Exploitable Results by Third Parties

Project number and name

Project details

Project leader:	Emilio Mulet (Accuro Technology)
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Website:	https://itea4.org/project/polder.html; http://projectpolder.com/

Name: FGPP		
Input(s):	Main feature(s)	Output(s):
▪ Context Data	▪ Storage and data historization ▪ Subscriptions for data changes ▪ Configuration of the historical data storage system ▪ Data updating service ▪ Data deleting service ▪ Data replacing service ▪ API REST Services	▪ Context Data ▪ Only data changed ▪ Historical data
Unique Selling Proposition(s):	▪ At the moment, it will be used as a technological base in several company projects (internal or external). It is planned to it will turn to a commercial product with an GUI extensive support and configurable set of services.	
Integration constraint(s):	▪ No specific constraints. Its dependencies are compatible with Fiware enablers and others free and commercial software.	
Intended user(s):	▪ Developers, integrators or final customers	
Provider:	▪ FCC Industrial. Systems Department.	
Contact point:	▪ Jorge Lorenzo (jlorenzol@fcc.es)	
Condition(s) for reuse:	▪ TBD	
		atest update: 17 June 2022

Name: RTFS (RF Training Service)		
Input(s):	**Main feature(s)**	**Output(s):**
▪ Trainable Data Format ▪ Predictable Data format	▪ To use Random Forest Algorithm for training the input(s) ▪ To predict data according to trained model	▪ Trained model ▪ Predicted data

Unique Selling Proposition(s):	▪ Model training and predicting via http protocol without necessity of Machine Learning Infrastructure
Integration constraint(s):	▪ Required http protocol
Intended user(s):	▪ Programmers who do not have machine learning infrastructure, but want to provide machine learning for applications.
Provider:	▪ ARD Group
Contact point:	▪ Osman Arabacı (osman.arabaci@ardgrup.com.tr; proje@ardgrup.com.tr)
Condition(s) for reuse:	▪ Licencing

Latest update: 21 June 2022

Name: Population and Waste Estimation		
Input(s):	Main feature(s)	Output(s):
▪ Time Use Survey (TUS) Data ▪ GPS Data ▪ Check-in Data from Social media platforms ▪ Land Use Data ▪ Regional Population statistics	▪ Estimation of populations in time and location with an explainable AI model. ▪ Animate the estimated populations. ▪ Provide **a base for value-added-services** like waste management	▪ Animated maps ▪ Heat maps

Unique Selling Proposition(s):	▪ Can employ open-source mobility data to learn mobility behaviors in the city ▪ Estimate high resolution populations in time and space ▪ Easily integrate with other estimation models like waste, traffic
Integration constraint(s):	▪ HTML5 and Javascript for front-end level integration
Intended user(s):	▪ City local authorities and decision makers ▪ Municipalities ▪ City planners
Provider:	▪ ForteArGe Informatics, Engineering, Consultancy Ltd. Co
Contact point:	▪ Serdar Sultanoglu (serdar.sultanoglu@fortearge.com)
Condition(s) for reuse:	▪ Commercial license

Latest update: 21June 2022

Name: City Survey & KPI Monitoring Module		
Input(s):	Main feature(s)	Output(s):
▪ data from various sources in local level.	▪ Comparison of cities based on **standard KPIs**. ▪ Define low level KPIs and convert to high level KPIs ▪ Can use data from **a custom survey** or directly use any KPI via **POLDER API** ▪ Monitoring changes in time ▪ Configurable performance indices	▪ Survey management and data entry software ▪ High-level KPI monitoring and comparison interfaces
Unique Selling Proposition(s):	▪ Configurable performance indices definition by end users for any kind of evaluation ▪ Promote awareness of decision makers regarding stakeholders' opinions and city's situation among the other cities ▪ Enable local authorities to engage citizens/stakeholders to decisions ▪ Integrated "ISO 37123: 2019 Sustainable Cities and Communities Indicators for Resilient Cities" standard to objectively evaluate cities	
Integration constraint(s):	▪ A separate web application based on Java	
Intended user(s):	▪ City local authorities and decision makers ▪ Municipalities	
Provider:	▪ ForteArGe Informatics, Engineering, Consultancy Ltd. Co	
Contact point:	▪ Serdar Sultanoglu (serdar.sultanoglu@fortearge.com)	
Condition(s) for reuse:	▪ Commercial license	

Latest update: 21June 2022

Name: Social Media Monitoring & Analytics System		
Input(s):	Main feature(s)	Output(s):
▪ Tweets ▪ Analysis requests	▪ Elastic and high scalability ▪ Elastic consistency and availability ▪ Handling high volume transactions for data stream management ▪ Quick CI/CD	▪ Analytics UIs ▪ REST APIs for data analysis

