# Manaf Farhan

is the CEO and co-founder of **EMG International** 

Aerobic activated sludge processes are the workhorse of wastewater treatment plants for almost a century.

But are these 'brown water jacuzzis' always the most efficient way to eliminate organic loads?

(DON'T!)WASTE

The yield ratio for Aerobic Systems is 0.6. This means that for every 100 pounds of biochemical oxygen demand (BOD), 60 pounds of sludge or biomass is produced.



You would now be talking of a 0.03 to 0.06 yield, producing 10 to 20 times less sludge for a similar BOD load!

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**10 to 20% less sludge** 

Interesting welcome side effect: it would also turn wastewater treatment from a gluttonous energy activity to a net-energy positive step, as the treatment now only requires 20-30% of the energy it produces!

> To achieve that, the good old Anaerobic Digestor had to undergo some cosmetic surgery to become an Anaerobic Fluidized Bed Digestor (AFBD).

This enhanced design allows growing the bacteria population from the usual 3-5g/l to 40-60g/l. And these 20+ times higher biomass populations equal to a more stable process.

### (DON'T!) WASTE WATER

# For an industrial, this might be a shift of paradigm.





The net-energy aspect already turns waste into a resource. Still, if on top of it, it's stable and easy to operate thanks to automation, you can actually change people's outlook on their wastewater streams!

We automate pH, Flowrate, Temperature, Biogas generation rates and monitor liquid levels in tanks. That's how we keep things on a strict diet and optimize performance.

## And that's also how you turn a workhorse into a racing stallion!

#### This week's deep dive is packed with value, as we also covered:

- How Sustainability, Energetical Optimization, Space Optimization, and Cost Reductions might be good reasons for you to consider AFBD
- The similarities and differences between AFBDs, MBBRs, and Microbial Fuel Cells
- How to valorize biogas with the best efficiency
- How anaerobic digestion is actually a replica of what's happening in... our body!
- How EMG International addresses the industrial wastewater treatment market (and beyond!)
- How hands-on is literal when it comes to the start of EMG, with Manaf and his brother building the company's first plant

Don't miss a single bite; check it out on dww.show!