25 years
In motion…

- Decision of constructing DESA was made by Iran's parliament at 1989 as one of the most important infrastructure plans with ability to produce 270 diesel engines a year

- Building the factory since 1990 to 1996 and beginning the activities officially at 1997 by Wartsila engines.

- Assembly and test of 400 diesel engine for Iran's national railway along with repair and maintenance since 2000 until now.

- Construction of more than 10 power plants with the capacity of 60 MW each.

- Design and production of the first set of national diesel engine family at 2008.

- Design and production of marine diesel engines since 2010
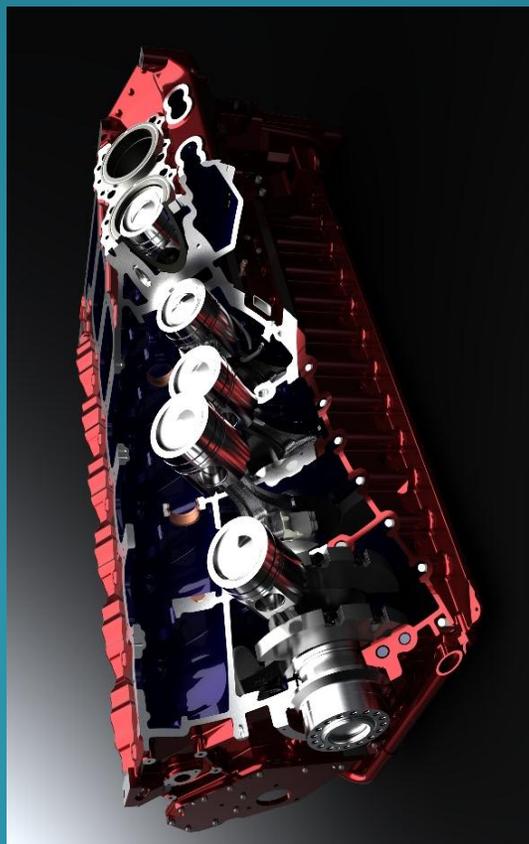
DESA mfg.co

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Amol, Iran 46161-19993

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www.desa.ir

DESA

Iran Heavy Diesel Engine company

Concept & Design

- Conceptual and detailed Design of various types of diesel engines
- Changing the application of some common types of diesel engines to marine application
- Upgrading the power of rail engines up to 30%
- Computer aided modeling and drafting of various engine components
- Reverse engineering of diesel engines
- Optimizing the design of engine components in order to improve the performance of the engine

CAE
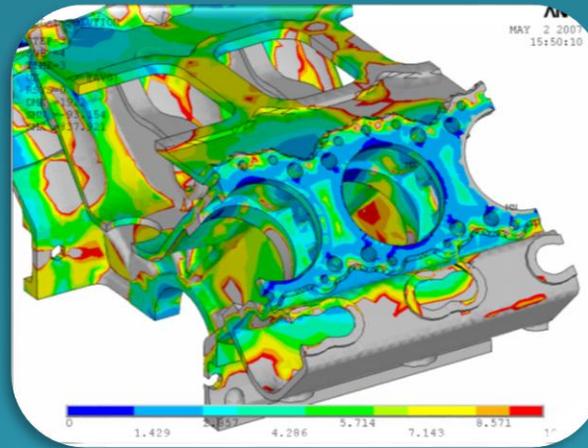
- Computer aided engineering (CAE) of main engine components
- Static structural, fatigue, thermal and modal analyses for crankshaft, cylinder head, piston, conrod and other main components
- Elasto-hydrodynamic (EHD) analysis of bearings
- Torsional vibration simulation and test of crankshaft
- Determining the safety factor of crankshaft by various standards like UR-M53 and DNV.
- training workshops in the field of CAE

Combustion development

- Combustion analysis, emission formation and optimizing it in diesel, dual fuel and gasoline engines in all applications including power plant, marine and railway
- Matching engine and test bench accessories consisted of air system, cooling system and fuel system in order to upgrade the engine power
- Preparing feasibility studies, test procedures and test reports
- Simulating the whole engine characteristics by related softwares like GT-POWER, AVL FIRE, ANSYS FLUENT
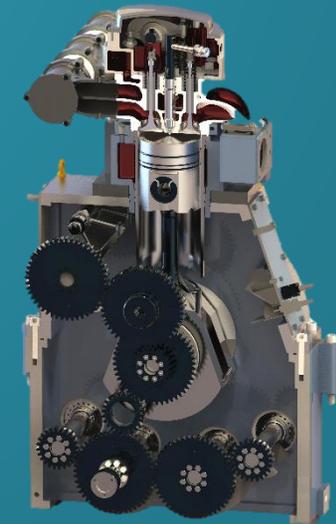
Production & Assembly

- 7500 square meter of equipped production and assembly line
- 3000 square meter of storage, manufacturing workhouse and office
- Educated experts for overhaul of a range of light to heavy diesel engines with 2 decades of experience

- Experience in repair and assembly of engines from companies like DEUTZ, MTU, BENZ, WARTSILA, MAN, YANMAR, PIELSTICK etc.