Unique Selling Proposition(s):	▪ Capability of using AI algorithms for data analytics ▪ High throughput in reading and writing simultaneously ▪ Sentiment analysis
Integration constraint(s):	▪ Deployment on Kubernetes ▪ Linux OS
Intended user(s):	▪ POLDER project users with any use case
Provider:	▪ MANTIS Software Company
Contact point:	▪ MANTIS Software Company (info@mantis.com.tr)
Condition(s) for reuse:	▪ Single or yearly subscription fee based on the volume of analysis requests

Latest update: 21/06/2022

Name: Voice recognition and sentiment analysis system		
Input(s):	**Main feature(s)**	**Output(s):**
▪ Audio source ▪ Video source	▪ Identification of language ▪ Voice transcription ▪ Real time analysis about positive or negative sentiments	▪ Language ▪ Real time information about positive or negative sentiments (absolute and subjective values)
Unique Selling Proposition(s):	▪ This system is an autonomous real time tool for obtaining information regarding the satisfaction, disgust, conformity, etc. This information is useful for improve the services under study and adapt them to the customers/users requirements. ▪ This system can be integrated with real time communication platforms.	
Integration constraint(s):	▪ This system requires good quality audio sources	
Intended user(s):	▪ Service providers ▪ Contact centers ▪ Telcos	
Provider:	▪ Quobis Networks SL	
Contact point:	▪ Yudani Riobó (udani.riobo@quobis.com)	
Condition(s) for reuse:	▪ Licensing	

Latest update: 21/06/2022

Name: Population Insights-Tourism sub module		
Input(s):	Main feature(s)	Output(s):
- Mobile phone records - Shp file of land use information - Census data (population by age and gender) - Tourism statistics (monthly entries to the country by nationality and length of stay) - Zoning of the area of study. shp file defining the zones in which the area of study will be divided	- This module provides detailed information, at a high degree of temporal and spatial resolution different tourism activity indicators from the fusion of several data sources (see inputs and outputs). - This module is integrated into the Nommon's Population insight solution which provides more information about the activity and presence of the population in different zones of a given area of study. - The indicators generated by this tool (for the Spanish territory) can be accessed via an API. - From all the inputs only the last one is required from third parties to obtained the desired indicators.	- Number of pernoctations in each zone of the specified zoning system - Number of daily unique visitors of each zone - Number of hourly unique visitors of each zone. The indicators are segmented by type of visitor (resident, national and international visitor), length of stay, nationality, age and gender (only for nationals).

Unique Selling Proposition(s):	- The information provided by the module allows for the monitorization of the tourism's activity at a high level of spatial and temporal granularity not possible to reach at a reasonable cost by traditional methods (surveys, cameras, sensors, etc.). - Rich characterisation of the visitors thanks to the longitudinal analysis of the mobile phone users' activities. - The module has granted access to mobile phone records through a commercial agreement with mobile network operators. - Nommon experience on extracting activity and mobility indicators from geolocated devices ensures a standard of quality not encountered in other similar solutions.
Integration constraint(s):	Outputs are accessible via an API by any user with credentials.
Intended user(s):	Public administrations and tourism services providers
Provider:	Nommon
Contact point:	mobility.analytics@nommon.es
Condition(s) for reuse:	Commercial license (single payment for credits for use) for the access to the indicators generated

Latest update: 22/06/2022

Name: Tourist flows prediction		
Input(s):	Main feature(s)	Output(s):
▪ Zoning specification of the area of study, shp file. ▪ Three weeks of historical data of indicators of pernoctations, daily and hourly presence in each zone of the area of study.	▪ The module provides a prediction of tourist flows in the near future (one week ahead). ▪ The prediction is based on the analysis of temporal series with long short-term memory networks	Prediction of the following indicators ▪ Number of pernoctations in each zone of the specified zoning system ▪ Number of daily unique visitors of each zone ▪ Number of hourly unique visitors of each zone. The indicators are segmented by type of visitor (resident, national and international visitor), length of stay, nationality, age and gender (only for nationals).

Unique Selling Proposition(s):	▪ Provides accurate short term (one week ahead) prediction of tourist flows with minimum required historical data (only three weeks) for model training.
Integration constraint(s):	▪ Predicted indicators are available via an API.
Intended user(s):	▪ Public administrations and tourism services providers
Provider:	▪ Nommon
Contact point:	▪ mobility.analytics@nommon.es
Condition(s) for reuse:	▪ Commercial license (single payment for credits for use) for the access to the indicators generated

Latest update: 22/06/2022

Name: Interactive visualization dashboard		
Input(s):	**Main feature(s)**	**Output(s):**
▪ Json file with the relevant indicators to be visualized (constrained to presence, and pernoctations) with the relevant segmentations (age, gender, residence place, visit purpose) ▪ Zoning of the area under study.	▪ The tool allows for the analysis of tourism activities and visitors according to different filters: Type of visitor, age, gender, zone, zone's characteristics (residential, logistic, touristic, etc.) ▪ It is composed by maps (for geographical representation of indicators at zone level) and plots (pie charts, scatter plots, etc.) for the detail analysis of the indicators in each zone (share the different segmentations of each indicator and the temporal evolution of them)	▪ Geographical representation of different tourism indicators ▪ Visualization of different segmentations for the analysed indicators ▪ Visual representation of the time evolution of the indicators in the different zones

