



## PROFILE SUMMARY

I am skilled and results-oriented with a strong background in Project Management and have expertise in commissioning Advanced Technologies in Manufacturing site. Furtherly, I have competency on leading cross-functional teams, driving process improvements and implementing 4IR solutions to optimize manufacturing process parameters to enhance process performance. Finally, I have ability to foster collaborative relationships with stakeholders, ensuring seamless execution of projects and achieving project 's goals.

## CONTACT

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## HOBBIES

Playing Piano  
Reading  
Swimming  
Cooking

# VÜGAR KERİMOĞLU

Head – Advanced Process & Material Technologies

## EDUCATION

### **Istanbul Technical University**

2020 - 2021  
MSc. Business and Technology Management

### **Çukurova University**

1993 - 1998  
BSc. Mechanical Engineer - Graduation with Success Degree,  
Honor and Success Certificated

## WORK EXPERIENCE

### **Arçelik A.Ş- Production Technologies (Head – Advanced Process and Material Tech.)**

2022–  
Developing and Commissioning 4IR Use cases such as Process Optimization via Digital Twin, Closed Loop Control System, Real time Data Driven Decision System in Manufacturing Process. Dissemination in all Arçelik Plants.

### **Arçelik A.Ş Production Technologies (Manager– Process & Material Tech.)**

2017–2021  
Developing and Commissioning 4IR Use cases such as Process Optimization via Digital Twin, Closed Loop Control System, Real time Data Driven decision Systems in Manufacturing Process. Dissemination in all Arçelik Plants.

### **Arçelik A.Ş Cooking Appliance Plant. (Senior Specialist of Production Engineering)**

2004–2014  
Managing large and Medium Scale investments, Process Design, Commissioning Productivity and Quality Improvement projects.

## SKILLS

Project management, process design, Six sigma, R and Python programming language, Machine Learning, TPM pillars such as Autonomous Maintenance, Kaizen, PM Analysis, MTTR and MTBF.

# Work Experience

**Head – Advanced Process and Material Technologies / Manager– Process & Material Technologies**

Arçelik A.Ş

Production Technologies Directory

2017-...

- **Use Cases of 4IR Technologies:**
- **Closed Loop Control of Thermoforming Process at Refrigerator Plant via Digital Twin** (Project had carried out with collaboration with a start-up) - Completed
  - **Scope:** Modeling Thermoform Production process by using FEA. After modeling the correlation of the process inputs and outputs, optimize process inputs by using real time data.
  - **Achievement:** % 10 of reduction of material usage, 15 % of improving cycle time. Totally 2M€ saving. Dissemination in all Arçelik Refrigerator Plants are in progress.
  - **The project has been published in**
    - [Sustainable Computing Journal \(Click on it for the link\)](#)
    - [Digitalization Cases Vol.2- Springer \(Click on it for the link\)](#)
- **Feedback Control of Butimen Bonding Process at Dishwasher Plant-** Completed
  - **Scope:** Developing feedback control algorithm to optimize process parameters of heater by analyzing thermal camera and temperature sensor data.
  - **Achievement:** % 10 of Energy Consumption, Zero Scrape Ratio. Dissemination in other four lines at Arçelik Dishwasher Plant are in progress.
- **Plastic Injection Feedback Control via Embedded Sensors** (Project had carried out with collaboration with a start-up)- Completed
  - **Scope:** An automatic control of the process is developed by analysing and interpreting cavity pressure and cavity temperature sensor data and giving feedback to the valve system in plastic injection process. Product is developed to evaluate quality output of the process and optimization of valve timings accordingly.
  - **Achievement:** % 15 Scrape Ratio reduction, %10 Cycle Time Reduction, Dissemination in 15 different molds is in progress
- **Closed-Loop Control of Sheet Metal Forming via Digital Twin** (Project had carried out with collaboration with Koç University) - Ongoing
  - **Scope:** An automatic control of the process is developed by analysing and interpreting cavity pressure and cavity temperature sensor data and giving feedback to the valve system in plastic injection process. Product is developed to evaluate quality output of the process and optimization of valve timings accordingly.
  - **Achievement:** % 15 Scrape Ratio reduction, %10 Cycle Time Reduction, Dissemination in 15 different molds is in progress.

