



# PLUS TOOLING

Company Profile '19



- Founded in 1977 as TKG Tooling & Automotive Company.
- TKG Tooling division began to service automotive industry by manufacturing tools for steel and aluminium parts.
- In 2013, TKG Tooling demerged from TKG Automotive to develop new business opportunities.
- TKG Tooling renamed as **PLUS TOOLING** since November 2014.

# Development History

**2013**      **Founded** as an Automotive Stamping Die Company, **TKG KALIP** and focus on:

- Steel parts
- Stainless steel parts
- Aluminium parts

**2014**      Renamed as **PLUS TOOLING** company



Start to work directly with an **OEM, RENAULT**



**2015**      Start **export** business to **Morocco**



**2016**      Start **export** business to **Germany**



**2017**      Began directly work with **TOYOTA**



**2018**      Moved to **New Plant** in Bursa Industrial Zone

New CNC and press machines invested



SAP – Success Factors implementation



**PLUSIS** – Internal Management System

# Facts



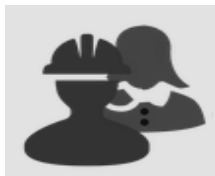
Total Capacity

130.000 h/y



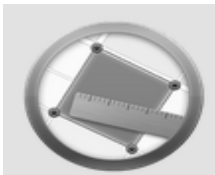
Total Capacity with  
suppliers

300.000 h/y



Employee

81 People  
(25 White Collar/56 Blue Collar)

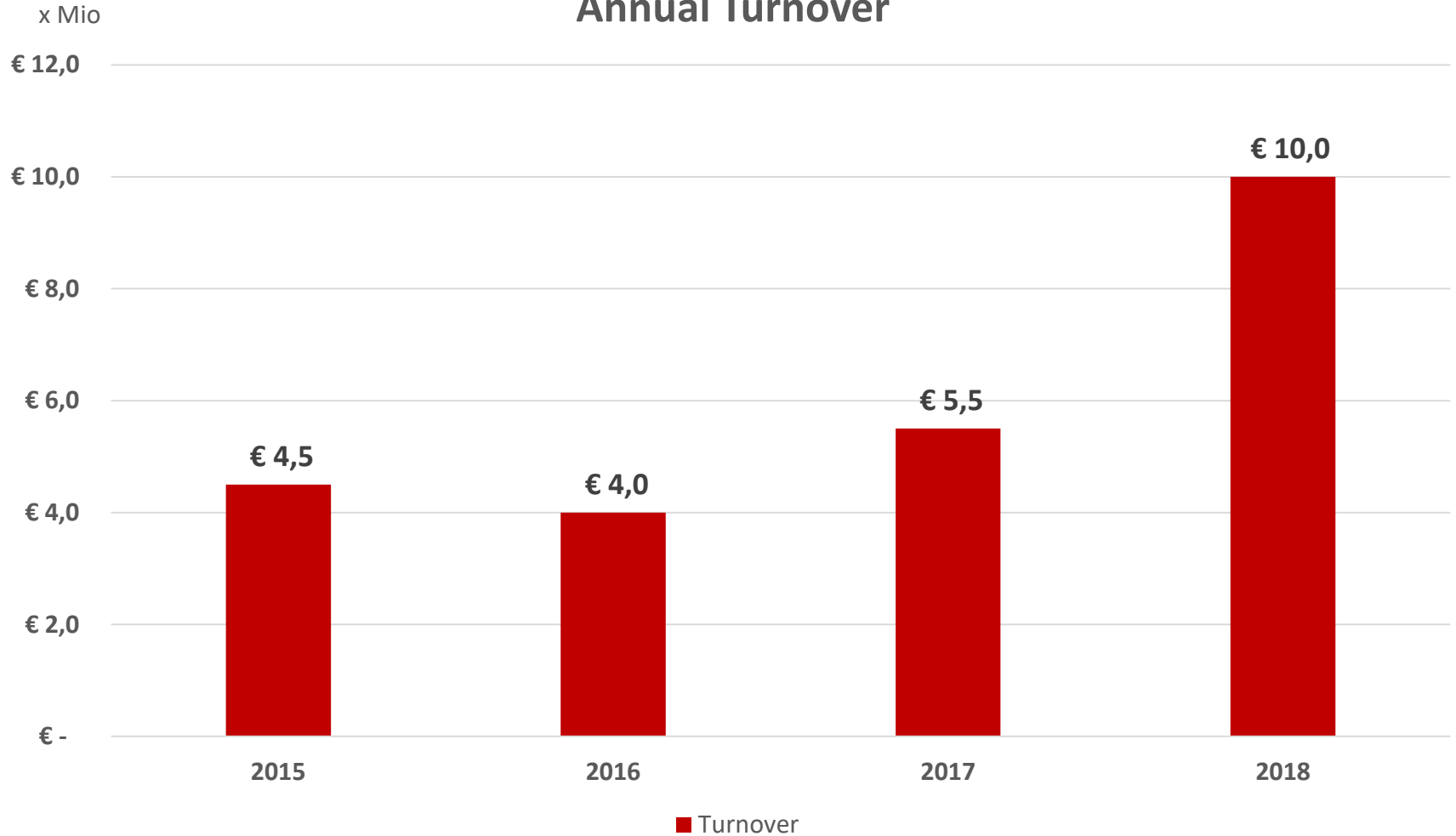


Production Area

5000 m<sup>2</sup>

# Turnover

## Annual Turnover



# Machine Park / CNC Machining

Machine	Brand / Model	Table Size (mm)
CNC Milling	AWEA LP5025	5000 x 2400 x 1000
CNC Milling	AWEA LP4021	4000 x 2100 x 1000
CNC Milling	AWEA LP4021	4000 x 2100 x 1000
CNC Milling	DROOP – REIN 5D	4000 x 2000 x 1500
CNC Milling	ANAYAK 3000	3000 x 1200 x 1000
CNC Milling	AWEA SP2016	2100 x 1600 x 760
CNC Milling	AWEA SP2016	2100 x 1600 x 760
CNC Milling	AWEA SP2016	2100 x 1600 x 760
CNC Milling	MAZAK VTC – 300C	1660 x 760 x 660
CNC Milling	HURON VX12	1220 x 600 x 610