Unique Selling Proposition(s):	▪ Ready to use interactive visualization platform for public administration without internal capabilities to develop their own dashboards.
Integration constraint(s):	▪ This platform can be integrated to any DDBB for the visualization of the mentioned indicators provided that they are in the specified format.
Intended user(s):	▪ Public administrations and tourism services providers
Provider:	▪ Nommon
Contact point:	▪ it@nommon.es
Condition(s) for reuse:	▪ Commercial license single payment for the access to the visualization

Latest update: 22/06/2022

Name: Image recognition for Smart Tourism system		
Input(s):	Main feature(s)	Output(s):
- Video images captured by CCTV or ip cameras - Static images	- Image processing algorithm for object detection and recognition - Labelling and classification of objects - Object counting by type and extraction of indicators	- Tags generated by the image analysis and object counting algorithm according to the use case: **UC1**: number of people, handbags, backpacks and suitcases. **UC2**: same objects as in UC1 plus, motorcycles, trucks, bicycles, scooters, buses, dogs and horses. It can also check if security distance between people is kept. **UC3**: number of people (not) wearing facemasks. **UC4**: number of a variety of vehicles (the same vehicles as in UC2), number of groups of different sizes, and bathers - Generation of indicators and alerts according to each use case that can allow to predict the number of tourist and people restrictions. - Data visualization panels
Unique Selling Proposition(s):	- The algorithm has been trained to identify a wide variety of tourism-related objects, such as people on the street or different types of vehicles. This information can be of great use in estimating peak traffic times, high affluence of people, whether COVID-19 safety regulations are met, or even analyzing whether to increase the frequency of public transport in a tourist location. - The system stores the tags of the identified objects and the count of objects of the same type in a database, but **does not store the images**, allowing the privacy of people and vehicles appearing in the images to be maintained. - The information can be visualized in various types of easily customizable graphs and maps, allowing the extraction of a wider range of information.	
Integration constraint(s):	- For reliable object detection, objects must be within 20 m (approx.) of the camera - In the case to measure the security distance, the camera has to be in an angle (front plane) that can measure properly the distance.	
Intended user(s):	- Local business owners - Municipal authorities - Urban and city planners	

	▪ Service providers such as transport service providers ▪ Hotel business
Provider:	▪ Accuro Technology S.l.
Contact point:	▪ Emilio Mulet (emilio.emulet@accuro.es)
Condition(s) for reuse:	▪ To be determined

Latest update: 22/06/2022

Name: IoT Platform /Energy, Air Quality and Water Quality monitoring		
Input(s):	Main feature(s)	Output(s):
▪ Energy sensor data. ▪ Air pollutant attributes from sensors. ○ Water pollutant attributes from sensors	▪ Energy management system is used as a recommended system to provide an optimal usage interval. ▪ The proposed Energy algorithm shows the optimal time of cheaper cost state in the time interval set by the user. ▪ It provides the possibility to monitor changes in sensor data. ▪ Predicted air quality index values converted into categories such as very unhealty, hazardous, unhealty, sensitive group, moderate and good. ▪ Analyzing and detecting abnormal values of the sensors for air quality is a crucial policy for health protection. ▪ Detection of anomalies, sending warning messages and visualizing the sensor values helps to suppliers for management of the air quality. ▪ Analyzing and detecting abnormal values of the sensors for drinking water is a crucial policy for health protection. ▪ There are many types of charts that show the outputs of artificial intelligence algorithms to inform users. ▪ Usage of Fiware components. ▪ Can register sensor and device and send data to specific organizations.	▪ Optimization plots are the visual output of the DQN algorithm and display the insight of the produced results. ▪ It provides High-level monitoring and comparison interfaces. ▪ Air quality index is predicted as output for determining the quality of the air. ▪ Feedback is provided to the user if an anomaly occurs. ▪ Detection of water quality anomalies, sending warning messages and visualizing the sensor values.
Unique Selling Proposition(s):	▪ User data is processed and provides an understandable usage screen. ▪ Thanks to the user-friendly interfaces, the right information can be easily accessed. ▪ Able to get notification via mail and platform when anomaly is detected in Air or Water quality data. ▪ Usage of modern IoT software provided by Fiware.	
Integration constraint(s):	▪ Requires basic knowledge of IoT and sensors from the users.	
Intended user(s):	▪ Companies and personal users.	
Provider:	▪ ACD	

Contact point:	▪ Ali Kafali (alik@acd.com.tr)
Condition(s) for reuse:	▪ Licence required for the access optimization algorithms.

Latest update: 29/06/2022