

FIG WORKING WEEK 2019

22-26 April, Hanoi, Vietnam

Presented by the FIG Working Week 2019,
April 22-26, 2019 in Hanoi, Vietnam

"Geospatial Information for a Smarter Life
and Environmental Resilience"



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FIG WORKING WEEK 2019

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Modern geospatial technologies in infrastructure information uncertainty decrease

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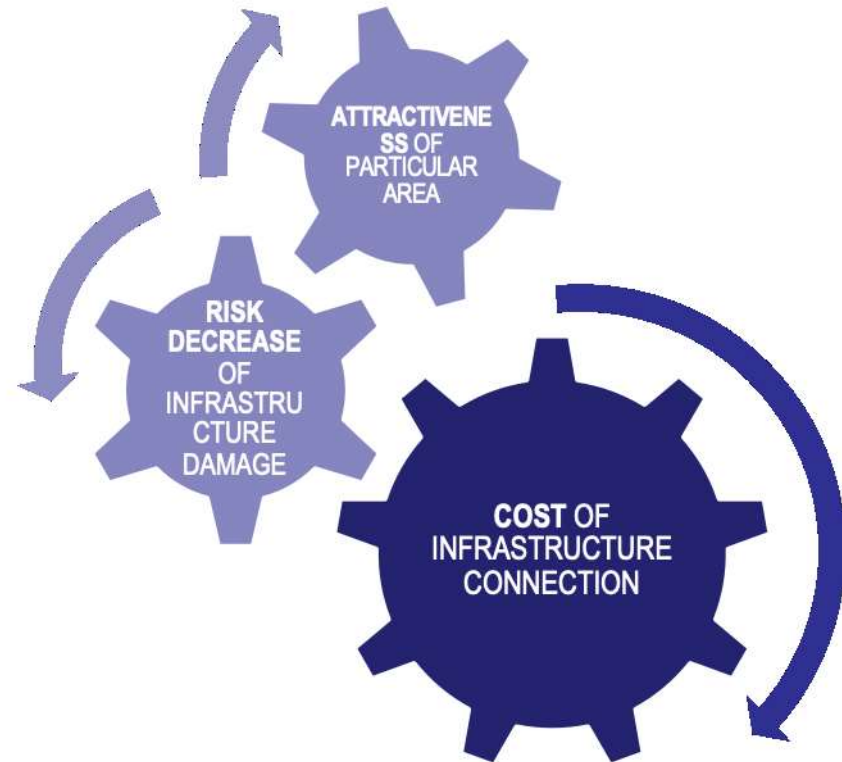


The aim of the study

The aim of the study is to propose solutions based on the use of satellite techniques for detecting and providing information about **technical infrastructure** in municipalities.

The concept is to fulfil growing demand for user-friendly and accurate information concerning utility (infrastructure) achieved by the use of mobile application integrating **GNSS**, **Earth Observation** and **Augmented Reality**.

The combined components of the mentioned technologies in the service are to enable simplification of gathering and proper interpretation of dispersed information about utility (infrastructure) in **real time** at **current location** of its user.



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The main steps of system formation

1. Conducting the research analysis regarding to system functionality assumptions,
2. Tracking of the modern technology especially connected with the EGNNS solutions,
3. Transfers of data, data storage, datamining etc.,
4. Design of the relation and connection of components,
5. Data flow in developed system, implementation or improvements of the system on the basis of the results indicated from previous steps,
6. Integration of the particularly modules of the MUST service,
7. Validation of integrated system components for designated use cases,
8. MUST implementation,
9. Post implementation testing needed improvements preparation.

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The proposed solution will allow the development of a new service in the information society convention, as part of broadening the availability of information provided by e-government platforms on the Polish and European markets, based on satellite navigation.

