

# ASAŞ Alüminyum Sanayi Ticaret A.Ş. / TURKEY



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Technical Coordination Group Manager

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[www.asastr.com](http://www.asastr.com)

To be an Industrial Partner as Product/Process/Material Developer  
For Shift2Rail 2019 Open Call

## COMPANY PROFILE

**Foundation** : 1990, Gebze, İSTANBUL  
**Nr Employees** : 2400+  
**Turn Over (2017)** : 463m.€  
**Land Area** : 750.000m<sup>2</sup>  
**Closed Area** : 300.000m<sup>2</sup>  
**Export** : 80+ Countries  
**Growth Rate** : % 22 (avrg in 25 years)  
**Locations** : Head Office; Kavack/İSTANBUL,  
Factory; Akyazı/ SAKARYA  
Warehouse; Neuwiet, GERMANY



## GROUP OPERATION

- Aluminium Extrusion Products,
- Aluminium Architectural Systems
- Aluminium Composite Panels
- Aluminium Flat Rolled Products
- PVC Windows and Doors Systems,
- Roller Shutter and Steel Shutter Systems
- Aluminium Design Products
- ASAŞART



### ALUMINIUM EXTRUSION PRODUCTION (Since 1992)

- 7 Extrusion lines (75.000t/y)
  - 55mn biggest press in Turkey
  - 0,5kg-75kg/m profile up to 600mm width complex profiles.
  - Billet Casting (90.000t/y)
  - Extrusion Die Production (2500/y)
  - Anodic Oxidation (40.000T/Y)
  - Electrostatic Powder Coating (25.000t/y)
  - Sublimation
  - Mechanical Treatment Facility
- CNC Machining, (up to 30m x 4m x 1m)**  
**Welding ( robotic up to 30m) Cutting, Bending, Kitting, Forming, Deburring, Cleaning, Assembly**



### FLAT ROLLED PRODUCTS PRODUCTION ( Since 2014)

- Continuous casting lines (120.000t/y)
  - Rolling mill (140.000t/y)
  - Plate annealing kilns
  - Slitting/cut-to-length lines
  - Foil Mill (75.000t/y)
  - Foil Slitting Line
  - Painted plate production facilities. (50.000t/y)
- Widest and fastest foil mill in the world
  - Ability to roll down to 6 microns
  - Low carbon foot print with regenerative thermal oxidizer



### PVC PROFILE PRODUCTION FACILITY (Since 1992)

- PVC Profile Production 35.000 t/y
- 26 PVC extrusion lines
- Wide range of products for different climate condition world wide
- 15 different window, door and sliding systems



### ALUMINIUM COMPOSITE PANEL PRODUCTION FACILITY (Since 2006)

- Composite panel production 10.000.000 m<sup>2</sup>/year
- Fire classification: A2, FR, B2, B1
- 20 years guarantee
- 4 Composite panel lines



### ROLLING SHUTTER FACILITY (Since 2008)

- Roller Shutter 30.000.000 m/y
- Products :37-39-43-55-55 Eco and 77 mm roller shutter and garage door slats with polyurethane filing by Aluminium Rollform technology
- Aluminium Roller Shutter Box (137-400 mm)
- Steel Commercial Door Profiles
- Galvanized Octagonal Tubes (40-60-70 mm)
- Accessories for Roller Shutter and Commercial Door Systems
- PVC Monoblock Roller Shutter Systems



## RAILWAY PRODUCTS

1. Aluminium Tram Body Profiles&Kits
2. Aluminium Car body Profiles
3. Tram-Metro-High Speed Train Passenger Access Doors
4. Window Frames of All types of Trains
5. Access System for Disabled Cars
6. High Speed Train Side flap
7. Train Interior Accessories
8. Rack system & profiles
9. Sliding System for Freight wagon
10. Lighting, Heating System Profiles
11. Rigid Catenary System
12. Third rail production

## EXPERTISING ON RAILWAY

1. Car body design & Production
2. Car body manufacturing (machining, bending, welding, assembly etc.)
3. Alloy development for railway industry
4. Large extrusion die design and manufacturing in house
5. Complex large and thin wall extrusion section production capability
6. All type of fixtures & apparatus design and manufacturing
7. Weight reduction by design new extrusion section
8. Co design & Co Engineering
9. Training on extruded product
10. Process development
11. Prototyping

## REFERANCES

### JU MEMBERS

1. ALSTOM 
2. SIEMENS 
3. BOMBARDIER 
4. CAF 
5. FAIVELEY 
6. TCDD 

### OTHERS

1. HYUNDAI ROTEM 
2. TUVASAŞ 
3. TUDEMSAŞ 
4. METRO ISTANBUL 
5. DURMARAY 
6. BOZANKAYA 
7. ÖZBİR VAGON 
8. ...

## CERTIFICATION

### FOR RAILWAY

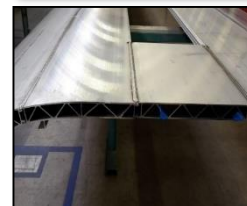
ISO/TS 22163 (IRIS)  
DIN EN 15085-2

### GENERAL

ISO/TS 16949  
ISO 9001  
ISO 14001  
ISO 50001  
ISO 27001



OHSAS 18001  
CE ( EN 15088 )  
CE / TS EN 40-6  
DIN EN ISO 3834-2  
EN 1090  
TS EN 14351-1  
TS 5358 EN 12608  
QUALICOAT  
QUALANOD  
RAL-GZ 7161/1