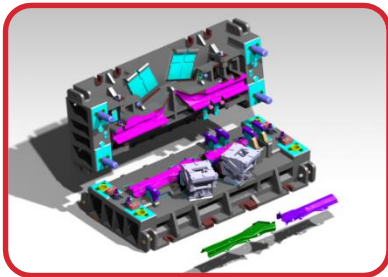
# Machine Park / Try-Out Press

Machine	Brand / Model	Table Size (mm)
1000 T Mech. Press	WEINGARTEN	4500 X 2500 X (Z-min 600 - Z-max 1100)
800 T Mech. Press	ERFURT	3200 X 1600 X (Z-min 550 - Z-max 1050)
630 T Mech. Press	DANLY	3200 X 1800 X (Z-min 750 - Z-max 1000)
500 T Mech. Press	ERFURT	2800 X 1800 X (Z-min 550 - Z-max 1050)
250 T Mech. Press	RAVNE	2500 x 1250 X (Z-min 750 - Z-max 1100)
250 T Hyd. Press	LÄPPLE	4200 x 2800 X (Z-min 500 - Z-max 1500)



# Main Process

Process & Die  
Design



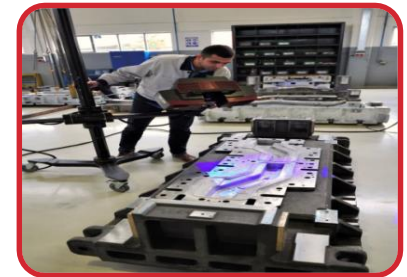
Die  
Manufacturing



Die Trial &  
Adjustment

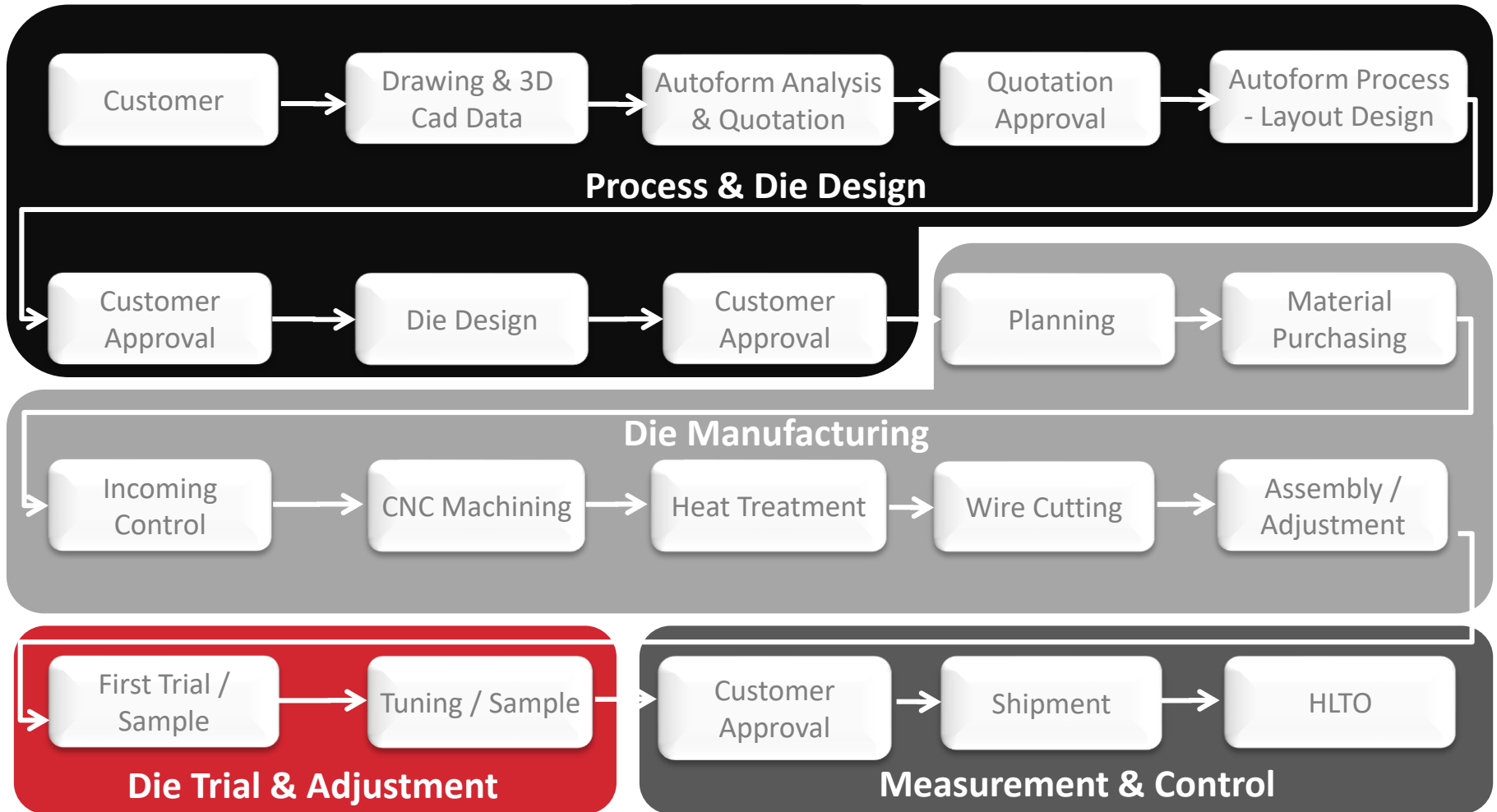


Measurement  
& Control





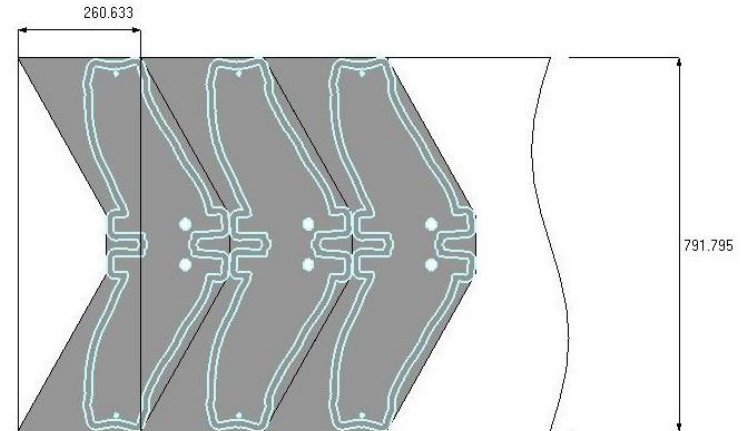
# Flow Chart



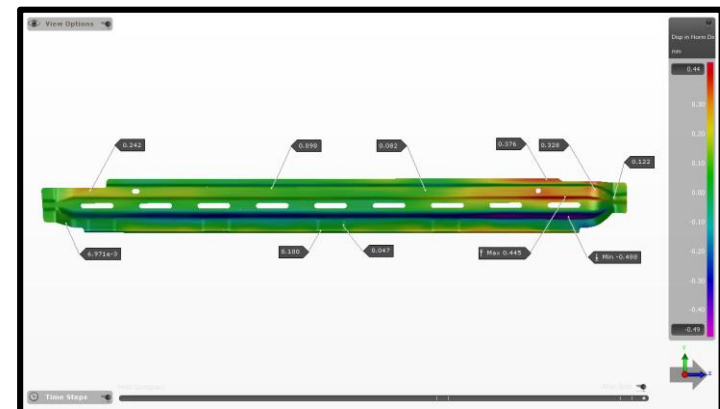


