

# SEDAT KOÇANA OĞULLARI

M.Sc. Mechanical Engineer | İzmir, TURKIYE

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## PROFESSIONAL SUMMARY

MSc Mechanical Engineer with **over 20 years of extensive domestic and international experience** in energy, petrochemical, steel construction, and special machinery design projects. **Specialized in project management, mechanical design, installation, maintenance, and site supervision. Highly proficient in advanced CAD software including SolidWorks and Autodesk Inventor.** Fluent in technical English and proficient in Russian. Proven track record in engineering problem-solving, field applications, and customer-oriented consultancy services.

## PROFESSIONAL EXPERIENCE

### GENIUS Mechanical Design & Engineering

**Founder / Project Engineer** | 2019 – Present

Providing machine design, engineering consultancy, site management, project management, and factory installation services for various companies.

My featured projects:

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### GENIUS-Energy & Petrochemical Projects

- **SOCAR – ENKA Engineering Framework Agreement (Pipe Support Fabrication)**
  - Prepared fabrication of **3,300 pipe supports for 39 separate lines including 2,623 Dia-Inch piping works** at PETKIM and STAR Refinery facilities.
  - Analyzed 560+ isometric drawings and prepared detailed support lists and more than 120 pcs. work packages.
- **ENKA Kirklareli Natural Gas Combined Cycle Power Plant (Water Discharge System)**
  - Designed a portable Pump Skid on steel platform (2.5 x 2.5 x 1.5 m, 1,850 kg) for ACC condensate discharge system.
  - Engineered a system compatible with two 18.5 kW and one 15 kW staged pumps; completed within 1 month.

- **ENDMER Tank Equipment Plate Transportation Skid Design**
    - Designed and supervised fabrication of cradle-type transportation skid for 13,000 x 2,000 mm tank plates.
    - Increased logistics efficiency with 20-ton load capacity system.
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## GENIUS-Industrial Projects

- **Normfeed New Plant Installation – Project Manager & General Coordinator**
  - Served as General Coordinator for **\$3,760,000** feed and food processing plant **investment project**.
  - Completed installation in **4 months** (planned duration under FAMSUN supervision was 7.5 months).
  - Managed design, fabrication, and installation of **300-ton** silo system and **3–5 ton/hour** ratio batching systems.
  - Delivered engineering solutions increasing plant capacity by over **25%**.
- **IPM – Perlitaş Production Facility Capacity Expansion**
  - Designed integrated crushing-screening, silo storage, and big bag filling systems.
  - Completed **300-ton** structural layout including 6 vibrating screens (**20 t/h**) and **7 belt conveyors**.
- **DKY Pipe – PVC Pipe Manufacturing Plant Installation**
  - Developed full plant layout using AutoCAD and SolidWorks.
  - Designed steel platforms carrying **2 x 35-ton** silos and equipment over 20 tons.
  - Completed 50-ton steel roof elevation project.
- **GATES – Automotive Special Equipment Design & Manufacturing**
  - Designed 8 special hose assembly benches with **200+** suspension points.
  - Designed and manufactured 4 horizontal autoclave carts (Ø2.5 m) with **350 core** suspension points.

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## GENIUS- Steel Construction Projects

- **ALKOM – İzmir Menderes State Hospital Canopy Works**
  - Led design and fabrication planning of 8.5-ton steel canopies.
  - Completed full 3D modeling and project documentation within 2.5 weeks.
- **Merkeztur Residential Complex – Structural Strengthening Project**
  - Designed steel cross-bracing reinforcement system for reinforced concrete buildings.
  - Conducted 3D modeling and prepared fabrication and site installation drawings.

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## GENIUS- Medical Projects

- **SmartVet – Refrigerated Vaccine Dispenser Prototype**
  - Designed and manufactured temperature-controlled 10-chamber vaccine dispenser prototype.
  - Developed 3D printed mechanism accommodating 20 ampoules sorted by expiration date.
  - Expanded concept to 200-ampoule capacity after field research.
- **SmartVet – Electrocautery Device Front Panel & Housing Design**
  - Designed injection-mold compatible front panel and sheet metal housing.
  - Completed Mock-up production within 2.5 weeks.
- **KORDON Medical – KOSGEB-Supported Biological Indicator Project**
  - Designed mechanical tube filling machine prototype.
  - Engineered automatic feeding and placement mechanisms for cotton bed and UV strips.
- **MORSA Medical – Industrial Silicone Casting Machine Design**
  - Designed industrial silicone casting machine (min. 1,000 pairs/day capacity).
  - Developed dual-component 20-liter mixing system with in-situ vacuum degassing.
  - Designed servo-controlled volumetric casting system and integrated solvent-recovery CIP and tunnel curing oven.