## RESEARCH & DEVELOPMENT CENTER

- 82 Researcher and technicians
- 2 Ph.D., 14 MSc, 27 bachelor's degree
- 3.100 m2 equipped with laboratories and test centers
- New product and process development
- New aluminum alloy development for extrusion and rolling
- Feasibility (Metallurgical and Mechanical properties )
- Prototype/Mock up Production
- Solutions and know how provider
- Analysis/Simulation (Ansys, Qform, Solidworks,...)
- Reverse engineering
- Metallurgical and Chemical Analysis (OES, Optical, SEM, EDS, FT-IR, DSC, Conductivity Measure, Hardness,...)
- European/ National / Local Projects



## ALUMINIUM EXTRUSION

### Billet Casting:

- 6" to 14" billets, 1xxx, 6xxx, 7xxx, 9xxx alloys
- Automatic %100 ultrasonic billet control

### Die Production:

- 200 dies/month production
- Up to Ø1000mm dies, with CAD/CAM/CAE

### Extrusion:

- 7 Extrusion presses.(12MN to 55MN Biggest in Turkey)
- 600 mm wide , 0,05 to 70 kg/m profiles extrusion
- Capacity of 75.000 tons/year

### Surface Treatment:

#### Anodizing:

Annual capacity 40.000 tons (apr.13.300.000 m<sup>2</sup>)

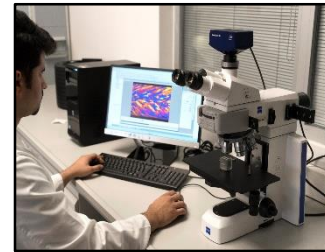
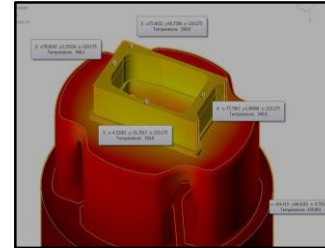
- Wide range of colors and surface effects
- In two facilities up to 15 m-long profiles.

#### Electrostatic Powder Coating;

- Capacity 25.000 tons (apr. 8.500.000 m<sup>2</sup>)
- Up to 8 m-long aluminium profiles and accessories
- RAL colors and various glosses in 2 lines

#### Mechanical Treatment:

- Machining, Bending, Forming, Punching
- 5 axial CNC operations up to 30-meter length,
- Joining (bonding, rivet, weld bolt etc.),
- Welding (MIG/TIG) robotic and manual up to 30m
- Assembly lines



## RAILWAY R&D PROJECTS

### European :

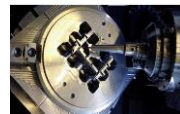
- **Mat4Rail** - H2020/Shif2Rail – On going – WP 5  
777595 - Designing the railway of the future: Fire resistant composite materials and smart modular design  
ASAS provide co-design structure, select materials, characterization, material development (metal, aluminium alloys, sheet metal, profile, aluminium foam, honeycomb etc.) testing and control support for weight reductions, acoustic and thermal conduction

[www.mat4rail.eu](http://www.mat4rail.eu)



### National :

- **Development of Parameters For High Speed Train Extrusion Products**  
Productivity Awards, Process Optimization



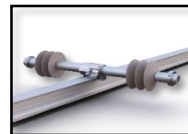
- **Development of Manufacturing Technique for Structural Aluminum Profile Die which is Wider than 500 mm**

Industrial R&D Projects Grant Programme, Process Optimization



### Local:

- **Rigid Catenary System Development**  
Internal – Finished – New Product



## OTHER PROJECTS

### European :

- **VULKANO** – H2020/SPIRE – On going – Demonstrator,  
723803- Novel Integrated Refurbishment Solution As A Key Path Towards Creating Eco-efficient And Competitive Furnaces  
ASAS validate the solution proposed by VULKANO in the aluminium sector and also related to project dissemination.

<http://www.vulkano-h2020.eu/>



### National :

- **Trailer Aluminum Box Body Tipper** - Industrial R&D Projects Grant Programme – Finished – Design and manufacturing
- **Semi Trailer Chassis Hanger Bracket Mono Blok Extrusion Profile** - Industrial R&D Projects Grant Programme – Finished – Design, simulation, manufacturing, validation (patented)



### Local :

- **Heat Pipes For Satellite** – Internal – Finished – New Product



### MEMBERSHIP THE RELATED PLATFORMS

- Aluminium Manufacturers Association of Turkey (TALSAD),
- Anatolian Rail Systems Cluster (ARUS),
- Istanbul Chamber of Industry (ISO),
- Istanbul Chamber of Commerce (ITO),
- Aluminum Surface Treatment Association (AYID),
- Turkish Exporters Assembly (TIM).



## S2R-OC-IP1-01-2019: Advanced Car body shells for railways and light material and innovative doors and train modularity

Car Body Shell



Doors



Interiors



New aluminum alloys and new section design for railway  
(lighter, thinner, more strength)



Application to the railway sector of materials  
which used in other industries

### Contribution/ Project Idea

We can

- design lighter aluminium car body, windows and door frames,
- develop special welding, bolting, gluing, fixing process together with....
- develop special fixtures and apparatus for sub and final assembly processes
- develop extrusion die technology for railway business
- simulate all extrusion process
- improve design together OEM
- create combined process aluminium profiles and sheets,
- develop new aluminum alloys/materials
- produce mock up

# Contact Information

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THANK YOU