# Process & Analysis

## ■ FTI - Forming Suite

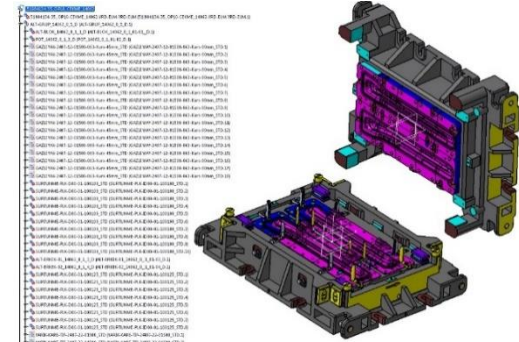


## ■ Autoform



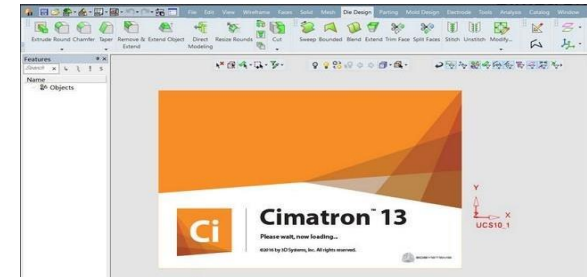
# Tool Design & Manufacturing

■ Catia

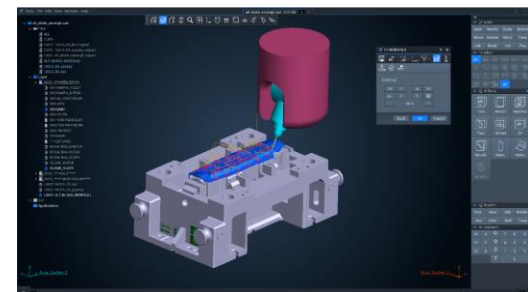


■ Cimatron

Progressive Die Design



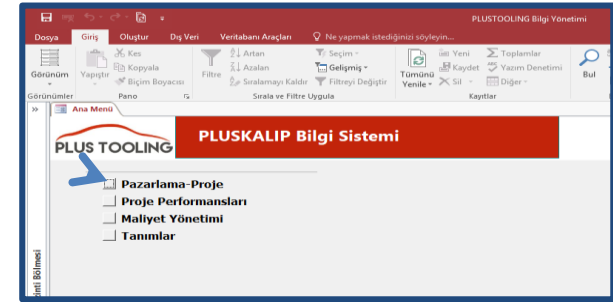
■ Tebis



# Other Softwares

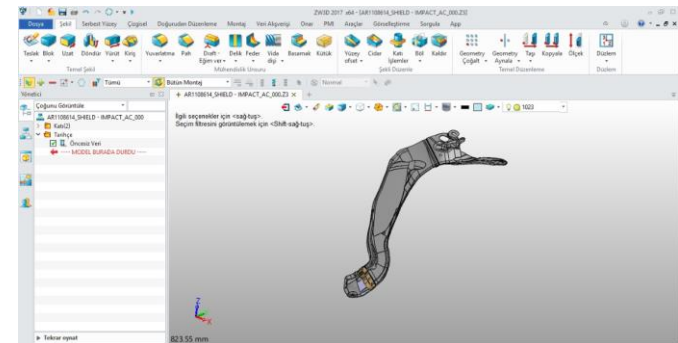
## ■ PLUSIS

Plus In-house Management Information System



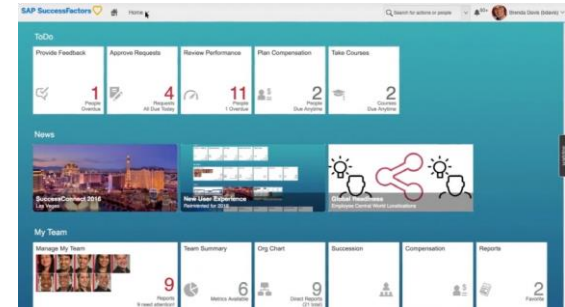
## ■ ZW3D

Data Viewer for quotation and project management



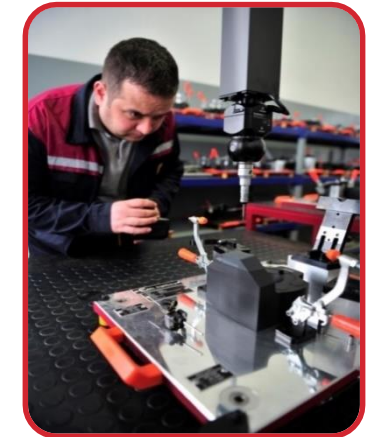
## ■ SAP SuccessFactors

HR Management Module



# Quality

- **CMM & ATOS** measurement ability
- Control fixture and various measurement devices
- Control fixtures are confirmed by CMM



# Certificate

- **TS EN ISO 9001/2008 TUV Certificate**





