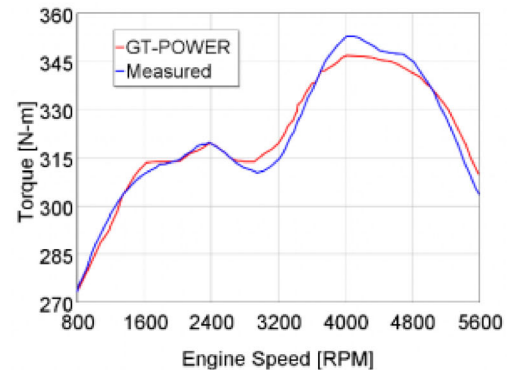
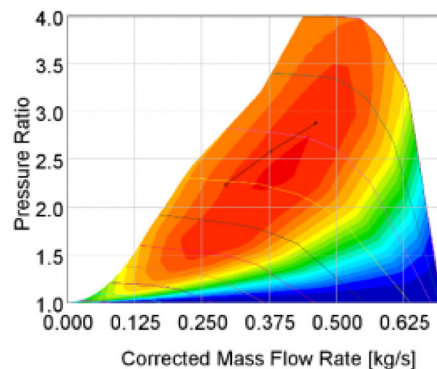


GT-POWER Engine Simulation Software



GT-POWER is the industry standard engine performance simulation, **used by all major engine manufacturers and vehicle OEMs**. GT-POWER is used to predict engine performance quantities such as power, torque, airflow, volumetric efficiency, fuel consumption, turbocharger performance and matching, and pumping losses, to name just a few. Beyond basic performance predictions, GT-POWER includes physical models for extending the predictions to include cylinder and tailpipe-out emissions, intake and exhaust system acoustic characteristics (level and quality), in-cylinder and pipe/manifold structure temperature, measured cylinder pressure analysis, and control system modeling. Standard GT-POWER engine models are **easily converted to real-time capable models (also known as Fast Running Models – FRMs) for SiL or HiL simulations**. These models may also be included in a full system level simulation within GT-SUITE to provide accurate and physically based engine boundary conditions to the rest of the vehicle.

Product Highlights

- Industry standard engine simulation, used by every major engine maker
- Wave dynamics captured via robust solution of the Navier-Stokes equations
- Applicable to any size engine, from smallest utility engine to largest marine application
- Fully flexible to allow studies of advanced and unconventional concepts
- State of the art combustion and aftertreatment models

- Flexible turbocharger modeling to handle all known configurations, including wastegated, VGT, supercharging, two-stage, turbocompounding and twin-entry turbine
- Includes complete controls library for dynamic system controls studies
- Includes CAD based pre-processors GEM3D and GT-Spaceclaim for accurate yet quick and easy model building
- Integrates with other GT-SUITE libraries for thermal warmup studies, drive cycle analysis, and more

Advanced Features and Applications

- Highly accurate, fully predictive, multi-pulse diesel combustion model
- Tumble sensitive, turbulent SI combustion model
- Complete chemical kinetics library
- Vehicle model for integrated engine/vehicle simulations
- Can co-simulate directly with Simulink, Conserve, GT-CONVERGE, STAR, Fluent and other codes
- Characterize component pressure drop and heat transfer with GT-CONVERGE, tailored to non 3D-CFD experts
- Input variables may be specified as a map or functional dependency
- Flexibility to study any valving concept, infinitely variable VVT and VVL, as well as cylinder deactivation concepts
- Finite element solution of cylinder structural temperatures, useful for part load and dynamic operation
- Advanced turbocharger features, such as overblown compressor modeling, surge prediction, reverse flow in turbines, pressure wave supercharging, advanced twin-scroll modeling, heat transfer in turbos and more
- Port injection wall wetting
- Capable of Real-Time execution
- Plug-and-Play Engine Controllers: No need to calibrate. Exclusive to GT-SUITE. Examples include: Throttle Controller, Fuel Controller, EGR Controller, Wastegate Controller, Variable Geometry Turbine Controller

