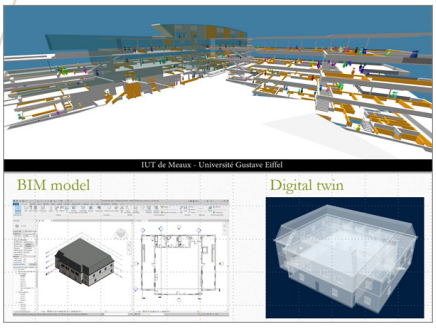
GUIDEVAC

The solution generates automatically, from BIM concepts, digital twins of building and their 3D Indoor routings, It is devoted to optimal and real-time emergency evacuation of crowds as well as individual guidance through connected objects.

ERGANEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

Customized and personalized indoor guidance and localization of crowds or individuals, inside a building, for either evacuation or sheltering (during emergency situation) or the best routes to reach spots of interest (Indoor location-based services, for example, shop with special offers in commercial malls) is of utmost importance for safety issues or customer satisfaction. Most of the existing evacuation systems are mainly based on warning mechanisms (sound, visual, ...), and pre-established routes which do not consider the presence of obstacles or spots of interest popping out, dynamically, in real-time. The existing solutions are not always able to provide simple and effective evacuation/guidance instructions. Thanks to progress in telecommunication technologies, connected things and BIM (Building Information Model), the *GuidEvac* solutions provide people or evacuation agents, in indoor context inside buildings, with the best evacuation/guidance instructions in real time.



Indoor location-based services - User-oriented guidance - BIM
Safety of persons and assets in buildings - Emergency evacuation
Optimal queuing and routes - Connected things (IoT)
Zone of interest

COMPETITIVE ADVANTAGES

- Optimization of crowd evacuation time in case of emergency
- Optimization of the path to get to a given point
- Simple, efficient, personalized and interactive guidance instructions

APPLICATIONS

- Evacuation of stadiums, administrations, performance halls, hotels, offices, etc...: indoor context
- Personalized guidance for customers in a shopping center, airport, metro, transports stations, public places and centers, etc
- Simulation for decision-making (optimal layouts for IoT sensors and actuators deployment, protection and safety)

DEVELOPMENT PHASE

☑ Proof of Concept in laboratory (TRL3)

PUBLICATIONS

- Dou, Z., Mebarki, A., Cheng, Y., Zheng, X., Jiang, Wang, Y., Li, Y., Li, J. (2019) Review on the emergency evacuation in chemicals-concentrated areas [J]. *J. JLPPi, 60: 35-45.* (WoS).
- El Meouche R., Abunemeh M., Hijazi I., Mebarki A., Shahrour I. (2018) Developing Optimal Paths For Evacuating Risky Construction Sites [J]. *Journal of Construction Engineering and Management (ASCE Ed.), 144(2).* (WoS).
- (*KEYNOTE LECTURE*) Mébarki A. Industrial Risks, Optimal Layouts and Guided Evacuation, Proc. 12th ISSST Aug. 06 -09, 2018, Shanghai, China.
- (*KEYNOTE LECTURE*) Mébarki A. Technological hazards, optimal risks - Guided crowd evacuation. In Proc. of the 8thInternational Conference on Fire Science and Fire Protection Engineering (on the Development of Performance-based Fire Code) Oct. 27 -29, 2017, Nanjing, China. (2017).

INTELLECTUAL PROPERTY

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