# Strengths

- Customer oriented solutions
- Producing dies acc. to Plus Tooling & customer specifications
- OEM Project Management experience
- Competitive quotation system

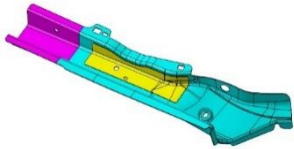


## Tooling Experience

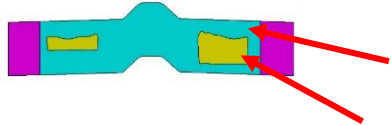
- Aluminum Heat Shields
- Stainless Steel Stamping
- High Strength Steel & Ultra High Strength Steel
- Patchwork & Laser Welded Parts
- Multi Layer Material Parts

# Examples

## TAILOR BLANK & PATCH PARTS



Material : FEE340  
Thickness = 1,8 mm



Material : FEE340  
Thickness = 2,2 mm

**Puntone**

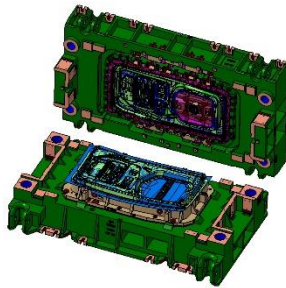
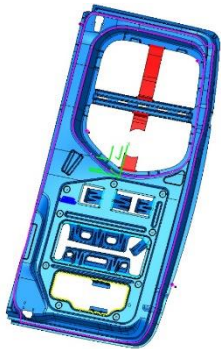
Material : FE 600DPF  
Thickness = 1,5 mm



**Tunnel**

## SKIN PANELS

Daimler / Rear Doors ( Inner and Outer Panels – MAP 0 )



