

iSteel-Expert Newsletter No 4

The iSteel-Expert project is completing its second year of activities focused on the development of a **remote expert virtual system** for EAF continuous monitoring. It is time for a short recap on the most recent achievement and the upcoming challenges.

Most recent Achievements

An Enhanced Dashboard Key improvements are achieved to the process data visualization **dashboard**, aiming for a more **intuitive and organized interface**. New **configurable combined views** now support active data analysis. Users can also **synchronously browse images and audio recordings** from the plant.

Image Analysis Models at Work Models developed by **Scuola Superiore Sant'Anna** and **Tenova** for recognizing plant events via cameras successfully identify critical situations like operator presence near the furnace, fume presence, and slag door status. These models were successfully integrated into **Tenova's** Automation system in **Siderpotenza**.

Training Platform Development **Sim4Future** developed a first prototype of the 2D learning environment focused on managing a full heat-cycle. **Institute Catholique de Lille** developed an initial prototype of a Virtual Reality training platform using Unity 3D.



Upcoming Challenges

The project is now entering its final phase. Here are the activities our partners will be focusing on:

- **Scuola Superiore Sant'Anna** and **Tenova** will develop an advanced **AI-based system for suggesting corrective actions** through data analysis in the event of degraded performance.
- **Universidad de la Rioja**, **Sim4Future** and **Institute Catholique de Lille** will work on the further development of the **simulation platform**.
- **Siderpotenza** will support the modeling and analysis activities and proceed with the **field validation** of the results obtained.



Dissemination

Preliminary results on the research work on events detection through Artificial Intelligence approaches were presented in important scientific conferences and workshop in **3 different continents**:

- the **EU-Japan Digital Week**, held in **Tokyo** (Japan) on April 2-7, 2025.
- The **Annual Iron and Steel technology Conference and Exposition AISTech 2025**, held in **Nashville** (USA) on May 5-8 2025.
- The **Spring dissemination event of the European Steel Technology Platform (ESTEP)**, held in **Krakov** (Poland) on June 5-6, 2025.

