Table 1 — SSR - TDE-EAF™ Implementation Levels

TDE-EAF™ can be deployed at three progressive implementation levels, depending on the customer's objectives, available data and desired degree of plant integration.

Integration level:

● Full live integration ◐ Partial / advisory integration — No live plant connection required

Version	Main purpose	Typical use	Plant integration	Expected output
Offline Simulator	Process study and scenario evaluation	What-if analysis, melting studies, charge mix comparison, energy balance assessment, stainless yield review, refractory wear interpretation, training, benchmarking	— No live plant connection required	Simulated melting trends, thermal and metallurgical analysis, comparison of operating strategies, preliminary transfer and refractory-related interpretation
DSS / Advisory Mode	Decision support during EAF operation	Operator guidance, melting phase assessment, thermal review, charge and energy interpretation, transfer condition review toward AOD/VOD, refractory consumption review, deviation analysis	◐ Historical, exported or semi-live plant data	Recommendations, warnings, process interpretation, support for operational decisions, refractory-related advisory support where data quality is sufficient
Online Digital Twin	Real-time synchronized process representation	Live monitoring, predictive supervision, dynamic process tracking, digital twin deployment	● Integrated with live plant signals and automation architecture	Real-time tracking, predicted process evolution, dynamic advisory output, synchronized digital process view, transfer and refractory condition support

Each level corresponds to a different operational scope, from offline engineering analysis to real-time synchronized process intelligence.