## DOUBLE LAYER PARTS



**Sheet Metal**  
Material : SACE-120  
Thick.: 0,4 mm / 0,6 mm



**Aluminum**  
Material: AW 1050 A  
Thick.: 0,5 mm/0,3mm

## HIGH STRENGTH STEEL PARTS



Material : DP800  
Thickness = 1 mm



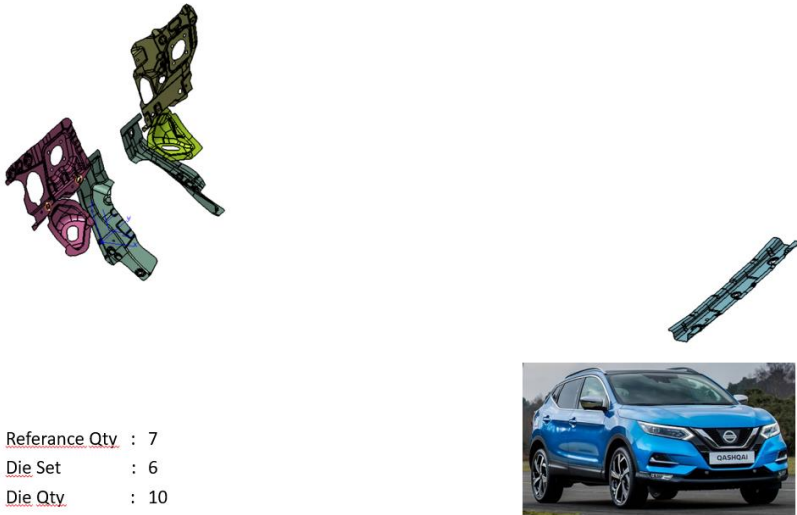
Material : FE 600DPF  
Thickness = 1 mm



Material : FE 600DPF  
Thickness = 0,7 mm

# Running Projects

NISSAN P33B



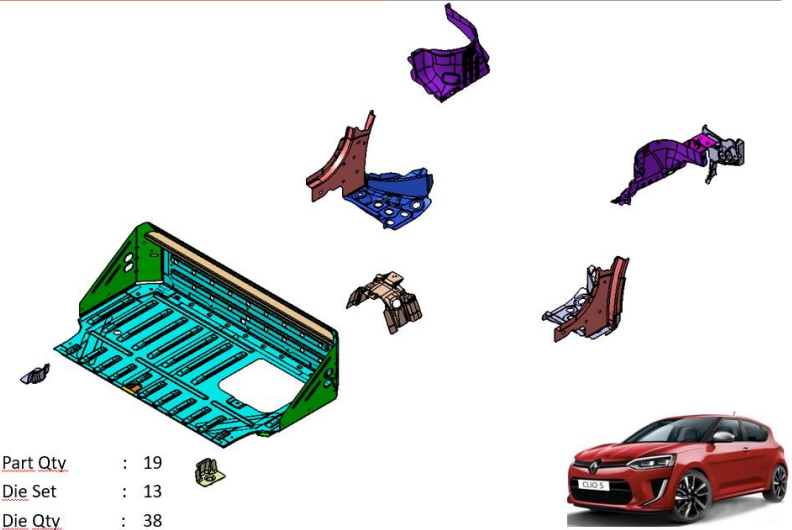
Reference Qty : 7  
 Die Set : 6  
 Die Qty : 10

RENAULT HJB



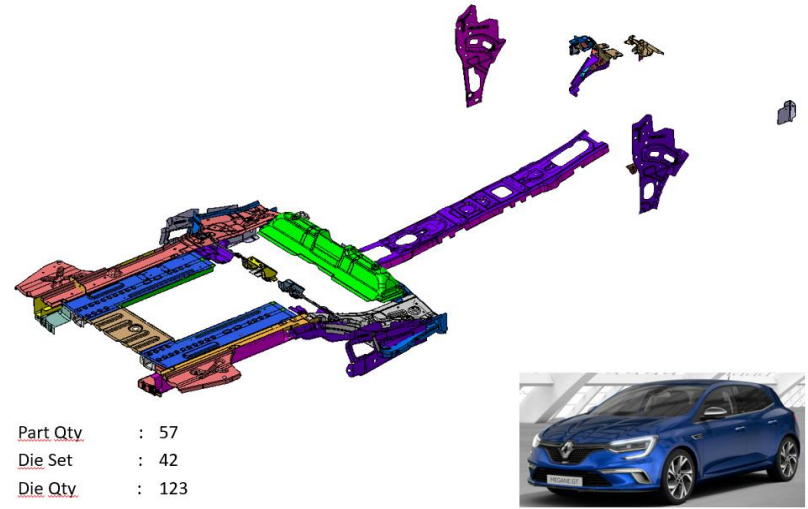
Part Qty : 77  
 Die Set : 55  
 Die Qty : 140

