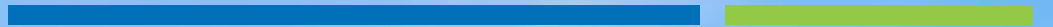


tialoc

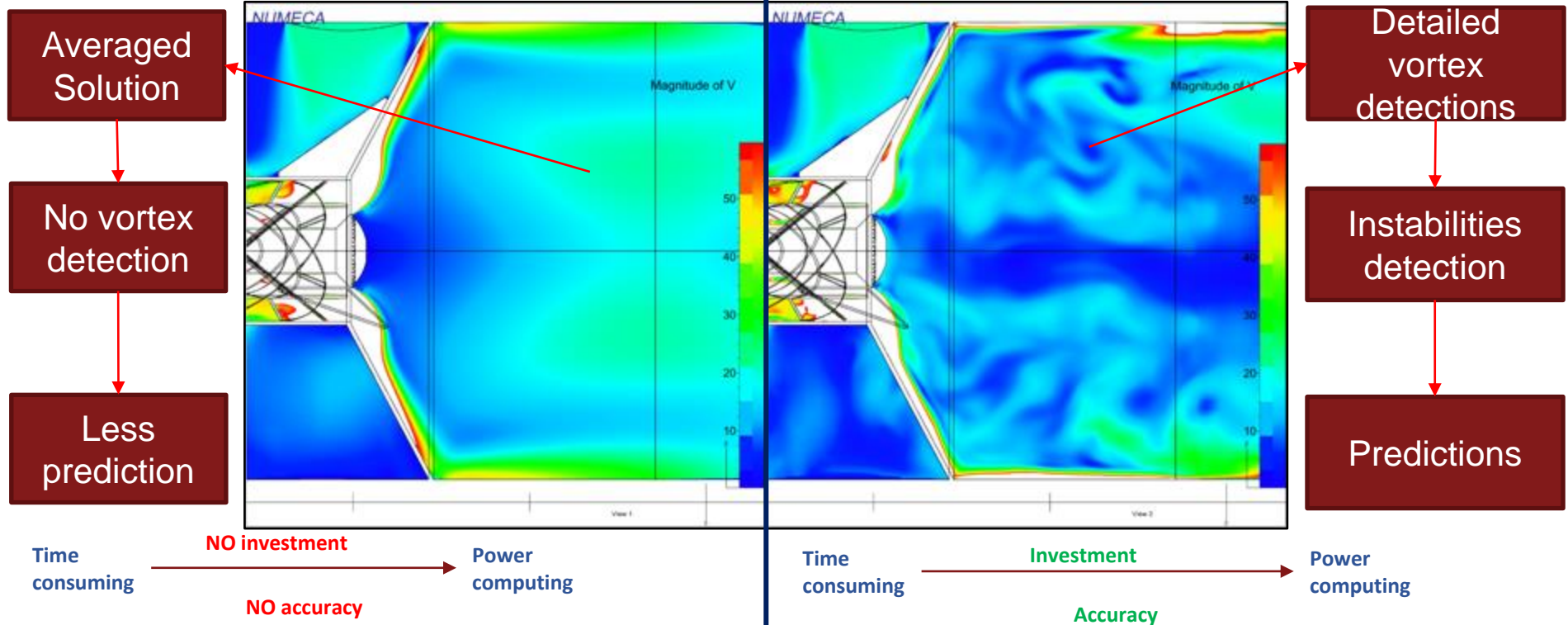


Research & Development

Computational Fluid Dynamics, Chemical Kinetics,
Chemistry Mechanism for Waste Combustion Processes and Burners

