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# "Connec(t)win", the light, modular and resilient Digital Twin for connected maintenance

Egis unveils, through a demonstrator it invented, a concept of a rapid, light and resilient Digital Twin aimed at local authorities and transport infrastructure operators.

Building on more than fifteen years of experience in BIM<sup>1</sup> on its main projects, Egis actively contributes to the development of OpenBIM digital exchange protocols for infrastructure (Rail IFC <sup>2</sup> or MINnD<sup>3</sup> initiatives).

Named **connec(t)win**, this approach is based on a modular and collaborative vision of the Digital Twin. Rather than a monolithic product requiring both laborious development and an integration which would be both long and costly to its clients, Egis imagined and shaped a service based on the connection of applications recently launched on the market (modelling, analysis, field data collection, etc..) and the reuse of programs already installed in the information systems of local government and operators (asset and maintenance management software, for example, etc.).

The initial core twins can be realized more quickly: this first experiment took merely six months! In addition to the rapidity and the low cost of implementation, the use of OPENBIM formats enables an architecture that will last over time.

A PoC (*Proof of concept*) was achieved in the second half of 2021 with five keys partners from the digital and railway sectors: Catenda, Eurostep, Vossloh, Ubiplace (Egis group) and CARL Berger-Levrault. It demonstrated the feasibility and effectiveness of this strategy. The connection of existing software and solutions does indeed amplify their respective added values, and helps provide a better response to the operational needs of users: quicker access to documentation, contextualisation of alerts, better traceability, continuity of information between one solution and another, easy access on-the-go, etc. This twin concept provides considerable potential for clients by facilitating the development of business applications that are better tailored to addressing the new challenges of organisations and are easier to use.

View the demonstrator presentation video here: <u>https://vimeo.com/667763397</u> It was presented at the tradeshow <u>InfraBIM Open 2022</u>, which took place from 10 to 12 January 2022 in Lyon.

<sup>1</sup> BIM = Building Information Modelling; <sup>2</sup> IFC = Industry Foundation Classes; <sup>3</sup>MINnD = Modélisation des informations interopérables pour les infrastructures durables (Modelling of interoperable data for sustainable infrastructure);

## **About Egis**

# IMAGINE. CREATE. ACHIEVE. a sustainable future

Egis is an international player active in the consulting, construction engineering and mobility service sectors. We create and operate intelligent infrastructure and buildings capable of responding to the climate emergency and helping to achieve more balanced, sustainable and resilient territorial development.

With operations in 120 countries, Egis places the expertise of its 16,000 employees at the disposal of its clients and develops cutting-edge innovation accessible to all projects. Through its wide-ranging fields of activity, Egis is a central player in the collective organisation of society and the living environment of citizens all over the world.

## The partners of the demonstrator project

#### CARL Berger-Levrault (CARL, CMMS <sup>4</sup>) :

CARL Berger-Levrault (formerly CARL Software) has been an expert in equipment, asset and maintenance management solutions (CMMS / EAM / TPM) for more than 35 years and has a thousand clients around the world using the CARL Source software solution. The solution is divided into five business verticals to meet the needs of the major sectors: Factory, Facility, Healthcare, Transport and City.

CARL Berger-Levrault supports its clients in their continuous improvement process and their adoption of maintenance 4.0 thanks to its mobile solutions (CARL Touch, CARL Flash, CARL Xpress), its integration and graphic interaction (CARL Maps CAD, GIS, BIM & CIM) and its IoT platform dedicated to maintenance (BL Predict).

#### Catenda (BimSync, BIM platform / common data environment) :

Catenda is a Norwegian start-up created in 2009, which has developed the common data environment based on open standards (ICF and BCF <sup>5</sup>) Bimsync. Bimsync allows all the actors of a construction project (Owner, Architect, design office, BIM Manager, Project Manager, etc.) to collaborate on a single tool to increase efficiency and reduce costs and energy impact. The Bimsync platform connects data, tools and people during all phases of a building's life cycle. With over 150 clients worldwide, including Egis, Bouygues Immobilier, Vinci and Aia, Bimsync remains one of the leading collaborative project management solutions.

#### Eurostep (ShareAspace, AIM) :

Founded in 1994, Eurostep delivers product lifecycle management (PLM<sup>6</sup>) solutions using open standards. With ShareAspace, Eurostep operates in the industries of defence, manufacturing, architecture, engineering and construction. Thanks to ShareAspace iAIM PLM, infrastructure data is federated, maintained and accessible to partners.

#### Ubiplace (SmartVigie, data collection) :

Ubiplace is a start-up created in 2016 and based in Nice, France, in which Egis acquired a stake in 2021. It provides turnkey solutions to simplify and consolidate the collection of field data with an intuitive and collaborative reporting platform. The company is positioned in 4 business areas: acceptability of construction sites, mobility, buildings and energy transition, natural risks, and the environment.

UBIPLACE delivers solutions to local authorities that promote simplification, cross-functionality between different departments and better use of data.

<sup>4</sup>·CMMS = Computer-aided Maintenance Management Systems; <sup>5</sup> BCF = BIM Collaboration Format; <sup>6</sup> PLM = *Product Lifecycle Management* 

#### **Vossloh (Monitoring Solutions) :**

For over 135 years, railway infrastructure has been the core business of the Vossloh Group. As global leader in its field, Vossloh offers its clients – public and private railway enterprises, local and regional network operators and enterprises – a wide range of products and services ranging from switch systems and crossings, rail fastening systems and concrete ties to innovative and digital-based services to manage products throughout their entire lifecycle.

#### **Isabelle Mayrand**

Chief Public Affairs and Corporate Communication Officer Tel.: +33 (0)1 39 41 44 17 / +33 (0)6 17 10 29 70 *isabelle.mayrand@egis-group.com* 

#### **Sabine Mendy**

Deputy Communications Director Tel.: +33 (0)1 39 41 43 05 / +33 (0)6 25 33 02 64 sabine.mendy@egis-group.com



