside and outside them with different motivations and businesses. Although document and data interchange is already in place through Port Community Systems (PCS), the interchange is limited to official documentation and services of the Port Authority, such as custom declarations, import/export of cargo, and other formal documents. However, an effective integration of operational data is far from optimal in most ports, and especially so in medium or small ports, where budget is limited and IT services are usually outsourced.

In contrast, the available operational data (resources tracking, container status, vessel operations, surface or berth available, air/water quality measurements) is constantly increasing and technology is getting inexpensive and widely available. However, the application of such systems is still single-entity centric, since the information is not shared, keeping the real potential of the Internet of Things (IoT) and Industry 4.0 hidden. The same holds for geographic areas surrounding ports, where Smart Cities integrate various data systems and provide valuable services to citizens and authorities.

#### Objectives:

PIXEL will enable a two-way collaboration of ports, multimodal transport agents and cities for optimal use of internal and external resources, sustainable economic growth and environmental impact mitigation, towards the Ports of the Future. PIXEL will leverage technological enablers to voluntary exchange data among ports and stakeholders, thus ensuring a measurable benefit in this process. The main outcome of this technology will be efficient use of resources in ports, sustainable development and green growth of ports and surrounding cities/regions.

Built on top of the state-of-the art interoperability technologies, PIXEL will centralise data from the different information silos where internal and external stakeholders store their operational information.

#### Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

**Other programmes:** MG-7-3-2017 The Port of the future

#### Lead Organisation:

**Universitat Politecnica De Valencia**

**Address:**

Camino De Vera S/n  
46022 Valencia  
Spain

**Organisation Website:**

<http://www.upv.es>

**EU Contribution:** €556,668

**Partner Organisations:****Stazioni Doganali Autoportuali Gorizia Spa****Address:**

Stazione Confinaria Frazione Sant'andrea  
34170 Gorizia  
Italy

**EU Contribution:** €235,000

**Centre Aquitain Des Technologies Del'information Et Electroniques - Catie****Address:**

1 RUE DU DOC ALBERT SCHWEITZER  
33400 TALENCE  
France

**EU Contribution:** €406,875

**Ipeople Limited****Address:**

ST GEORGES HOUSE 6TH FLOOR 15 HANOVER SQUARE  
LONDON  
W1S 1HS  
United Kingdom

**EU Contribution:** €222,500

**Orange Sa****Address:**

Rue Olivier De Serres 78  
75015 Paris  
France

**EU Contribution:** €403,750

**Ethniko Kentro Erevnas Kai Technologikis Anaptyxis****Address:**

Charilaou Thermi Road  
57001 Thermi Thessaloniki  
Greece

**Organisation Website:**

<http://www.certh.gr>

**EU Contribution:** €307,188

**Xlab Razvoj Programske Opreme In Svetovanje Doo****Address:**

POT ZA BRDOM 100  
1000 LJUBLJANA  
Slovenia

**Organisation Website:**

<http://xlab.si>

**EU Contribution:** €323,541

**Prodevelop****Address:**

PLAZA JUAN DE VILLARRASA 14-5  
46001 VALENCIA  
Spain

**Organisation Website:**

<http://www.prodevelop.es>

**EU Contribution:** €475,104

**Thessaloniki Port Authority S.a.****Address:**

Inside Port  
54110 THESSALONIKI  
Greece

**Organisation Website:**

<http://www.thpa.gr>

**EU Contribution:** €201,250

**Sveuciliste U Rijeci, Medicinski Fakultet****Address:**

BRACE BRANCHETTA 20  
51000 RIJEKA  
Croatia

**Organisation Website:**

<http://www.medri.uniri.hr>

**EU Contribution:** €307,500

**Insiel - Informatica Per Il Sistema Degli Enti Locali S.p.a.****Address:**

Via San Francesco D'assisi 43  
34133 Trieste  
Italy

**EU Contribution:** €325,000

**Grand Port Maritime De Bordeaux****Address:**

152 QUAI DE BACALAN  
33082 BORDEAUX  
France

**EU Contribution:** €427,823

**Cciaa Di Gorizia - Azienda Speciale Per Il Porto Di Monfalcone****Address:**

VIA TERME ROMANE N 5

34170 MONFALCONE  
Italy

**EU Contribution:** €230,000

**Piraeus Europe Asia Rail Logisticsanonimi Etaireia Diaheirisis Efodiastikis Alysidas**

**Address:**

85 AKTI MIAOULI & 2 FLESSA STR  
18538 PEIRAIAS  
Greece

**Organisation Website:**

<http://www.olp.gr>

**EU Contribution:** €274,250

**Creocean**

**Address:**

RUE CHARLES TELLIER ZONE TECHNOCEAN CHEF DE BAIE  
17000 LA ROCHELLE  
France

**EU Contribution:** €193,775

**Technologies:**

Infrastructure management  
Port and Terminal Knowledge Landscape (PTKL)

**Development phase:** Research/Invention

**STRIA Roadmaps:**

Network and traffic management systems, Smart mobility and services, Infrastructure  
Water transport (sea &

**Transport mode:** inland)

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Other specified

**Geo-spatial type:** Other