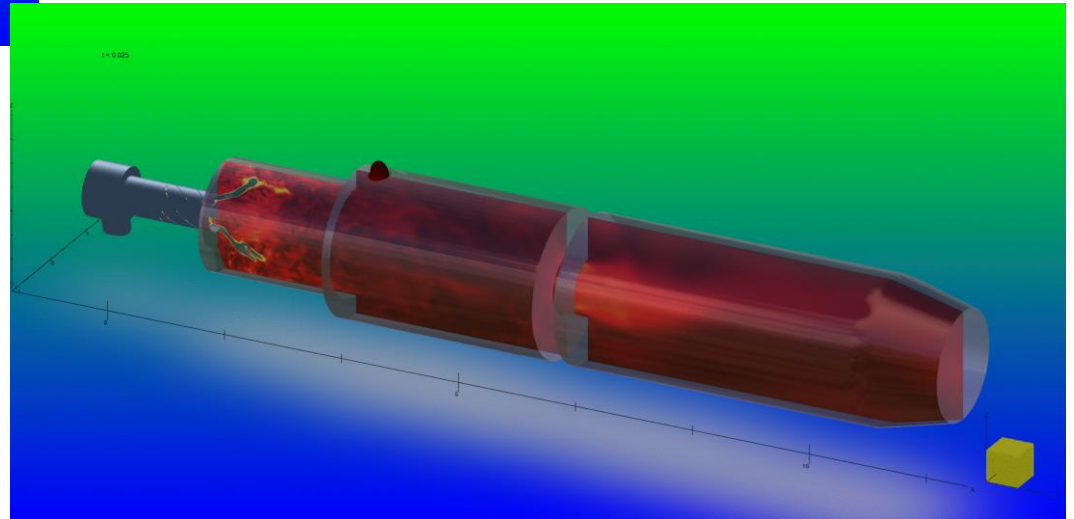
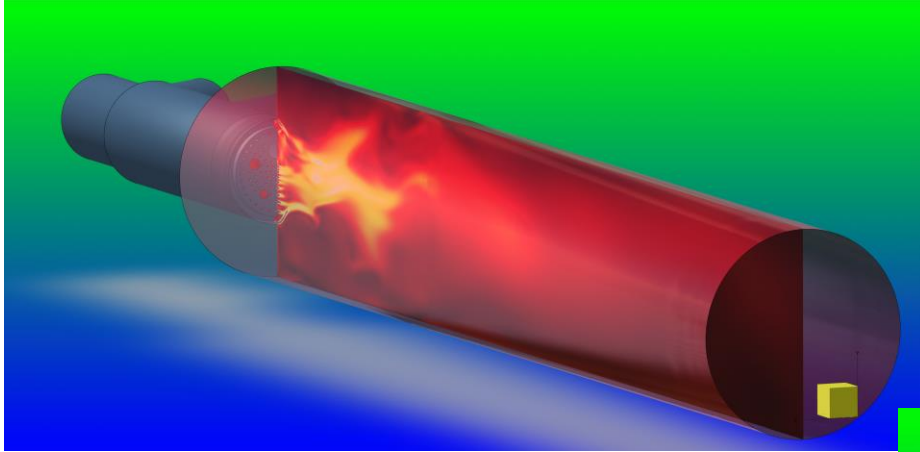
CFD RANS – Averaged Equations

CFD LES – Detailed Equations



Research & Development

*Computational Fluid Dynamics, Chemical Kinetics,
Chemistry Mechanism for Waste Combustion Processes and Burners*

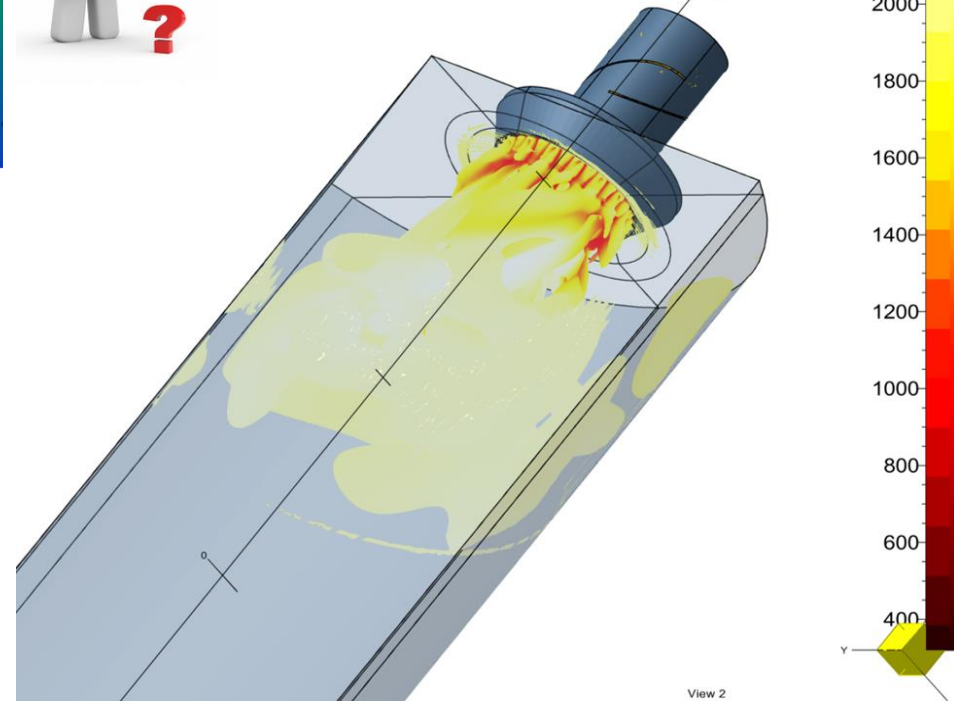
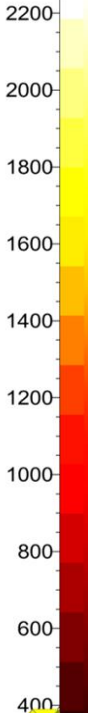


