Invitation to the 102. AMAP Colloquium

Presentation by

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(CEO, Foundry sand processing GmbH)

Saving Costs with Foundry Sand Regeneration – a significant Contribution to the Circular Economy

on Thursday, ***March 19th, 2026 at 4.00 pm***
with subsequent discussion at AMAP

All interested persons are sincerely invited to the AMAP foyer.
Snacks and refreshments will be available.

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Saving Costs with Foundry Sand Regeneration – a significant Contribution to the Circular Economy

Stefan Zimmermann,
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Abstract

The disposal, landfill and even the reclaiming of used sands involves great efforts and costs for foundries. What's more, energy prices are likely to continue rising and new, virgin sand is not endlessly available. Therefore, the disposal of used foundry sand in landfills is definitely not a viable solution to deal with this valuable resource in the future.

Instead, the solution of choice for foundries is to have the sand reclaimed and reintegrated into a sustainable circular supply and process chain. FSP pushes this approach to a new level in three ways, by its leading-edge *patented wet reclamation*, the *mechanical-thermal regeneration process*, and by providing *sand reclaiming as a service*.

FSP's reclamation treatment is based on the *wet-regeneration process* for water-glass bonded sands, a pioneering process protected by a world-wide patent and piloted at FSP's plant in Stuttgart. The process water used to wash the sand is reclaimed and maintained within a closed circuit. Binders and waste material from the casting process are completely washed out and extracted from the process as sludges via the water treatment. The resulting waste material is disposed of according to a certified and duly documented procedure.

The patented dryer does not use air to dry the sand but an energy-efficient condensation process to remove the moisture from the sand. Subsequently, the reclaimed product is cooled in a sifter featuring a patented fluidization system and additionally dedusted.

FSP's *mechanical-thermal regeneration process* is characterized by the highest efficiency of its three-stage system. After pre-treatment, first the binder is removed mechanically. In the second stage, the sand is fed to the thermal stage and the organic binder and fines are burned off. Finally, the last residues are rubbed off the grain in the same way as stage one. Compared to conventional mechanical or purely thermal regeneration methods, this process technology reduces any dust content to a minimum.

The sustainability benefits of this approach can even be maximized by outsourcing sand reclamation to a specialized company that delivers sand reclamation with highest efficiency at minimum cost levels as a cost- and resource-saving service.

FSP's *sand reclaiming* as a service relieves foundries of expenditure on new sand and helps them save on investment, energy, and personnel costs. Moreover, by outsourcing the reclamation, foundries significantly contribute to the circular economy in several respects: The sand can be reused many times in the casting process, and at the regeneration plant, the energy, water and process air are kept within a closed-loop recycling process. In addition, FSP's sand recycling process itself is largely carbon-neutral and thus supports the foundries efforts for achieving carbon neutrality in their supply chain.