

ESTEP 2025 Annual Event

28-30 October 2025
Udine (ITALY)

How decarbonisation, digitisation
and circular solutions forge the
sustainable European steel future?

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AI SUPPORT SYSTEM FOR DIMENSIONAL CONTROL IN STEEL PRODUCTION



DIGIMET



DANIELI AUTOMATION



**UNIVERSITÀ
DEGLI STUDI
DI UDINE**
HIC SUNT FUTURA



Dimensional tolerances are critical for quality and efficiency in steel manufacturing



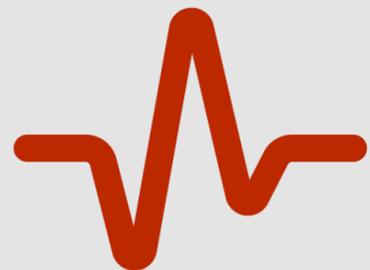
Traditional monitoring relies on operator experience, but this is subjective and prone to human error



Increasing process complexity makes manual anomaly detection less reliable

Thanks to a data-driven approach, it's possible to quickly detect anomalous process conditions

AI model trained on
historical process data



**Real-time risk of
anomalous process
conditions** occurring is
estimated



**Proactive alerts and
recommendations**
enhance operator
responsiveness



Improved process stability
and earlier interventions

Assists operator in dimensional control
in real time production

Reduction in material waste and energy usage
aligning with long-term sustainability
goals of the steel industry

