



PRESS RELEASE

At the end of the European Project Z-Bre4k - Strategies and Predictive Maintenance models wrapped around physical systems for Zero-unexpected-Breakdowns and increased operating life of Factories.

Four years of research and innovation for the development of the platform that aims to use predictive maintenance to eliminate unexpected failures and prolong the life of production systems.

Milan, 28 July 2021 - **Z-Bre4k** (<https://www.z-bre4k.eu/>) is an European project financed within the Horizon2020 programme of the European Union, and it's part of a growing European interest in maintenance in general, but above all in predictive maintenance strategies to address and support the evolution of equipment, instrumentation and production processes.

It is an initiative focused on predictive-prescriptive maintenance strategies, the result of a **consortium of 17 companies**: HOLONIX, AIMEN, ATLANTIS, CORE, INNOVALIA, INOVA, GESTAMP, for the technological part; SACMI, PHILIPS CL, CDS, TRIMEK, for the industrial part; BRUNEL, FRAUNHOFER, CRIT, EPFL, IMEC, AIC, for the academic part.

Among these, **Holonix**, specialized in **IoT technologies and software products and Augmented Intelligence**, has been mainly involved as a technology provider in the use case who saw the involvement of SACMI, one of the world leading companies producing machines for closures and caps and CDS, one of the users of these machines. Holonix connected the machinery of the pilot companies to its software i-Live Machines, enabled the acquisition of data as key element of the Z-Break algorithm and AI based strategies training and creation, as well as implemented the data flow from and to the customers.

More in details, the **the Z-Bre4k project** is developed a solution that aims to reduce to almost zero the **machine downtime caused by sudden faults**.

The **Z-Bre4k architecture** combines computer technology, operating technology, engineering technology, leveraging industrial data space interoperability to support the factory in its predictive maintenance activities. The **Z-Break solution** comprises the introduction of **eight scalable strategies** at component, machine and system level targeting: the prediction occurrence of failure (**Z-PREDICT**), the early detection of

current or emerging failure (**Z-DIAGNOSE**), the prevention of failure occurrence, building up, or even propagation in the production system (**Z-PREVENT**), the estimation of the remaining useful life of assets (**Z-ESTIMATE**), the management of the aforementioned strategies through event modelling, KPI monitoring and real-time decision support (**Z-MANAGE**), the replacement, reconfiguration, re-use, retirement, and recycling of components/assets (**Z-REMEDiate**), synchronizing remedy actions, production planning and logistics (**Z-SYNCHRONISE**), preserving the safety, health, and comfort of the workers (**Z-SAFETY**).

The developed platform allows to build an **architecture** able to guarantee: the acquisition of data, the transfer and the saving of the same, the analysis of the data and the definition of a decision support system to evaluate the performance of the machines, to suggest the activity of prevention anomalies and to improve the maintainability and the operating efficiency. A concrete example of the importance of Z-Bre4k comes from its application in **three use cases**:

In the **GESTAMP** plants, the light frame parts production line includes a servo press-operated moulding cell for cold-forming incoming sheet metal, a format arc welding robot and a multisensor quality control system to ensure the quality of the finished parts.

Shaving systems are produced in the **PHILIPS** plant. The production line consists of cold forming, finishing, measuring and assembly.

Among the three business houses stands out then that of **SACMI Imola**, an international leader in industrial plant engineering, in particular in the production of complete plants for the ceramics, metals, packaging, food and beverage and plastic containers and advanced materials, in which the Z-Bre4k solution was introduced to offer predictive maintenance service for the end-user involved (CDS) inside compression molding machines. A key role for the solution developed in the Z-Bre4k project and for the SACMI case is played by **i-Live Machines of Holonix: the software-product of Augmented Intelligence dedicated to industrial machinery manufacturers**, specialized for the collection and analysis of data from the installed machinery fleet and aimed at the intelligent management of the same on the basis of the real use that is made of it.

Within the project, **i-Live Machines was connected to 5 SACMI machines located at the CDS plants**. Thanks to several customizable dashboards, both CDS and SACMI were able to visualize in real time the information about the production trend. In addition, the possibility was given to include corrective, preventive and predictive maintenance activities carried out by operators. i-Live Machines therefore become the backbone of the Z-break solution for SACMI, for the development of the Z-Break strategies, algorithms and Artificial Intelligence solutions.

«I think the Z-Bre4k project has succeeded in highlighting the importance and the feasibility of developing intelligent and predictive maintenance systems for greater reliability of production systems not only for large but also for SMEs. This is a crucial point for security and competitive advantage for manufacturing companies - says Jacopo Cassina, CEO of Holonix -. The CDS-SACMI case, within the Z-Bre4k project, was very relevant

and representative of how the solution allowed daily monitoring for 5 connected machines and how this leads to the possibility to concretely develop AI and analytics for manufacturing».

«Thanks to i-Live Machines of Holonix a large amount of data was collected and used for the purpose of data analysis, AI training and analytics for the improvement of business production processes» - feedback emerged from the pilot CDS -SACMI.

«The Z-Bre4k project – concludes Jacopo Cassina - shows the unique possibilities that i-Live Machines opens to industrial machines producers; in fact through the data acquired from the platform they have the possibility to develop data-oriented, analytics and Artificial Intelligence services to enable higher performances of their machines and provide focused solutions with high added value to their customers».

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