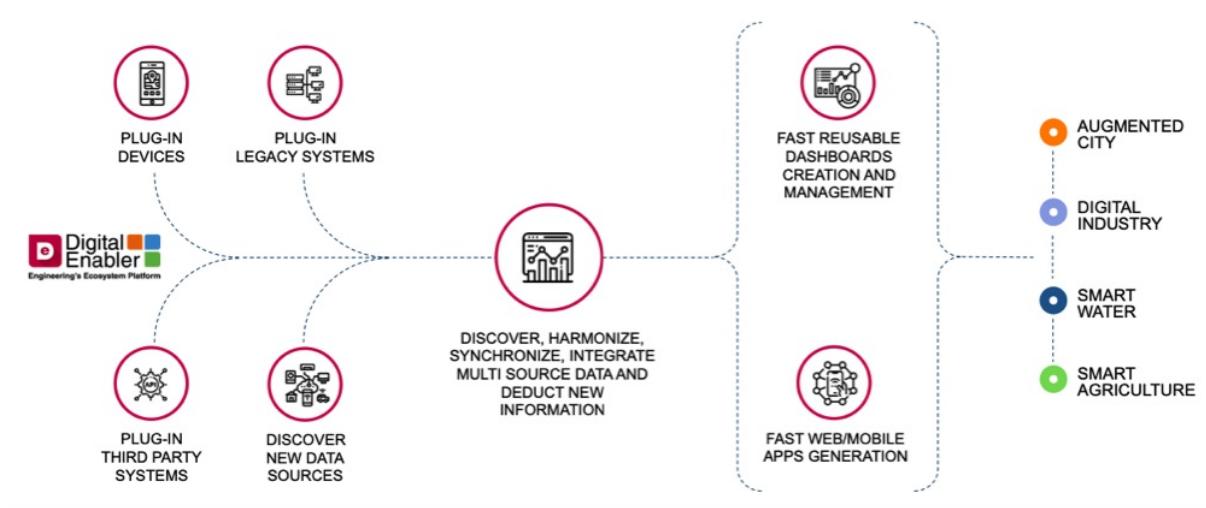




## Product factsheet

# Digital Enabler

Software solution



## Description

Digital Enabler™ is data driven, native cloud, ecosystem platform. Designed and engineered by Engineering's R&D Labs over the past years, today it is one of the few available, fully functioning, ready to use, Cloud Ecosystems Platforms available on the market.

As an “Ecosystem” platform, Digital Enabler enables new data economy business models, fostering innovation & enhancing current capabilities.

It allows you to Harmonize, Synchronize, Integrate, Visualize, Mashup, Federate, Analyze data to power your digital transformation & provides a single point of (data) knowledge that can be used to develop new value added services as well as digitally enabling older technologies and applications.

Digital Enabler should be used wherever data needs to be enriched.

Our Digital Enabler platform can:

- Create an Open innovation Area, to manage and develop new ideas;
- Discover and normalize different types of data source (Open Data, Enterprise Data, IoT devices & Infrastructure and many more...) increasing your base knowledge;
- Evaluate data quality of sources, improving overall data quality;
- Provide real time data management / event driven information for alerting and monitoring;
- Dynamically Model & Integrate Data;
- Visualize, analyze and render Data via its Mash up and Mock Up capabilities and Front End Dashboards, creating new digital; capabilities, applications and services that power up

the new «Data Economy» ecosystem.

It is entirely based on Open Standards and Open API, it is FIWARE based.

Target audience

Organizations whose services, products and processes are driven by data.

## Unique selling points

1. It enables organizations to **rapidly join** the new «**data economy**» ecosystems.
2. Industry, domain & technology **independent**.
3. No hardware or software installation is required.
4. You can **scale up/down users** whilst keeping your **costs** fully under control.
5. Increases the **value of existing assets** and promotes new business solutions.
6. Reduced time to market and **improved** responsiveness to business demands by rapidly and easily going **from mockup to «ready to publish» app** (mobile & web).
7. Great usability, thanks to its **fast prototyping** and integrated WYSWYG (*What You See is What You Get*) visual user interface, to **visualize, analyze and render data** via mash up and mock up capabilities and front end dashboards.