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## ENDMER – İzmir

Mechanical Engineer / Site Chief | December 2018 – June 2019

- **SOCAR PETKIM General Maintenance Work (Tank Maintenance and Overhaul)**
  - Served as Site Chief in the maintenance operations of xylene and paraxylene tanks at the Aliaga Petkim site.
  - Managed plate patch applications for damaged areas on tank bottoms and shells, piping replacements, and maintenance of auxiliary equipment.
- **AOSTE Fuel Storage Expansion Project (Support Fabrication)**
  - Planned support fabrications corresponding to **225,000 WDI** piping works; identified **850 pcs** support models from **1,730** isometric drawings.
  - Created **720** work packages and prepared **25,000** single-part models and technical drawings for **52** tons of support fabrication.
  - Prepared progress payment (interim payment) documentation for a total of **140 tons** of support fabrication.
- **AOSTE Fuel Storage Expansion Project (Firefighting Lines)**
  - Executed approximately **200 tons** of sprinkler line fabrication for **27,500 WDI** piping works across **11 Tanks**.
  - Facilitated fabrication and quality tracking by preparing work packages for 675 spools and maintaining **12,000 welding records**.
- **AOSTE Fuel Storage Expansion Project (Tank Revisions)**
  - Prepared design and fabrication drawings of ladders and platforms in compliance with **OSHA standards** during the revision of existing tanks.

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## TÜRKER TECHNICAL MACHINERY

**Design Engineer / Project Manager** | January 2017 – October 2018

Sector: Healthcare

- **Designed numerous medical adhesive tape production machines;** managed process engineering, manufacturing, assembly, and commissioning processes.
- **Carried out engineering and modernization of machines** that previously had no technical drawings.
- Rubber-Based **Adhesive Production Mixer Design and Development**
  - Designed an adhesive mixer with a production **capacity of up to 1 ton**.
  - Minimized fire and explosion risks by implementing an **ATEX-compliant** explosion-proof (Ex-proof) design.
  - Reduced mixing time to **5–10 minutes** and developed a cooling system providing precise temperature control.
- **Laminated Adhesive Coating and Drying Oven Design**
  - Designed a drying oven capable of laminating fabric up to 1600 mm width at a speed of 20 m/min.
  - Ensured heating between 90–120 °C using a 150 kW/h steam generator and safe removal of hexane vapor with an explosion-proof suction system.
  - Prevented health and safety risks by creating negative pressure within the tunnel.
- **Cutting and Forming Machines Design and Manufacturing**
  - Designed and manufactured machines including a Fix Winding Machine (1000 m<sup>2</sup>/hour capacity), Disc Cutting Machine (automation-controlled, servo motor-driven), Plaster Winding and Rewinding Machine (50 pneumatic blades), and Rotary Cutting and Slitting Machine (high-speed, capable of slitting 1250 mm material in 15 seconds).
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## İLK Construction – SOCAR Refinery

**Workshop Chief** | April 2016 – January 2017

Sector: Engineering Services

- Managed stainless steel and carbon steel pipe fabrication in the workshop.
- Planned approximately **12,000 WDI** of stainless steel and **200,000 WDI** of carbon steel pipe fabrication.
- Achieved a daily average of **1,200 DIA** fit-ups with a 67-member piping team and **800 DIA** welds per day with a 22-member welding team.
- Coordinated the workflow of a total of **150** personnel and supervised the activities of 4 quality inspectors.

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## **ASKAY – TÜPRAŞ İzmir**

**Site Chief** | April 2015 – April 2016

Sector: Energy

- Managed piping and steel equipment installation, maintenance, and overhaul works at the refinery site.
- Coordinated tank maintenance works, floating roof/dome installations, and ladder/platform fabrications.
- Executed scheduling, budgeting, quality control, occupational health & safety, procurement, and subcontractor management.

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## **ASKAY – AKSA Thermal Power Plant (Bolu)**

**Site Chief** | April 2014 – April 2015

Sector: Energy

- Managed the installation of the crusher building, stock hall, and transfer towers.
- Coordinated approximately 3,800 tons of steel erection and cladding works.
- Executed scheduling, budgeting, quality control, occupational health & safety, procurement, and subcontractor management.

