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How is Peekay Steel using simulation and advanced manufacturing to improve casting quality and reduce product-development time?

At Peekay Steel, we have transitioned from conventional trial-and-error foundry practices to a digital, simulation-first engineering approach. Simulation tools such as MAGMA and ProCAST are used at the product-development stage to model and validate fluid flow, thermal behaviour, feeding, shrinkage and solidification before cutting patterns or pouring metal. This eliminates defects digitally, driving our First-Time-Right (FTR) rates above 90% and cutting sample lead times.

Complementing simulation is our investment in 3D sand printing, plastic printing and other additive manufacturing processes enabling faster prototyping and execution of complex core geometries without long tooling lead times.

This technology stack has fostered an agile engineering culture that embraces rapid iteration and



continuous learning from failure. Together, these traits allow us to compress development cycles while delivering the speed, yield optimization, and consistency that give global OEMs complete confidence in our capabilities.

What has helped Peekay Steel build a sustainable export business while meeting international quality standards?

Peekay's export growth is driven by a disciplined focus on mission-critical applications across global energy, power, locomotive, and heavy industrial markets.

Our standing rests on four core pillars: our heavy scale, pouring single-piece steel castings up to 20+ Tonnes for valve bodies, pump casings, and turbine casings our severe-service metallurgy in refining Duplex/Super Duplex, Inconel, and low-alloy steels; our quality ecosystem featuring AOD refining and NDT ensuring 100% material integrity; and our global audit rigor, backed by NORSOK (A890 4A/5A/6A), marine classification societies (ABS, DNV, BV, Lloyd's Register), PED, and AD 2000-Merkblatt.

Mastering these capabilities positions Peekay as a dependable tier-1 engineering partner for global OEMs across the US, Europe, and Asia.

Which capabilities will be central to Peekay Steel's growth from a casting manufacturer to an

integrated engineering solutions provider?

Peekay's next growth phase relies on deepening our role across the customer value chain; moving beyond standalone castings to deliver fully engineered, ready-to-assemble solutions. Combining foundry strength with open-die forging, precision machining, fabrication, and sub-assembly creates an integrated manufacturing ecosystem.

This strategy is anchored across four core pillars: driving Additive Manufacturing & Digital NPI through our 3D Sand Printing Centre in Bengaluru; establishing Front-End Co-Development via DFM (Design for Manufacturing) support and simulation to eliminate defects upfront; expanding Precision Machining, Forging & Cladding so heavy components leave fully finished; and providing Turnkey Program Management backed by digitalization, skilled talent, and global execution.

Together, these capabilities enable Peekay to serve as a one-stop solutions provider for critical industrial components worldwide. ■