RENAULT BJA



Part Qty : 19  
 Die Set : 13  
 Die Qty : 38

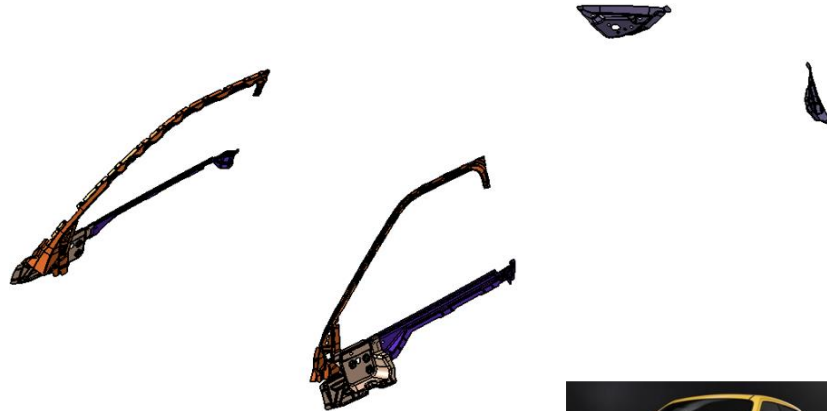
RENAULT KFB



Part Qty : 57  
 Die Set : 42  
 Die Qty : 123

# Running Projects

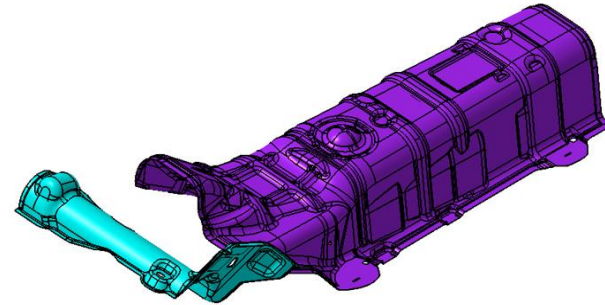
NISSAN P13A



Part Qty : 8  
 Die Set : 4  
 Die Qty : 21



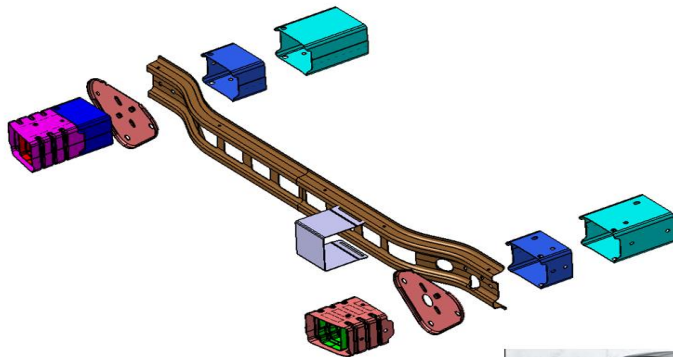
PSA / TUYAUTO



Part Qty : 2  
 Die Set : 2  
 Die Qty : 4



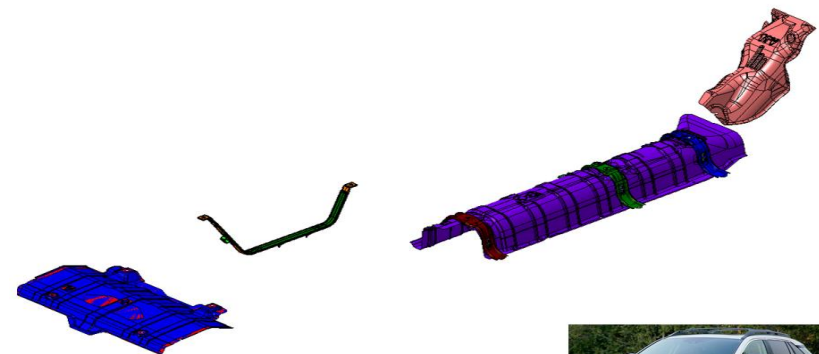
TOFAŞ FIAT 356



Part Qty : 10  
 Die Set : 7  
 Die Qty : 17



TOYOTA 340B



Part Qty : 7  
 Die Set : 7  
 Die Qty : 17



# Running Projects

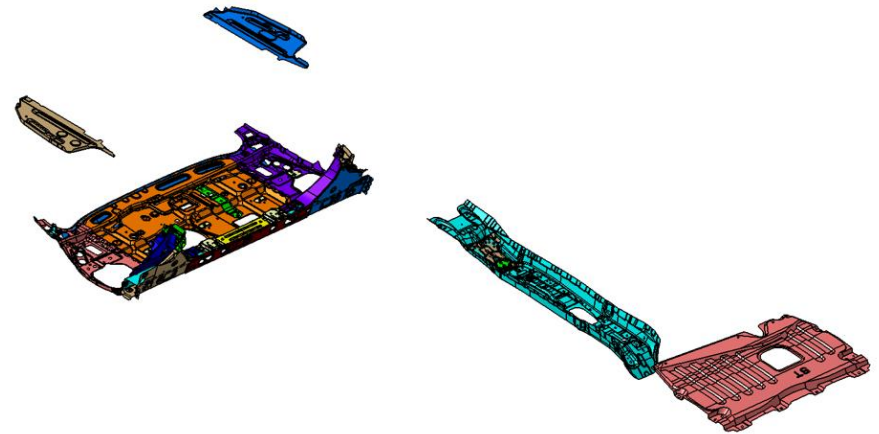
## TOYOTA 402B



Part Qty : 15  
Die Set : 12  
Die Qty : 32



## TOYOTA 290B

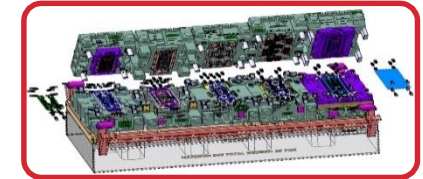
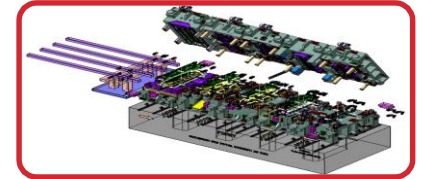
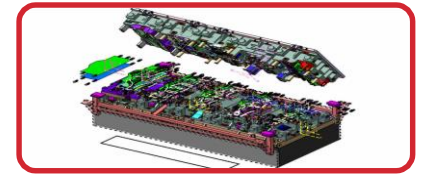
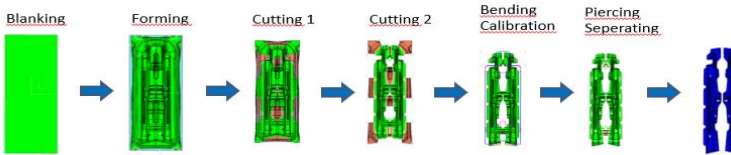
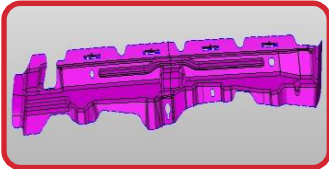
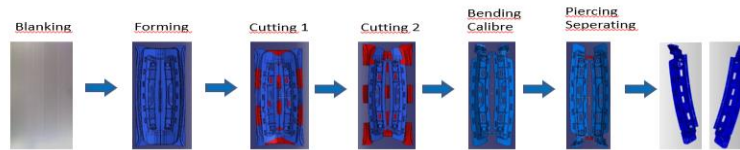
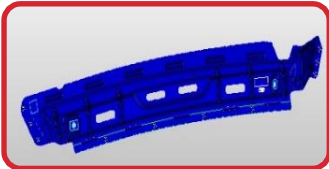
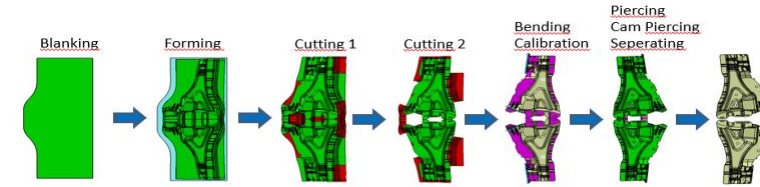
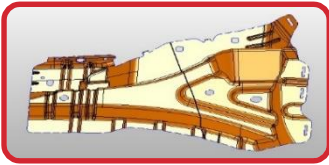