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## **YAMATA – RusVinyl PVC (Russia)**

Senior Field Engineer | March 2013 – October 2013

Location: Nizhni Novgorod, Russia

Sector: Energy

- Served as a Mechanical Field Engineer responsible for the installation of static and rotating equipment.
- Organized the necessary equipment and manpower for installation works; followed up on technical correspondence.
- Managed preservation activities for all mechanical equipment.

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## **ENKA – Shell Iraq Project**

Field Engineer | October 2011 – March 2013

Location: Iraq

- Served as a Field Engineer within the scope of the Shell Iraq Project.
- Supported the planning and execution of field operations.
- Provided technical supervision during equipment installation and maintenance processes.

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## SELEN PROJECT – İzmir

MSc Mechanical Engineer | August 2009 – February 2012

Sector: Engineering, Design and Contracting Services

During my master's studies, I took part in the design phase of numerous industrial and structural steel construction projects.

- Participated in the preparation of complete steel building fabrication and erection drawings for **KIPA Edremit Shopping Mall** and **KIPA Salihli Shopping Mall**.
- Carried out the design of steel structures, piping/cladding details of **A.C.C. Unit** (Air Cooling Condenser) for **AK Energy Combined Cycle Power Plant** in İzmir-Kemalpaşa.
- Designed a steel structural strengthening system and managed the site works for the restoration project of a Greek house located on Salih Nevvar İşgören Primary School Street in Alsancak, İzmir.

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## GAMA – Pearl GTL Project / Qatar

Industrial Field Engineer | August 2008 – August 2009

Sector: Energy

Location: Doha – Ras Laffan I.C. – Qatar

- Worked as a **Field Engineer** responsible for piping, steel, and mechanical installations of the **A.C.C. Units (Air Cooler Condenser)** within the Air Separation Units section of the **Shell Pearl GTL Project**.
- Coordinated the installation site, ensured compliance of relevant documents and drawings with the project schedule, and resolved technical issues.
- Followed up on all technical correspondence and ensured that field operations progressed safely and efficiently.
- Organized and supervised all quality control activities on site.
- Led the implementation of occupational safety procedures to establish a safe working environment.
- Successfully completed the project and concluded my assignment.

## SOFTWARE SKILLS

- **CAD Software:** SolidWorks, Autodesk Inventor, AutoCAD (Advanced level, since 1997)
- **Office Software:** Microsoft Office (Word, Excel, PowerPoint, etc. – Advanced level)
- **Project Management Software:** MS Project (Advanced level)
- **Programming:** C++ (Beginner level)
- **Graphic Design:** Adobe Photoshop (Intermediate level)
- **Office Equipment:** Scanner, Fax, Photocopier, PC usage

## LANGUAGES

- **Turkish:** Native
- **English:** Advanced (TÖMER certified)
- **Russian:** Good (TÖMER and Solzhenitsyn Russian Cultural Center certified)

## EDUCATION

### Master's Degree

- Manisa Celal Bayar University, Graduate School of Natural and Applied Sciences, Mechanical Engineering
- 10.2005 – 11.2010 | GPA: 77.63 / 100

### Bachelor's Degree

- Manisa Celal Bayar University, Faculty of Engineering, Mechanical Engineering
- 09.1996 – 09.2001 | GPA: 58 / 100

### High School

- Karşıyaka Gazi High School, Mathematics
- Graduation Date: 01.1993 | GPA: 60 / 100

## **CERTIFICATIONS & SEMINARS**

- Quality Control (QISC – Qatar, 12.2010)
- I.I.F. Supervisor Skills Lead Workshop (JMJ Associates – Qatar, 05.2009)
- Train The Trainer (QISC – Qatar, 01.2009)
- Lifting & Rigging Awareness CBT Course (QISC – Qatar, 12.2008)
- Supervision within L.C.A. (Life Critical Activities) (QISC – Qatar, 12.2008)
- Supervisor Skills (JMJ Associates, 11.2008)
- CE Certification (Bureau Veritas, 06.2004; IMI Counselling, 03.2004)
- Advanced Operation and Maintenance (LM6000 PC Aeroderivative Gas Turbines) (General Electric, Houston/Texas, 10.2004)

## **PERSONAL DEVELOPMENT & ACHIEVEMENTS**

- Participated in the KOSGEB “Young Entrepreneur Development Program” (2006–2007).
- Achieved 1st place in the Aegean Region with the textile machinery manufacturing project presented at the end of the program.