



LET'S DO IT TOGETHER!

# FIWARE 4HEALTH

# INTRODUCTION

FIWARE is known for its ability and speed to address urgent challenges and the needs of society, companies, and public administrations. The need for ready-to-use solutions, based on Open Source and open standards principles – to help automate data sharing – continues to grow rapidly. This has, once again, become evident during the current COVID-19 pandemic.

More and more sharing tools are available, driven by Open Source principles, allowing relevant parties to access existing solutions as well as build on top of widely available ‘off the shelf’ solutions. Moreover, present circumstances are also a test case for data safety and cybersecurity, especially when handling health and personal data.

The FIWARE4Health booklet showcases the ways in which the FIWARE Community members are on the frontline of helping the health sector to become more secure and robust, no least in times of a global pandemic. In addition, it highlights how health authorities and other relevant parties can leverage Open Source technologies to better track patients, aid to contain viruses and build a robust healthcare system.



# FOREWORD

PD DR. MED.  
DOMINIK  
PFÖRRINGER\*



## DEAR READERS,

In your hands (or on your screen) you hold FIWARE's latest booklet on Open Source-based and ready-to-use solutions to fight COVID-19. "*Never waste a good crisis*" is what Winston Churchill, in his never ending optimism, has taught us. The current, and hopefully soon past, situation of the global Coronavirus wave has taught developers as well as all relevant players in the healthcare system to re-think their sense of communication as well as their distribution of solutions.

Ready-to-use solutions, based on Open Source and open standards principles, have become more essential than ever. With global economies going into significant downturns, the need for Open Source solutions has risen. In addition, in the healthcare system, more than before, we feel the need, urge and satisfaction to cooperate more closely.

Within this booklet you will find a whole range of technological spectrum to ameliorate the current healthcare situation. These technologies will help us shape our health and improve the global situation for our as well as for the following generations.

We wish you a very good read and look forward to hearing your feedback.

PD Dr. med. Dominik Pförringer

**\*Bio:** An orthopedic and trauma surgeon based in Munich, PD Dr. med. Dominik Pförringer has focused his research and teaching activities on digital healthcare. With close relationships with healthcare startups, he serves as a startup advisor, venture capital as well as private equity consultant. In July 2020, he launched the innovative platform [www.makehealthdigital.com](http://www.makehealthdigital.com).



