Table 1 — 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 integration required**

Version	Main purpose	Typical use	Plant integration	Expected output
Offline Simulator	Process study and scenario evaluation	What-if analysis, recipe comparison, energy balance studies, training, benchmarking, operating scenario assessment	**— No live plant connection required**	Simulated process trends, thermal and electrical analysis, melting profile interpretation, comparison of operating strategies
DSS / Advisory Mode	Decision support during plant operation	Operator guidance, melting phase assessment, power and oxygen practice review, deviation interpretation, process monitoring	◐ **Historical, exported or semi-live plant data**	Recommendations, warnings, process interpretation, support for operational decisions during the heat
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

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