E-government applications "and" smart city "for public use	1 Increasing the exchange of public administr- ative-spatial information	2 Economic growth residents' activities	3 Simple and user friendly	4 Usefulness of the real and common needs of the inhabitants	5 Digital interoper- ability applicati- ons G2C	6 Applicati- ons under "digital interacti- on" G2B	7 Applicati- ons under "digital interacti- on" C2G	8 The use of modern technolo- gies (EGNSS)
MUST	+	+	+	+	+	+	+	+
Mobile Geoportal Mobile provides access to the state registries provided by GUGiK	+	-	-	+	+	-	+	+
SISMS A mobile local information system that already operates in several hundred municipalities and cities.	+	-	+	+	+	-	-	-
Smart Parking Lets search for the nearest free parking place and will drive the driver to the place.	+	-	+	+	+	-	-	+

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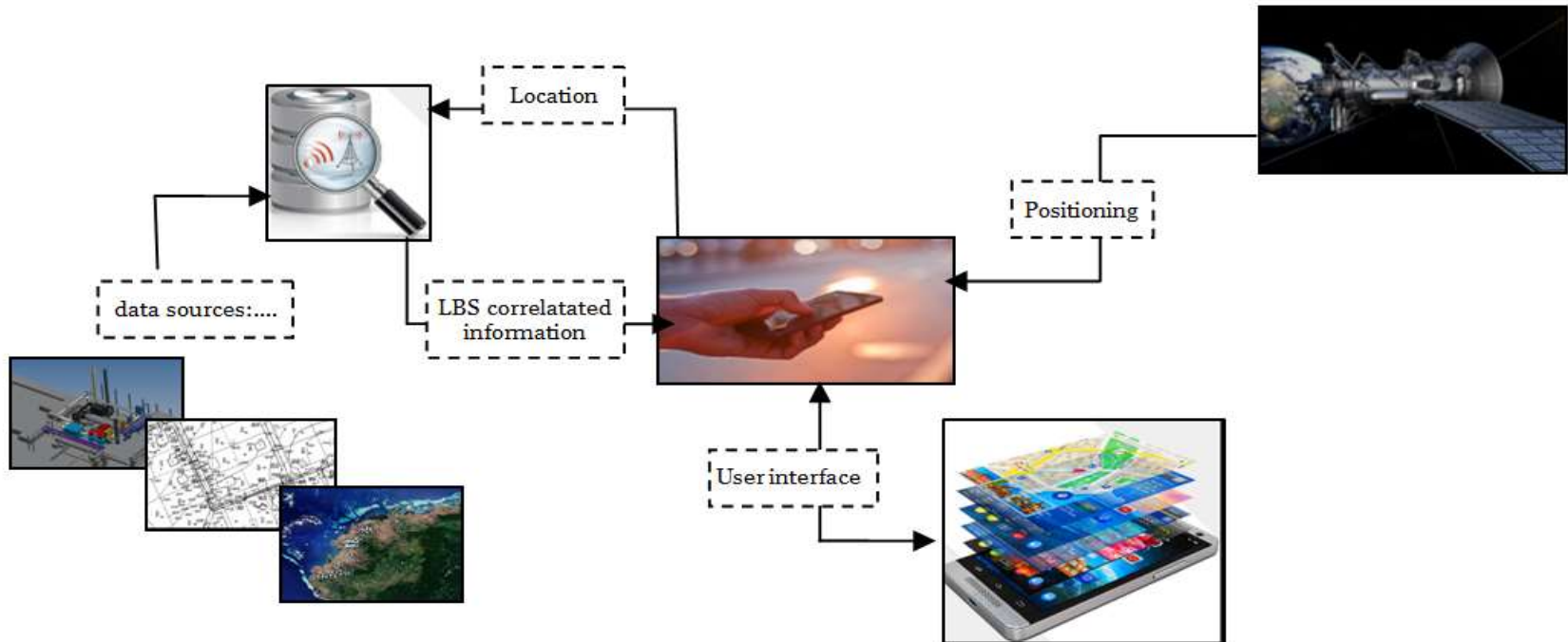
FIG WORKING WEEK 2019

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Data flow



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The main components of the system

- The innovative aspect of the proposed system is to combine the new **EGNSS** technology with the improvement of the quality of life of citizens in the use of e-government communication technology, thus incorporating the "infotainment" and "smart city" concepts.
- The innovative intent of the system will be **open access** to information on technical infrastructure using mobile data exchange technology.
- The **accuracy** of the location of the technical infrastructure in the field will be **equivalent to the EGNSS** positioning accuracy. This assumption is due to the ever-increasing number of smartphones that have the ability to record raw EGNSS data, thereby gaining functionality similar to or equivalent to the classic EGNSS measurement receivers used in field measurements.



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Conclusions

The originality of this solution lies in the implementation of an additional functionality of the system consisting in determining the approximate costs of furnishing individual properties to technical infrastructure.

Marketing research indicated that there are no such applications / systems on the market that would include the compiled information and functionality compiled k

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