## CURAVESTA

Company: Engineering DSS GmbH

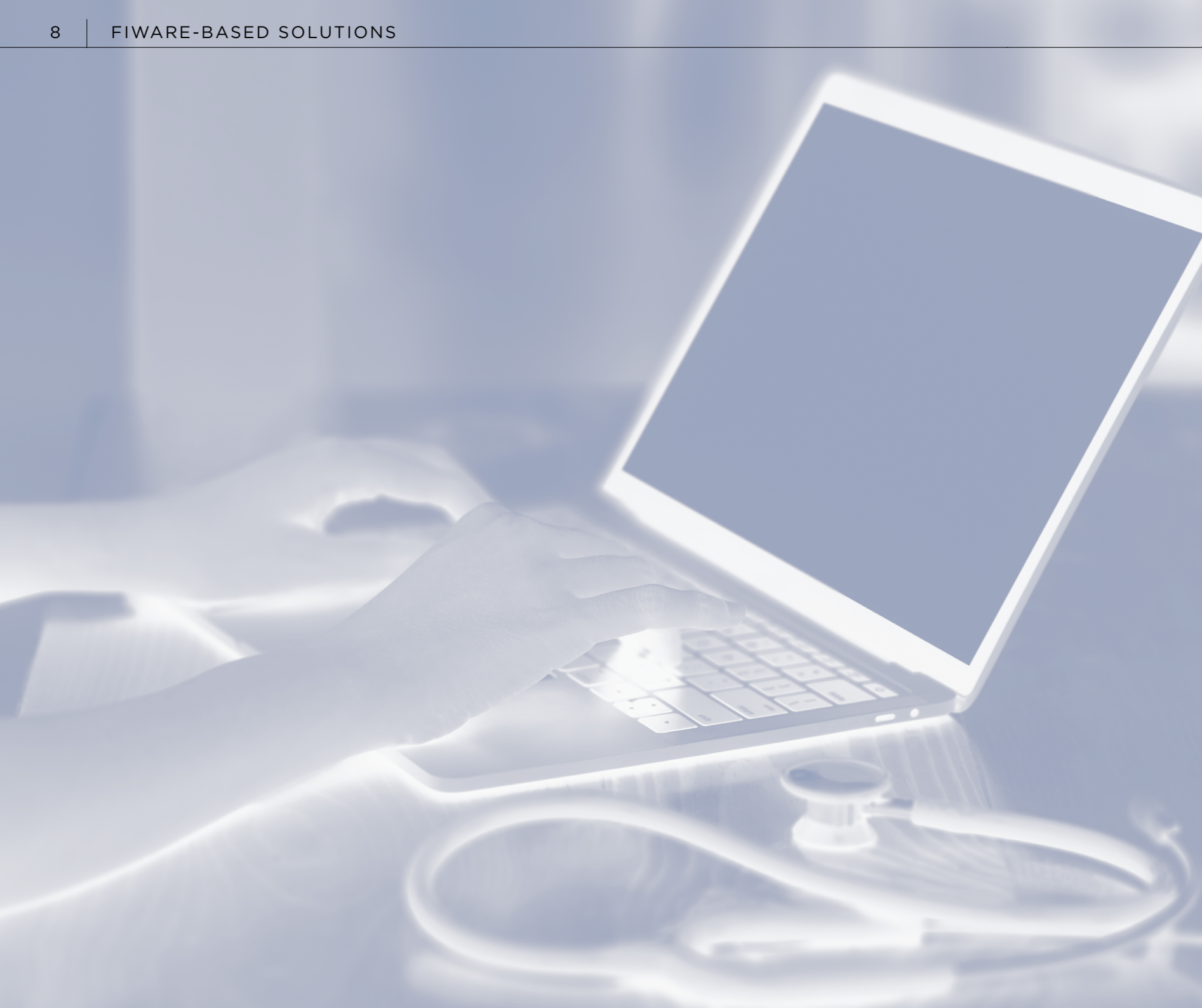
Website: [www.eng-its.de](http://www.eng-its.de)

The Assisting Home Care System effectively and permanently supports people who take care and nurse their relatives and enables people to live at home independently and safely. In practice, the Assisting System helps to improve the quality and transparency of home care.



Also, the number of short-term inpatient hospitalization caused by incorrect home care, and the duration of inpatient hospitalizations caused by escalations can be reduced. Users are primarily nurturing relatives such as children, spouses, or other relatives. Therefore, it is an important goal to reduce the risk of stress reactions of the caretaker caused by over-stress and social isolation.

The CuraVesta consists of a daily scheduler to control the nursing progress, an electronic patient file, a procurement avatar, an independent integration of digital medical products and AAL and, of course, a modern multimedia nursing support centre. To integrate the different eHealth use cases in an open, flexible way, it uses the FIWARE Context Broker as an open data hub and transfers all relevant data in a standardized, open data model.



## DASHRAM

Company: Engineering Ingegneria Informatica S.p.A.  
Website: [www.eng.it](http://www.eng.it)

Dashram aims at collecting, harmonizing, and visualizing data related to the COVID-19 crisis. The Idra Generic Enabler is responsible for the federation of open data portals and resources (via APIs or web scraping) that include data about COVID-19 (e.g. Italian Civil Protection GitHub repository) and the harmonization of the datasets in compliance with European standard (i.e. DCAT-AP meta-model). Once the open datasets are harmonized, they are mediated by the FIWARE Orion Context Broker, which provides access to the visualization component through NGSIv2 REST APIs. The Dashram data visualization component allows the publication of many types of configurable, advanced and easy to understand charts and map-based visualizations, both 2D and 3D, useful for allowing authorities to make evidence-based decisions and for citizens to raise their awareness about the current virus spreading, as well as the status of the pandemic.