## Publications

- F. Martella, G. Parrino, G. Ciulla, R. Di Bernardo, A. Celesti, M. Fazio, M. Villari, 'Virtual Device Model extending NGSI-LD for FaaS at the Edge', 2021 IEEE/ACM 21st International Symposium on Cluster, Cloud and Internet Computing (CCGrid), 2021, pp. 660-667, DOI: 10.1109/CCGrid51090.2021.00079.
- S. Daoudagh , E. Marchetti, V. Savarino, R. Di Bernardo, M. Alessi, 'How to Improve the GDPR Compliance Through Consent Management and Access Control', In Proceedings of the 7th International Conference on Information Systems Security and Privacy (ICISSP 2021), pages 534-541, DOI: 10.5220/0010260205340541
- S. Daoudagh, E. Marchetti, V. Savarino, J.B. Bernabe, J. García-Rodríguez, R.T. Moreno, J.A. Martinez, A.F Skarmeta. "Data Protection by Design in the Context of Smart Cities: A Consent and Access Control Proposal". Sensors 2021, 21, 7154. <https://doi.org/10.3390/s21217154>
- J. L. Hernandez-Ramos, J. A. Martinez, V. Savarino, M. Angelini, V. Napolitano, A. Skarmeta, G. Baldini 'Security and Privacy in IoT-enabled Smart Cities: challenges and future directions', in IEEE Security & Privacy, August 2020. DOI: 10.1109/MSEC.2020.3012353
- G. Aiello, A. Camillo', M. Del Coco, E. Giangreco, M. Pinnella, S. Pino, D. Storelli 'A context agnostic air quality service to exploit data in the IoE era', 4th International Conference on Smart and Sustainable Technologies (SpliTech), 18-21 June 2019. IEEE, 2019. DOI: 10.23919/SpliTech.2019.8783138
- G. Aiello, V. Chetta, M. Del Coco, E. Giangreco, S. Pino, D. Storelli 'A virtual augmentation for air quality measurement sensor networks in smart cities', 2019 IEEE International Symposium on Measurements & Networking (M&N), 8-10 July 2019. IEEE, 2019. DOI: 10.1109/IWMN.2019.8805006
- G. Aiello, P. Spinnato, A. Parodi, P. Baglietto, T. Martin 'An ICT framework to support Nature Base Solutions implementations in Smart Cities', Fifth CINI Annual Conference on ICT for Smart Cities & Communities, I-Cities 2019, June 2019.
- J. R. Santana, M. Maggio, R. Di Bernardo, P. Sotres, L. Sanchez, L. Munoz 'On the Use of

Information and Infrastructure Technologies for the Smart City Research in Europe: A Survey', IEICE Transactions, Vol.E101-B, No.1, pp.2-15, January 2018. DOI:10.1587/transcom.2017ITI0001

- M. Maggio, G. Ciulla, R. Di Bernardo, N. Muratore, J. R. Santana, T. Akiyama, L. Gurgen, M. Matsuok 'FESTIVAL: Heterogeneous Testbed Federation Across Europe and Japan', Chapter 28 of book "Building the Future Internet through FIRE", June 2017. DOI:10.13052/rp-9788793519114
- M. Maggio, G. Ciulla, T. Akiyama, S. Murata, K. Tsuchiya, T. Yokoyama, J. R. Santana, M. Zhao, J. Botelho Do Nascimento, L. Gurgen, 'FESTIVAL: Design and Implementation of Federated Interoperable Smart ICT Services Development and Testing Platform', Journal of Information Processing, Vol.25 March 15, 2017. DOI: <https://doi.org/10.2197/ipsjip.25.278>
- G. Aiello, C. Capizzi, F. Giuffrida, I. Ligotino, R. Raccuglia, P. Spinnato and A. Sirchia, "Enabling a service co-creation and open innovation approach for empowered citizens", Second CINI Annual Workshop on ICT for Smart Cities and Communities I-Cities 2016, September 2016
- G. Aiello, M. Alessi, L. Marasso, "City Enabler: a FIWARE based tool for crawling, collecting and rendering on a map valuable data at urban scale", Second CINI Annual Workshop on ICT for Smart Cities and Communities I-Cities 2016, September 2016
- G. Aiello, G. Canfora, E. Zimeo, "Citizen-driven smart-government: a personal dashboard for using web services and open data". In: I-CiTies 2015 - CINI Annual Workshop on ICT for Smart Cities & Communities. October, 2015.
- G. Aiello, M. Alessi, L. Marasso, E. Zimeo "Co-creation of user centric Public Services for Open Governance". In: I-CiTies 2015 - CINI Annual Workshop on ICT for Smart Cities & Communities. October, 2015
- C. Formisano, D. Pavia, L. Gurgen, T. Yonezawa, J. A. Galache, K. Doguchi, I. Matranga "The advantages of IoT and Cloud applied to Smart Cities". In: Future Internet of Things and Cloud (FiCloud), 2015 3rd International Conference on Future Internet of Things and Cloud
- Filograna, P. Smiraglia, C. Gilsanz, S. Krco, A. Medela, T. Su, "Cloudification of Public Services in Smart Cities: The CLIPS Project", MoCS 2016, Messina (Italy), July 2016
- L. Marasso, E. Giangreco, D. Storelli, V. Chetta, A. Camillò, G. Turrisi, G. Antonucci, M. Barile, B. Centrone, D. Papadia, F. Simone, "Idea Management System for Smart City Planning". In: Interdisciplinary Studies Journal (Vol 3, Number 4, 2014). Laurea University of Applied Sciences, Finland.

## URL

<https://www.eng.it/en/our-platforms-solutions/digital-enabler>

## Technologies applied by the product

- [Energy recovery technologies](#)
- [Nutrients/Material recovery technologies](#)
- [Water recovery technologies for water reuse](#)

## Case Study applying the product

### Venice, Italy



<https://mp.watereurope.eu/d/CaseStudy/16>