

# PiT Navigator for Waste To Energy facilities

**Combustion optimisation with intelligent Software & optical sensors  
for production increase, uniformisation and automatisisation**

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Digital image processing and model predictive control optimise Waste To Energy plants. A combination of sophisticated optical sensors with self learning neural nets reduces steam variations and increases throughput.

The usage of digital image processing, to analyse the combustion process on the grid and in the boiler, causes a faster and thereby more efficient control of the local fuel /air ratio. By continuous use of all process data and the optical data enables the system to predict process results in a self-learning and adapting software. Based on this prediction it is possible to control decisive process parameters to an optimum. This control loop supports conventional process control systems by set point corrections.

**References:** AEB Amsterdam (Martin, 4 PiT Indicator),  
AVR Arnheim (Fisia Babcock, 3 PiT Navigator),  
BKB TRV Buschhaus (Alstom, 3 PiT Navigator),  
HVC Alkmaar (VonRoll, 3 PiT Navigator),  
L90 Esbjerg (Babcock & Wilcox Vølund, 1 PiT Navigator),  
Vattenfall WTE MVB Borsigstraße (Fisia Babcock, 2 PiT Navigator)  
Vestforbraending (Babcock & Wilcox Vølund, 1 PiT Navigator),  
ZAW Coburg (Martin, 1 PiT Navigator),  
MVA Bonn (VonRoll, 3 PiT Navigator)  
Haz. Waste: AVG Hamburg (Drehrohr, Blohm & Voss, 2 PiT Navigator)

**Results:** **3 – 7 % production increase** (same or better emission levels)  
less than **+/- 2 % steam variation**  
significant saving of supportive fuels  
70% less CO  
uniformisation from shift to shift  
fast reaction to changing heat values  
permanent self learning (automatic re-adjusting)  
easy to handle, targets easy to change  
min. 80%, up to 99% fully automatic operation