Rely on PIANISM, Rely on Your Device

We use many different **devices** in all areas of our lives. The renewal of some of the devices we use with the **developing technology** convinces us to move to the **upgraded device**. However, apart from daily use, it is not possible to frequently upgrade devices that work for a specific task in **factories**. For this reason, the **longevity** of such devices with very **high financial value** by working smoothly provides benefits to the **user** in every aspect. In order for these devices to have a long life, they should be maintained frequently. But manpower **maintenance** is no longer **sufficient**.

The likelihood that any problem will be overlooked poses a great risk. Although it is important to be able to detect existing **malfunctions**, it is important to **detect possible malfunctions** before they occur and to take **precautions** against them as well.

Likewise, enterprises value their projects, capital, and employees. Frequent checks are made to **avoid** any problems**, technical problems,** or device malfunctions.

For this reason, **predictive maintenance** has become a very valuable topic in the **industry**. Predictive Maintenance is an **indispensable** part of **industrial facilities**, which means taking care of the system against problems that may arise as a result of various **analyzes**.

So why is Predictive Maintenance *different* from other types of maintenance?

No matter how much maintenance is carried out, the devices used can be damaged quickly due to **external factors**. These factors can be electrical, **mechanical**, or **environmental**. These malfunctions that occur for **unexpected** reasons also cause **system malfunctions.**

Predictive maintenance is developed to continuously monitor the health of devices and receive warnings before a malfunction occurs.

Data collection processes that occur through **the machine learning system** help manufacturers save time and money by detecting a possible malfunction of a device before damage occurs.

Good maintenance **technology** ensures process **reliability**; thus, production continues without any **interruption.** This website u

Predictive Maintenance & Machine Lea

Combining a **machine learning** system with Predictive Maintenance applications helps to make **statistics** and **predictions** for **device maintenance** easier and more **reliable**. When such **statistics**, **algorithms**, or **predictions** are not made, a sudden **failure might** occur, and the **intervention** takes place *after* the failure. When caught unprepared for such malfunctions, **Corrective Maintenance** takes place. This maintenance, which takes place without planning, is the type of maintenance with the **highest maintenance cost**.

If the fault is noticed late, the maintenance becomes **ineffective** and causes much **greater damage**.

Preventive maintenance, which takes place **periodically** in order to prevent any damage or malfunction, is the maintenance for the **predicted** damages before the device fails. Preventive maintenance, which plays an important role in **device maintenance**, is still not **sufficient** to **prevent possible malfunctions**.

Predictive maintenance made with the **machine learning system** offers a more efficient and **long-term** device life compared to all other maintenance types.

Predictive maintenance under the PIANISM Project

Within the scope of ITEA, the PIANISM (https://www.pianism.eu/) project, which is carried out in 4 countries with a total number of 16 partner companies, aims to ensure that the valuable devices used in the factories work smoothly and thus prevent possible **material** and moral damage.

An **innovative** and **industry 4.0-oriented** developed **system** is required by breaking the traditions **in production environments**. Because **innovations** for Industry 4.0 allow **manufacturers** to reduce their costs while increasing the **quality** of their products. In short, it provides exactly what is desired to companies: much more quality work with much less money.

This system should cover various fields such as **data science**, **machine learning, predictive analytics**, **simulation,** and **real-time processing**.

The purpose of PIANISM is to provide incomplete **analysis techniques** and algorithms, thus providing more flexible and applicable solutions for manufacturers.

Since the most important focus of the PIANISM (https://www.pianism.eu/) project is the **predictive maintenance** concept, it is of great importance to have diverse **data sets** that include different countries and sectors. For this reason, the project has 9 different use-case partners.

Just like how you would take care of something you care about; **manufacturers** care for their projects and business and want everything to go *smoothly*. For this reason, PIANISM offers to **enhance** the capability of the devices of partner companies' and most importantly aims to prevent **potential failures** and damages.