Run Integrated Simulations with:

- Thermal Management
- Aftertreatment
- Cranktrain and mounts
- Hybrids, electrics
- Electrical system
- Valvetrain

Related GT Applications

- Combustion and Emissions
- Cylinder Pressure Analysis
- Intake and Exhaust Acoustics
- Exhaust Aftertreatment

- [Valvetrain](#)
- [Waste Heat Recovery](#)
- [Performance, Fuel Economy, and Emissions](#)
- [Control, MiL, SiL, and HiL](#)
- [Real-Time Engine](#)
- [Fuel Cell System Modeling](#)

Ready to try GT-POWER?

Get in touch with our team to learn more about our software

 [Contact Us](#)

Share      

[Contact Us](#)

Ready to try GT-SUITE?

 [Contact Us!](#)

[Brochure](#)

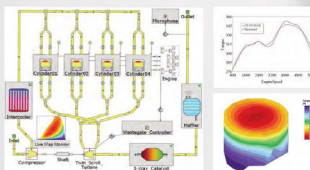
Engine Performance with GT-SUITE

Highlights:

- Industry standard engine simulation, used by every major engine maker
- Wave dynamics captured via robust solution of the Navier-Stokes equations
- Applicable to engine of any size, from smallest utility engine to largest marine application
- Fully flexible to allow studies of advanced and unconventional concepts
- State of the art combustion and aftertreatment models
- Complete controls library for dynamic system controls studies, including calibration-free throttle, load, wastegate and VGT controllers
- Includes CAD based pre-processors for accurate yet quick and easy model building
- Integrates with other GT-SUITE libraries for thermal warpage studies, drive cycle analysis, and more

GT-POWER Engine Simulation Software
Engine Performance Analysis Modeling

GT-POWER is the market leading engine simulation software, used by every major engine manufacturer for the design and development of their engines. It is applicable to all sizes and types of engines, and its installed base includes a highly diverse group of car, truck, motorcycle, motor sport, marine, locomotive, power generation, mining and construction, agricultural, and lawn and garden equipment manufacturers.



GT-POWER contains the industry's most comprehensive and advanced set of models for engine performance analysis, providing the breadth of features required to allow the engineer to analyze a number of engine configurations and performance characteristics, including:

- o Torque and power curves, airflow, vol. efficiency, fuel consumption, emissions
- o Steady state or full transient analysis, under any driving scenario
- o Turbocharged, supercharged, turbocompound, e boost, pneumatic assist
- o SI, CI, HCCI and multi mode combustion, multi fuel, and multi pulse injection
- o Infinitely variable valve timing and lift (VVT and VVL)
- o Acoustic analysis of intake and exhaust systems
- o Manifold and cylinder component thermal analysis, with included FE solver
- o Controls system modeling, via built in controls library or Simulink coupling

GT Gamma Technologies
Contact us at: www.gtisoft.com

Relevant Publications

- [Fuel Consumption Improvement](#)
- [Predictive SI Combustion Modeling](#)
- [Knock Analysis & Prediction](#)
- [Mechanically Supercharged 2.4 L GDI Engine](#)

[Search for more publications](#)

GT-SUITE

[GT-SUITE Overview](#)

[GT-SUITE Product Options](#)

[Testimonials](#)

[Publications](#)

[Productivity Tools](#)

[Blog](#)

INDUSTRIES

[On-Highway Vehicles](#)

Off-Highway Vehicles
Marine and Rail
Industrial Machinery
Power Generation
Aerospace

APPLICATIONS

Overview of GT-SUITE Applications

EVENTS

Trainings and Seminars
Conference
Webinars

SUPPORT

Customer Service
Downloads
Support Request
Member Area

ABOUT / CONTACT

About Us
Careers
GT News Archives
Contact By Territory
Contact Us



© Gamma Technologies LLC, 2015 - 2019. All rights reserved.

Designed by [Fresh Design Studio](#)