Test bench

4 equipped test bench for testing the engines ranging from 100 to 3600 KW

- With up to dated equipment in accordance with international certifications like UIC and DNV

Measurement lab

- Calibration of calipers, micrometers, torque meters, fillers, gages etc.
- Equipped measurement laboratory with ability of measuring dimensions and tolerances of any component
- Measurement of roughness of machined surfaces
- Calculating the uncertainty in calibrations and tests
- Determination of time intervals for calibration of each entity according to Iran Defense Standard
- Metrology of engine components and accessories

Training courses

Training courses and workshops by DESA

- Diesel engines troubleshooting and repair procedure
- Full engine overhaul
- CHP and its applications
- Introduction to appellations of steels and cast irons along with material selection emissions and reduction strategies
- Designing the components of internal combustion engines
- Marine standard (DNV) and railway standard (UIC) for diesel engines
- Engine testing and determining test procedures
- Planning for engine maintenance
- Storage systems planning
- Project feasibility study
- Implementation of MRP and SCM
- NDT methods and application

Training courses

- Torsional vibration analysis and crankshaft strength calculation by AVL/EXCITE software
- Fundamentals of meshing in ANSYS software
- Structural, thermal and modal analysis of engine components such as cylinder head, piston, conrod etc. by ANSYS software
- Simulating the whole engine characteristics by related softwares like GT-POWER, AVL FIRE, ANSYS FLUENT
- PRIMAVERA software course
- Design and drafting in CATIA, Solidworks, PRO/Engineer and CREO
- Modeling scanned components and converting point clouds to CAD models by Rapidform software
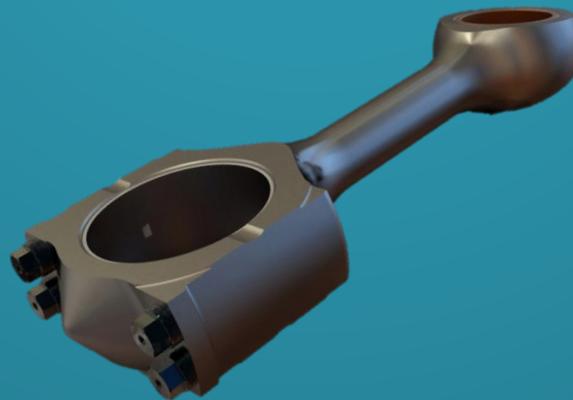
Training courses

Pielstick overhaul training course
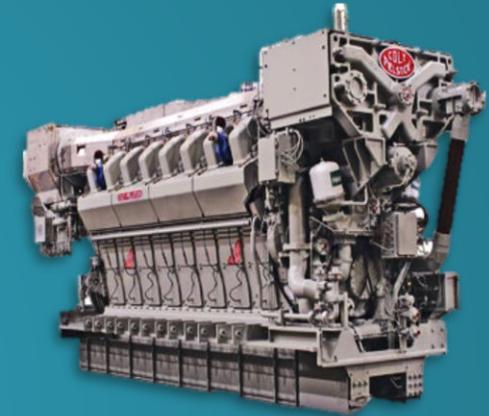
MAN d2842 overhaul training course

Repair & test

Overhaul of RUSTON RK-215 engines

Test of RUSTON RK-215 engines

Repair & test

Overhaul and test of MTU4000 engines

Overhaul and test of MTU396 engines

Production & assembly

114 set of MTU4000 engine
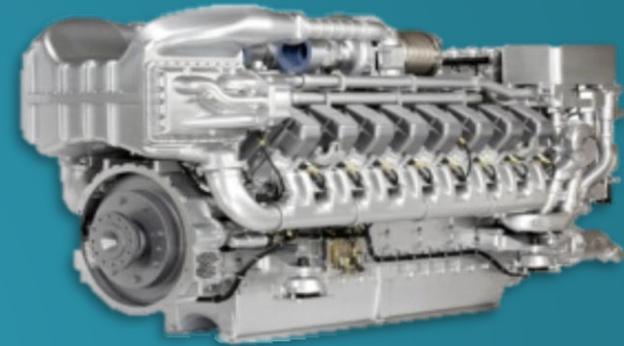
35 set of D87 diesel engine