Research & Development

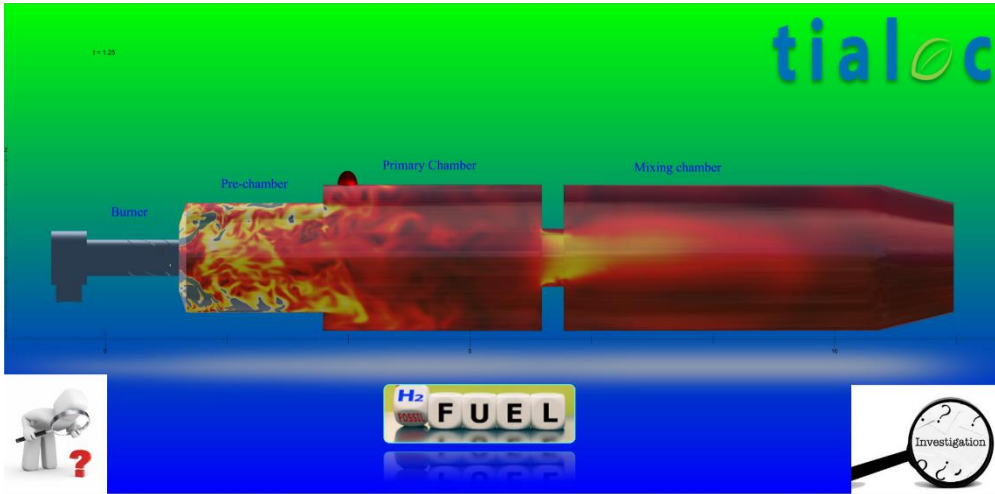
Computational Fluid Dynamics, Chemical Kinetics,
Chemistry Mechanism for Waste Combustion Processes and Burners

tialoc

Static Temperature



View 2



H₂ FUEL

Investigation

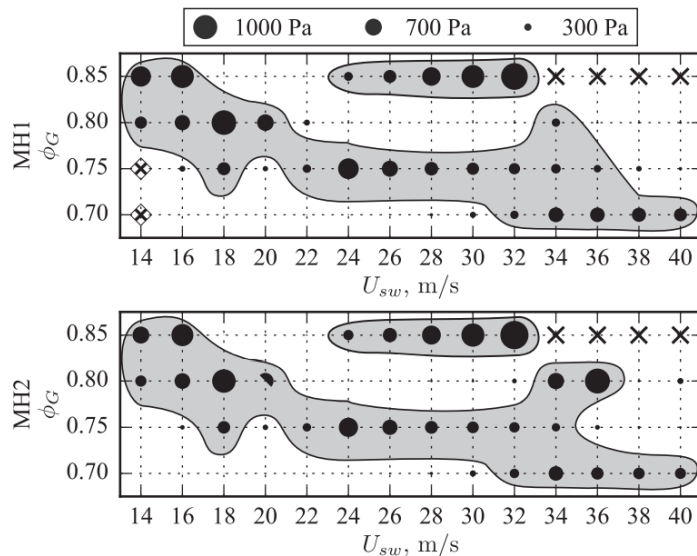
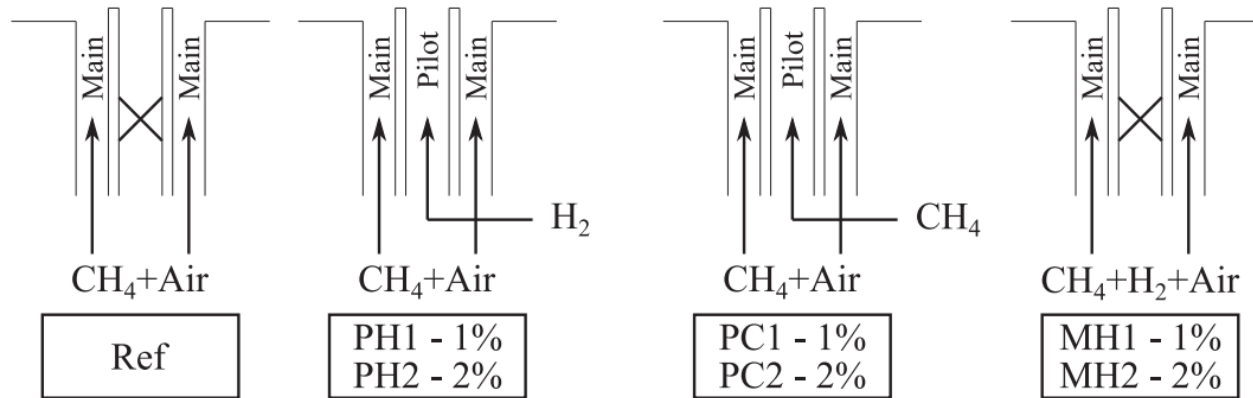


tialoc

Tialoc Belgium NV
Industriestraat 9, 2500 Lier, Belgium Company Registration No 0749.611.446
T +32 (0)3 491 98 78 W www.tialocgroup.com