Part Qty : 28  
Die Set : 21  
Die Qty : 66

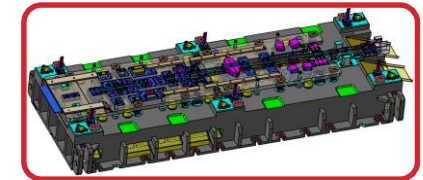
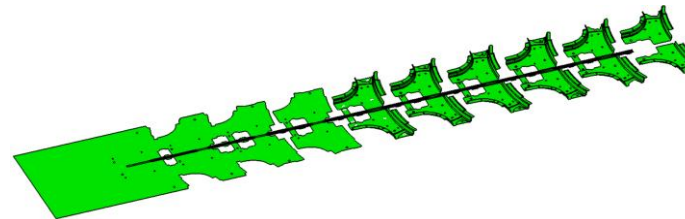
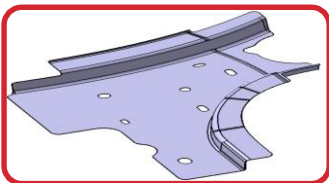
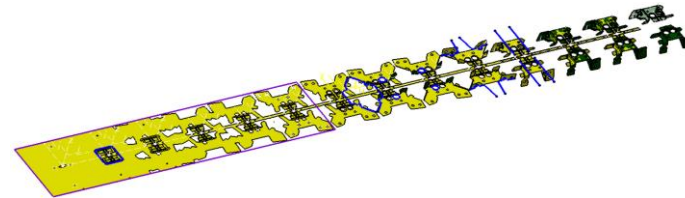
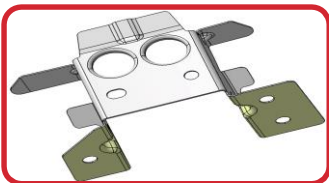




