Evaluation of features (global questions)

This section has only one question. The objective is to help PIXEL framework determine how much relevant is a feature of a data source compared to the others. This selection of features has been made by PIXEL partners according to literature review, technical orientation of the platform and experiences in the project. The results obtained from this question will shape the IoT-readiness and Reliability level of the Port Environmental Index computed in a port. Operatively, the question below aims at responding the following: How important is for a port measurement one characteristic? What should be prioritised when gathering specific data in a port? Which Feature is more relevant (in your opinion) to have by a data gathering action in a maritime port?

Methodology of the question: You have a budget of **20**€. How much money would you pay for each of the feature?. You need to spend the whole budget. There is no upper no lower limit per item as long as the global sum results **20**€.

Which Feature is more relevant (in your opinion) to have by a data gathering action in a maritime port?

	0	1	2	3	4	5
Real-timeness	○	○	○	○	○	○
Accuracy on the measures	○	○	○	○	○	○
Automation	○	○	○	○	○	○
Low cost	○	○	○	○	○	○
No need of human intervention	○	○	○	○	○	○
Compliance with port policies	○	○	○	○	○	○
Validated by previous usage	○	○	○	○	○	○
Decoupled from cascading dependency of other data	○	○	○	○	○	○

Evaluation of features (particular sections)

Value of data retrieval options depending of the information to be obtained

This section is made up of 15 questions. Each of the questions correspond to one piece of data that is needed to compute the PIXEL's Port Environmental Index (PEI). The idea is to gather your view (as experts in the field) of how much effect should have in the **reliability and trustworthiness** of the PEI the fact of selecting one data acquisition option or ther other. Please, bear in mind that the answer should be focused on the technological perspective of the data compilation, not in operative terms

Methodology of the question: You have a budget of **20**€. How much money would yo pay for each of the feature?. You need to spend the whole budget. There is no upper no lower limit per item as long as the global sum results **20**€.

First block

When gathering the **IMO number and the gross tonnage carried by the ships arriving at a port**, which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	○	○	○	○	○	○
Periodic API (a callable web service that is refreshed by port staff)	○	○	○	○	○	○
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	○	○	○	○	○	○
External data (e.g. AIS, list of Lloyd's register)	○	○	○	○	○	○
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	○	○	○	○	○	○
Handtyped forms fulfiled by port staff	○	○	○	○	○	○
Average value extracted from the literature	○	○	○	○	○	○

Second block

When gathering the **type of main and auxiliary engines of the ships arriving at a port**, which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Third block

When gathering the **berth and maneuvering time of vessels inside a port**, which retrieval option would you pay more for?

	0	1	2	3	4	5
Sensors	◯	◯	◯	◯	◯	◯
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Fourth block

When gathering the **MARPOL annexes about vessels waste**, which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Fifth block

When gathering the **MARPOL annexes about vessels wastewater**, which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Sixth block

When gathering the **air emissions produced by port terminal machinery**, which retrieval option would you pay more for?

	0	1	2	3	4	5
Sensors	◯	◯	◯	◯	◯	◯
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Seventh block

When gathering the **waste produced by terminals** which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Eight block

When gathering the **wastewater produced by terminals** which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Ninth block

When gathering the **air emissions produced by port authority's equipment** which retrieval option would you pay more for?

	0	1	2	3	4	5
Sensors	◯	◯	◯	◯	◯	◯
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Tenth block

When gathering the **waste produced by port authorities** which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Eleventh block

When gathering the**wastewater produced by port authorities**which retrieval option would you pay more for?

	0	1	2	3	4	5
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Twelfth block

When gathering the **noise values** (**Lnight**, **Lden**, **Leq**) which retrieval option would you pay more for?

	0	1	2	3	4	5
Sensors	◯	◯	◯	◯	◯	◯
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Thirteenth block

When gathering the **luminosity** (**lux**) which retrieval option would you pay more for?

	0	1	2	3	4	5
Sensors	◯	◯	◯	◯	◯	◯
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯

Fourteenth block

When gathering the **volatile organic compounds** (**VOC**) which retrieval option would you pay more for?

	0	1	2	3	4	5
Sensors	◯	◯	◯	◯	◯	◯
Real-time API (a callable web service with updated information that requires further processing)	◯	◯	◯	◯	◯	◯
Periodic API (a callable web service that is refreshed by port staff)	◯	◯	◯	◯	◯	◯
PIXEL proxy tool (this data is generated after a simulation carried out by other PIXEL tools)	◯	◯	◯	◯	◯	◯
External data (e.g. AIS, list of Lloyd's register)	◯	◯	◯	◯	◯	◯
Manual upload to a server (port stuff uploads documents to a FTP server asynchronously when data is available)	◯	◯	◯	◯	◯	◯
Handtyped forms fulfiled by port staff	◯	◯	◯	◯	◯	◯
Average value extracted from the literature	◯	◯	◯	◯	◯	◯