Research & Development

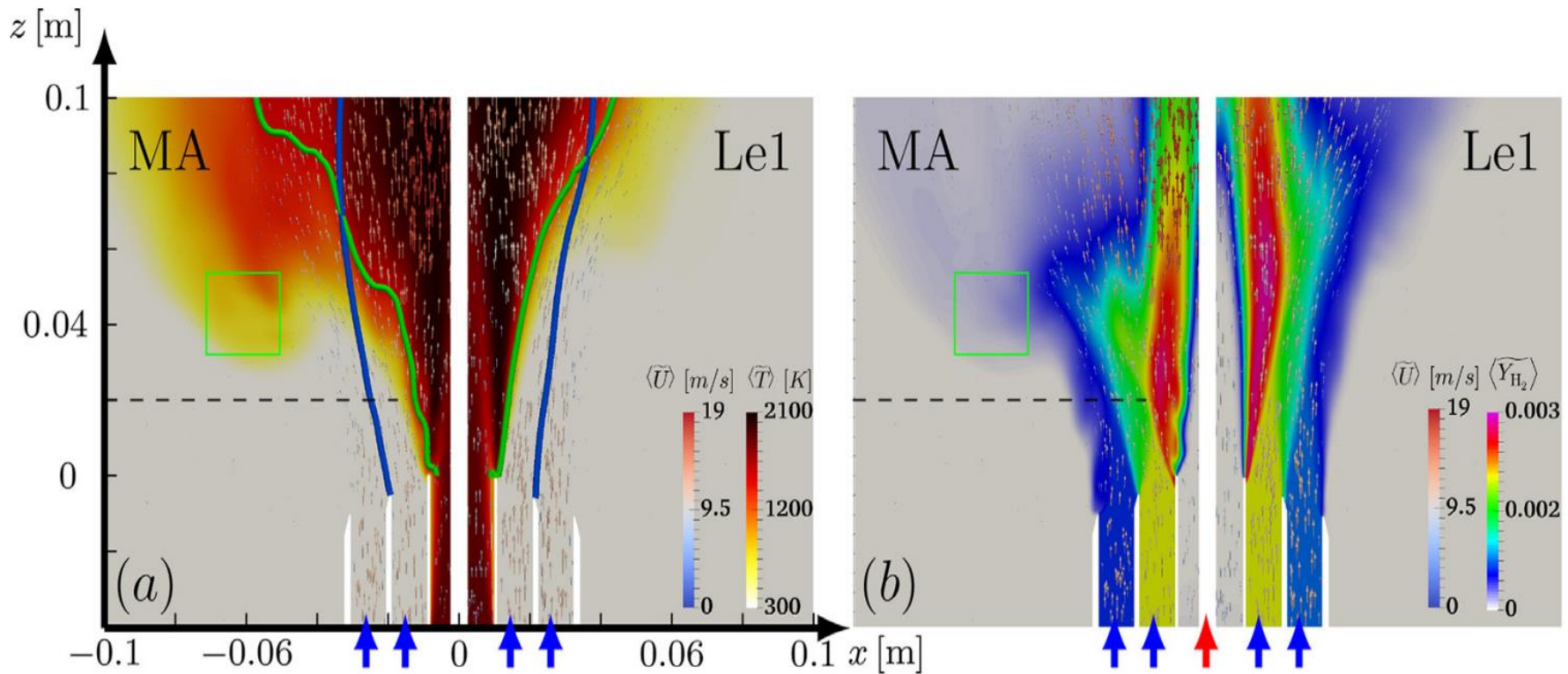
Computational Fluid Dynamics, Chemical Kinetics,
Chemistry Mechanism for Waste Combustion Processes and Burners



1. When the hydrogen is fully premixed with methane and air the stability map is not affected.
2. Pilot injection of pure hydrogen strongly affects the stability map with a significant reduction of the unstable zones.
3. Classical pilot injection of methane has a weak stabilizing effect at such low fraction of the total power ($< 2\%$).
4. Piloting with hydrogen affects the flame anchoring resulting in slightly shorter flames with a redistribution of the volumetric heat release toward the bottom of the flame.
5. ***NO_x emissions need to be monitored to select the best compromise between augmented stability margins and reduced emission levels.***

Research & Development

Computational Fluid Dynamics, Chemical Kinetics,
Chemistry Mechanism for Waste Combustion Processes and Burners



Thank you !