- **Adaptive Process Optimization of Door Production line to Avoid Springback Effect of Bending Angle - Completed**
  - **Scope:** Modelling and inline checking Springback behaviour of sheet metal via embedded sensor and adaptively optimizing bending parameters to get correct bending angle.
  - **Achievement:** Zero Scrape Ratio and % 5 OEE improvement
- **Closed Loop Control of Clinching Process at Inner Tub of Dishwasher**
  - **Scope:** Close-loop feedback control system for clinching tools with embedded strain gauge and displacement sensors data to eliminate effect of process and material-based variability on achieve the reliable clinching quality.
  - **Achievement:** Zero defect of clinching process.
- **Ventilator Breathing Project:**
  - **Scope:** Designing and implementation performance test equipment's of ventilator breathing equipment.
  - **Achievement:** Performance Test Equipment, In-Line Test and Control Devices.
- **AI Based Colling Design of Plastic Injection and Topology Optimization for Additive Manufacturing** (Collaboration with Koç University) – Ongoing
  - **Scope:** Developing AI based design tool to optimize cooling channel design to achieve best fit of maximum heat transfer and high tool reliability.

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**Senior Specialist – Central Production Engineering**

Arçelik A.Ş

Production Technologies Directory

2014 – 2017

- **Design and Implementing In-bound material distribution via AGV - Romania Washing Machine Plant**
  - **Scope:** Analyzing and modeling material distribution system Romania Washing Machine Plant to achieve lean production flow with min. lot size and max. production flexibility by sing autonomous vehicle. Project consists of Field Management of AGV (QR guided AGV), optimization of AGV numbers, managing material distribution by communication of MES and SAP- WM
  - **Achievement:** 18 of AGVs have been commissioned.
- **SKD TV production plant investment in Ethiopia**
  - **Scope:** TV SKD production plant has been installed in Ethiopia. Annual Capacity was 50K Units.

- **Commissioning Fully Automatic Turkish Coffee Capsule Production Line at Haremlik Gıda Plant**
  - **Scope:** Process design and commissioning Capsule Filling Line with collaboration with OPEM Company

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### **Senior Specialist – Cooking Appliance Plant**

*Arçelik A.Ş Cooking Appliance Plant  
2004-2014*

- **Commissioning of Medium and Large Scale of Projects**
  - **1250 tons Transfer Press Project:** Feasibility study of Link drive transfer press vs Servo press. Leading of project from purchasing to implementation of 1250-ton transfer press at Oven Production Plant. Total project cost: 3,5 M€
  - **Automatic Bonding Lines:** The scope of project was automating bonding process which was operated manually by using robotic application. Total Project cost: 10 M€
  - **Laser Cutting and Welding lines Project:** Commissioning of Laser cutting and welding production line. Total project cost: 1,5 M
  - **More than 15 Sheet Metal Transfer Dies for new Fascia Oven:** Decision of correct design of dies by using Design FMEA and Process FMEA. Auto form analyses of tool to reduce ramp up time, leading of the project with Tool Manufacturers. Total Cost: 4,5 M€
  - **Process improvement by Re-designing of Sheet Metal Process:** Combination of 3 different parts dies in one common progressive dies, it is first time at Arçelik to apply deep drawing process in progressive die. Total Investment Cost: 0,6 M€
  - **Cost Reduction Projects:** Each year successfully hitting goals of 3 M€ / year cost reduction by improving productivity and material usage reduction.
- **New Products Projects:**
  - **New Build in Oven Product.** Process FMEA analysis of designed parts, designing new automatic production lines to obtain more efficient process KPI to achieve competitive cost outputs. Investment amount +\$4 million.
  - **New microwave oven.** Design and implementation new process tools to obtain min usage of material compared to competitors. Investment cost +\$1 million,
  - **New Free-Standing Oven.** Investment new Laser cutting and bending lines, new production metal molds. Investments had collaboration with +20 vendors +\$10 million investment cost.
- **OEE Improvement Projects in Manufacturing Process (Root cause Analysis of 16 losses of OEE, and initiate permanent activities to avoid all those losses)**
  - **Automatic Oven Door Production Lines:** increasing OEE from %50 to %85
  - **OEE Improvement of Transfer Press Lines:** Increasing OEE from %65 to %85

- **Cavity Production Lines:** Increasing OEE from %65 to %85
- **Quality and Material Improvement Projects by using Six Sigma:**
  - Reduction Guarantee expenses of Build In products
  - Reduction Guarantee expenses of Hubs
  - Prediction of Scrap Ratio of Automatic Door Production Line.
  - Root Cause Determination of Quality Anomaly in Oven Hubs,