WIN GD

A smarter perspective on marine propulsion







Global R&D Network

Where are we located

Headquarters:WinterthuTest Facilities:SwitzerlarEngineering Facilities:Switzerlar

Winterthur, Switzerland Switzerland, Japan, Italy, China Switzerland, India, China, Korea Switzerland: China: India: Korea: ~200FTE ~60FTE ~50FTE ~30FTE



Main tasks of the R&D organisation Enable future growth

Product Development

- New portfolio engines
- New technology roll out to portfolio
- Product care/ maintenance

Core Technology Development



Research & Testing

Single-cylinder research engine: New validation tool for advanced combustion development

RTX-7/ RTX-8 test engines: new multicylinder validation engines for system development



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On-engine SCR: compact NO_x catalyst solution for IMO Tier 3 emission regulation

WIN GD

2-stroke development toolbox

Simulation replaces proto types





New focus; IMO GHG targets

Requirements towards fleet development and possible steps

projections of CO2 emissions from shipping:



source: ICCT: Policy Update – The International Maritime Organizations Initial Greenhouse Gas Strategy, 2018

source: DNV GL: Energy Transition Outlook 2019, Maritime – Forecast to 2050

potential contributions:



Impact on the industry

Requirements towards fleet development and possible steps



CIMAC Council Meeting, November 21, 2019



ERIC; Engine Research and Innovation Centre

WinGD infrastructure for core testing, particularly for future fuels

WinGD is well prepared for investigating all kinds of future fuels:

- Wide range of experimental facilities allowing the assessment of associated fuel admissions systems requirements, fundamental combustion behaviour, performance impact as well as any aspects related with the applicability on production engines
- Further investment in relevant testing infrastructure (e.g. single-cylinder engine)
- Well-defined process for the validation of any new / alternative fuel candidate





Fuel systems testbeds Spray combustion chamber



Single-cylinder engine



Multi-cylinder engine



CIMAC Council Meeting, November 21, 2019