## ENG-DE4BIOS BIO-SURVEILLANCE SYSTEM

Company: Engineering Ingegneria Informatica S.p.A.  
Website: [www.eng.it](http://www.eng.it)

The Digital Enabler is a data-driven, native cloud, ecosystem platform designed and engineered by Engineering. Based on the Digital Enabler, we developed a Bio-surveillance system aimed to support governments that are heavily suffering as a consequence of COVID-19. Eng-DE4Bios supports epidemic management providing real-time data (accordingly to WHO and HL7 standard) to medical doctors and COVID-19 crisis units. The systematic collection of all available information allows users to have a comprehensive database in order to implement several epidemiological models and to represent the evolution of the pandemic. These models can be implemented as an application that allows the simulation and calibration of the epidemic automatically, with the possibility of having a forecast of the scenarios when the parameters of the model change. Being independent by the existing sources of data and providing an open data model to ensure the fastest possible integration of different data, EngDE4Bios allows a wide range of flexibility.





## INDICATORS VISUALIZATION PLATFORM TO CONTROL THE SOCIAL DISTANCE AND PEOPLE DENSITY WITH FIWARE

Company: HOP Ubiquitous (HOPU)  
Website: [www.hopu.eu](http://www.hopu.eu)



HOPU has created a new service of indicators based on the FIWARE CEF Broker and its IoT devices for crowds that allow the knowing, predicting, and tracing of crowds. It contributes to avoiding the propagation of COVID-19, according to the regulations of the new normality.

The indicators platform of HOPU helps to manage the restoration of street activity, detecting crowds in open areas to make optimal use of securing their resources. These

devices use WiFi/BLE to detect people in areas, through their Smartphone detection. These devices are GDPR-Ready, complying with this regulation of privacy and data storage. This new service of HOPU provides territories with the following functionalities: people counting, traceability of individuals and groups, frequented routes, occupancy rate, frequented areas, and length of stay at locations. The tool provides real-time data and allows the establishment of risk alerts and warnings for different local entities, such as the police or other city statements in charge of crowd control.





## OPENVIDU

Company: Naeva Tec

Website: [openvidu.io](https://openvidu.io)

OpenVidu is helping to palliate the effects of COVID-19 regarding remote communication. Many companies are switching from “free” or “freemium” software and platforms that may incur in security breaches and privacy issues to treat the video calls with the same restrictions and privacy as other communication methods. OpenVidu is 100% configurable and personalizable, but first of all, it is deployable on-premises or in the company trusted clouds. Once they make the change to OpenVidu they rest assured that the whole communication process is under their control and observes the rules the company enforces. OpenVidu can be used from the moment of installation with the preinstalled video-call application but also can be used to implement a brand new application that would completely fit any company requirements from specific logins integration with company LDAP or OAuth2, to specific roles, or access rules.

OpenVidu is a FIWARE enabler. Moreover, OpenVidu can be integrated into FIWARE architectures and provide both video-call functionalities and media processing, allowing the execution of different media processing such as presence recognition. One use case found within FIWARE concerns intelligent camera video-walls accessible remotely, allowing some of the security personnel to work from home, reducing the possibilities of contagion.





## WISETOWN - SITUATION ROOM

Company: Teamdev

Website: [www.wise.town](http://www.wise.town)

Marketplace: [Read more](#)

Situation Room is an ecosystem that supports public administrations and private companies to improve urban planning and public services. It is designed to perform predictive analysis and manage, in real-time, an event, an emergency, or an ordinary task by defining a scenario to be monitored and managed over time and space.

The platform is configured as a Decision Support System (DSS). In emergency situations, such as COVID-19, it allows a certified exchange of information between PA, local operators, Civil Protection, and other actors involved, having as its main objectives: the collection, categorization, and visualization of information geolocalized in the area. The innovative tech gives the possibility to transform data into information easy to read and use by the city's workforce.

The geographical dashboard can monitor what is happening in the city: like a traffic ban, events, or concerts. The integration with the FIWARE Orion Context Broker allows the WiseTown platform to collect and integrate data and information from different sources, such as IoT sensors, social networks, city open data, and other apps.

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PLACE



Are you contributing to secure and robust healthcare?  
Submit your 'off the shelf' Open Source, FIWARE-based  
solutions to be featured in our booklet.

Do you have questions or feedback?  
Contact us at [marketing@fiware.org](mailto:marketing@fiware.org)



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