# Transfer Dies Examples

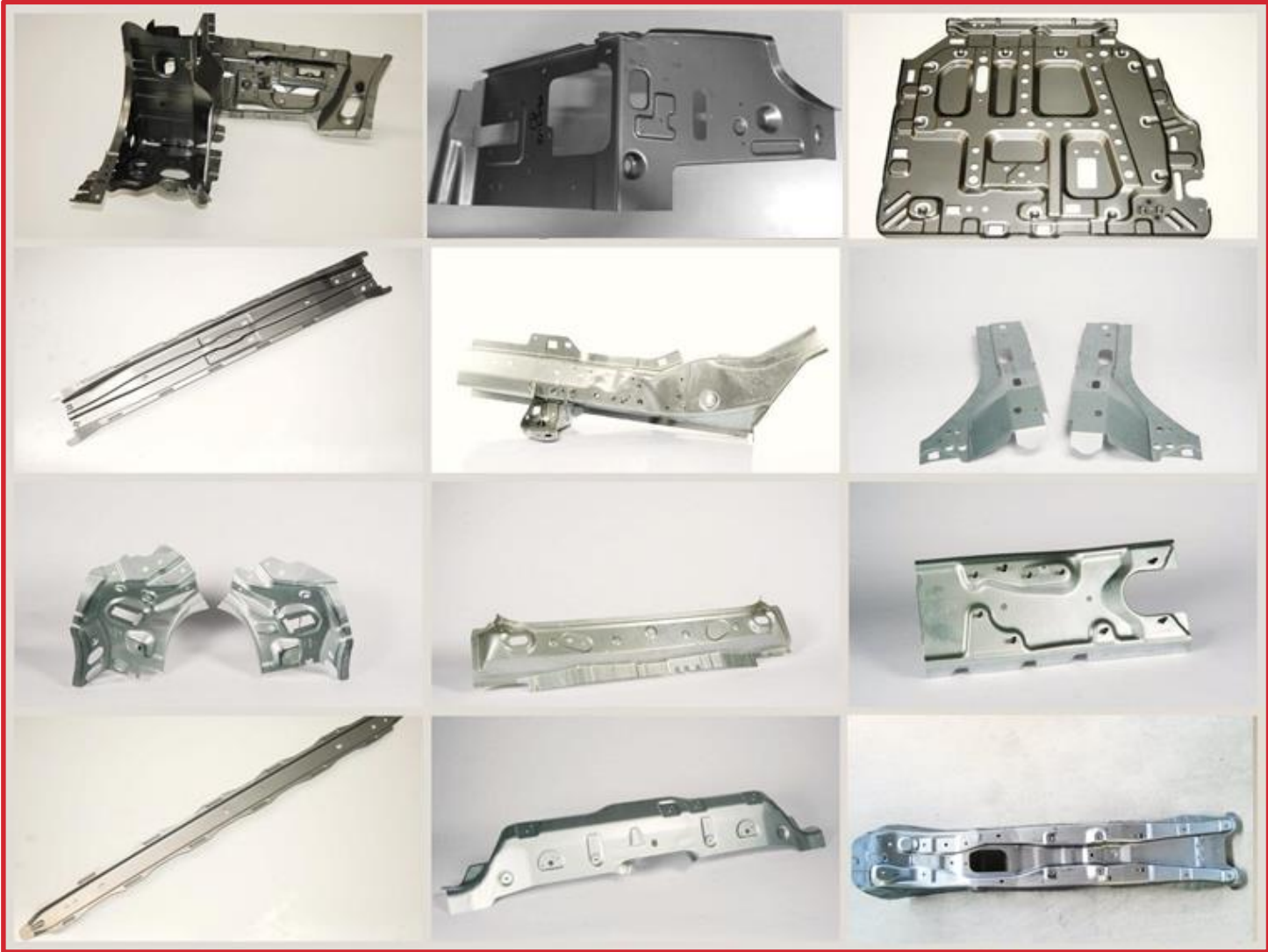


# Progressive Dies Examples

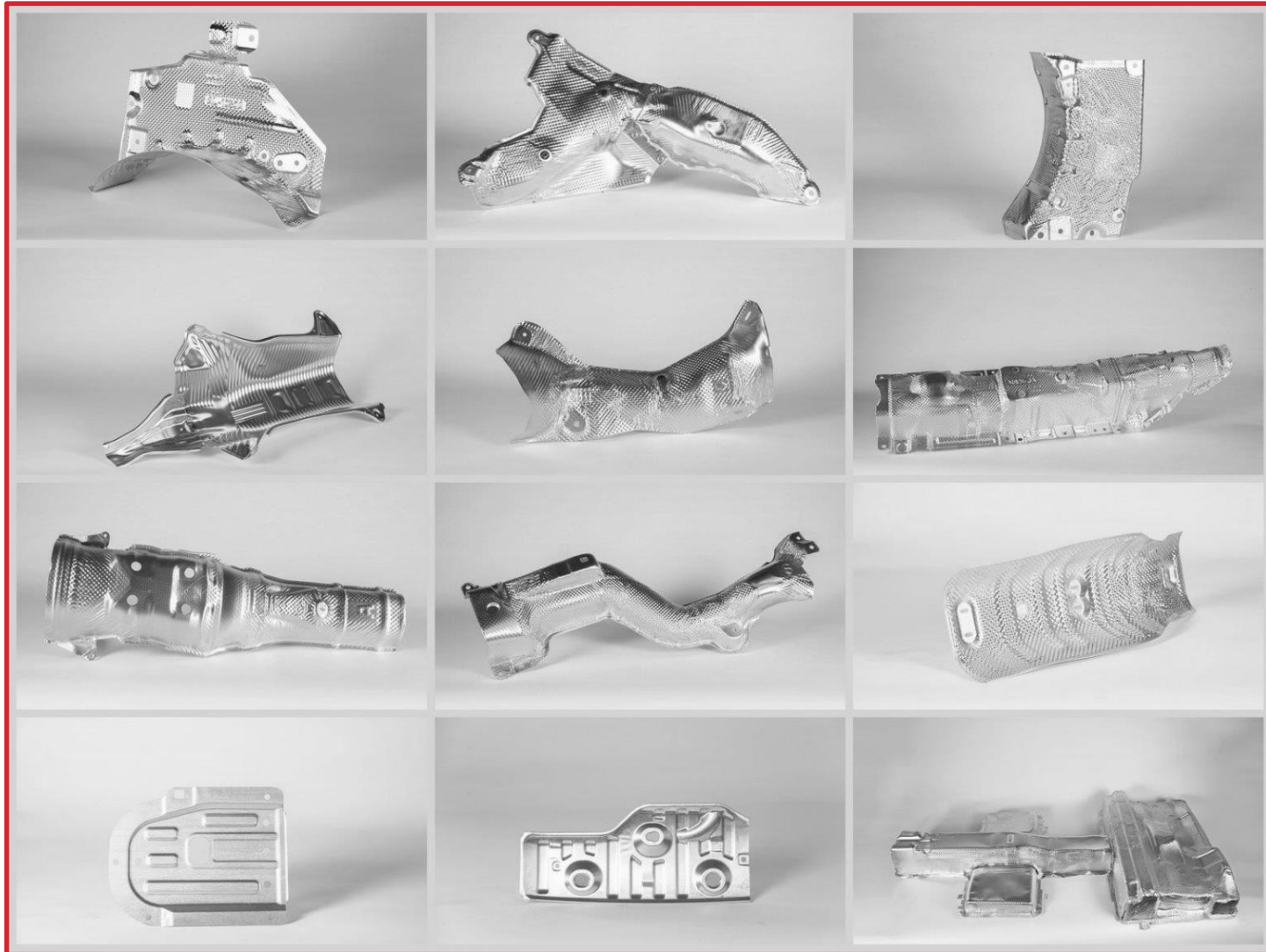




# Steel Metal Parts Experience / Example



# Heat / Acoustic / Magnetic Shields



# References



## ■ Direct Customer



## ■ End Customer of Manufactured Dies



## Contact & Location

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Thank You

PLUS TOOLING