



Comprehensive
Balance of
Plant Services

Mechanical Engineering and 3D Modeling

Comprehensive and detailed engineering and 3D modeling for power plants and energy facilities worldwide

Specializing in balance of plant for boiler, engine and power-to-x based energy facilities.

- Detailed mechanical engineering and modeling from start to finish to ensure top quality power facilities anywhere in the world.
- Site scanning and modeling to capture and create detailed 3D models of pre-existing plants.
- Lifetime extension and modification of obsolete or out of date equipment.
- Conversion engineering of conventional fuel plants and equipment to newer and greener energy technologies.
- O&M documentation, follow-up inspections and recommendations on best operating procedures and maintenance.



Mechanical Engineering and 3D Modeling Services

Full Plant Design

- Full Plant Design
- Balance of plant
- Process Modeling
- Integration Design
- Fuel Conversion
- 3D scanning of existing assets
- Fuel Conversion

Pipe Design

- Pipe Distribution management
- Pipe detailed design for fabrication or Construction
- Pipe support design
- Pipe specifications

Technical Drawing

- P&ID Diagrams
- Sketching of mechanical units, tanks, ductwork, and HVAC design
- Pipe Iso's/Mto's

Engineering Calculations

- Pipe Stress analysis
- Efficiency and performance calculations
- Hydraulic calculations
- Emission calculations
- Torsion and structure vibration calculations
- Finite element analysis (FEM)

Equipment and Parts

- Technical specification of different equipment including pumps, valve, and hookups
- Equipment sizing

Electrical Design

- Cable ladder detailed design and distribution management
- El equipment basic design for space management and construction

Plant Automation

- Control concepts
- Overall hardware setup
- DCS system code programing and upgrading.
- Energy optimization power management

Collaboration Formats

- 3D importing and exporting in step/ IFC format
- 3D Roh2 export
- 2D AutoCAD and Pdf format
- COMOS

Safety Considerations

- Precautions for Personal Safety and Escape routes
- Precautions for Maintenance access and heavy liftings
- Applications of the nature of Hazardous fluids at a Power Plants

Selected references



Boiler, Coal to Gas Conversion Odense, Denmark

Client: Fjernvarme Fyn

Scope: New gas burner and related auxiliaries

Completion: 2024



Power-to-Hydrogen Sønderborg, Denmark

Client: Andel Energi A/S

Scope: Balance of plant engineering, material supplies and installation works

Completion: 2023

About BWSC

Headquartered near Copenhagen, Denmark, BWSC provides specialized consultancy, engineering, installation, operation and maintenance services at power plants and green energy facilities worldwide.

Forty years of experience with energy infrastructure, a diverse staff of seasoned experts, full technology independence and our big-picture approach make us uniquely able to help customers define their ambitions and reach them through expert design and continuous improvement of their facilities.

BWSC

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