



Welcome to the World of Design

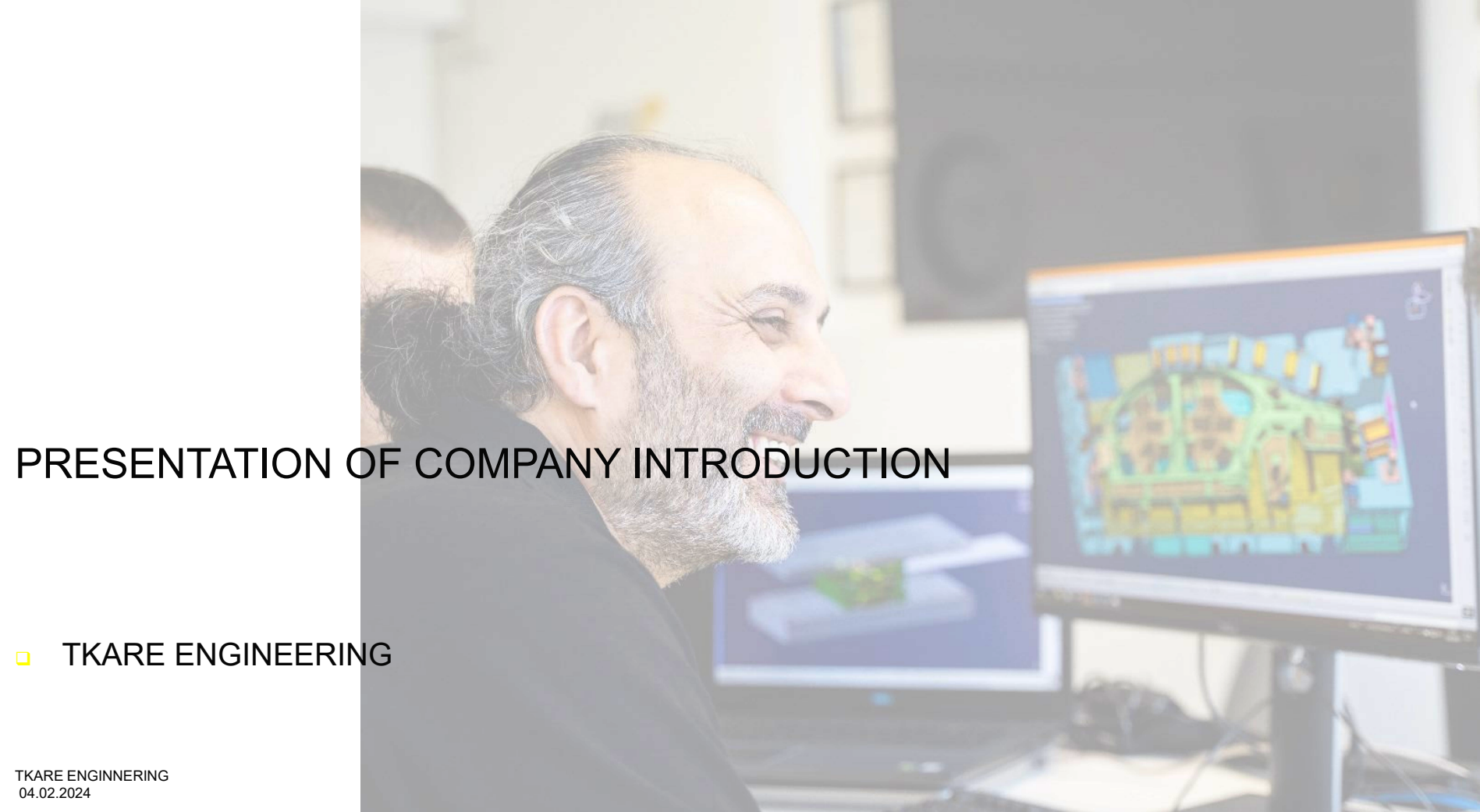


MÜHENDİSLİK / ENGINEERING

TKARE ENGINEERING



Welcome to the World of Design



PRESENTATION OF COMPANY INTRODUCTION

TKARE ENGINEERING

TKARE ENGINEERING
04.02.2024

TKARE ENGINEERING



Welcome to the World of Design

It is important
to see the future
when making decisions.



COMPANY PROFILE



Welcome to the World of Design



•ABOUT US

Our company; It was established in 2011 to provide design and engineering services to the Automotive, Home Appliances, Defense and Aviation sectors. Our goal as TKare Engineering is to provide fast, high-class, innovative and result-oriented solutions for our customers

OUR MISSION

In order to meet the demands and needs of our customers in the Automotive, Home Appliances, Defense and Aviation sectors, using all our knowledge and experience, to follow the developing technologies, to put them into practice and to offer them to our customers by establishing the necessary organizations. It is to deliver the product we produce with high quality, at an affordable cost, on time.

OUR VISION

To be the leading company in the Automotive, Home Appliances, Defense and Aviation sectors, producing fast, high quality and result-oriented solutions for its customers at every stage from product design to manufacturing, closely following the technology and producing the most accurate solutions for its customers.

WHERE WE ARE?



Welcome to the World of Design



OUR AWARDS



Welcome to the World of Design

2013



**2013 Kosgeb Turkey Entrepreneurs Awards
«Young Entrepreneurs» Category Turkey
Finalist**

OUR AWARDS



Welcome to the World of Design

2020

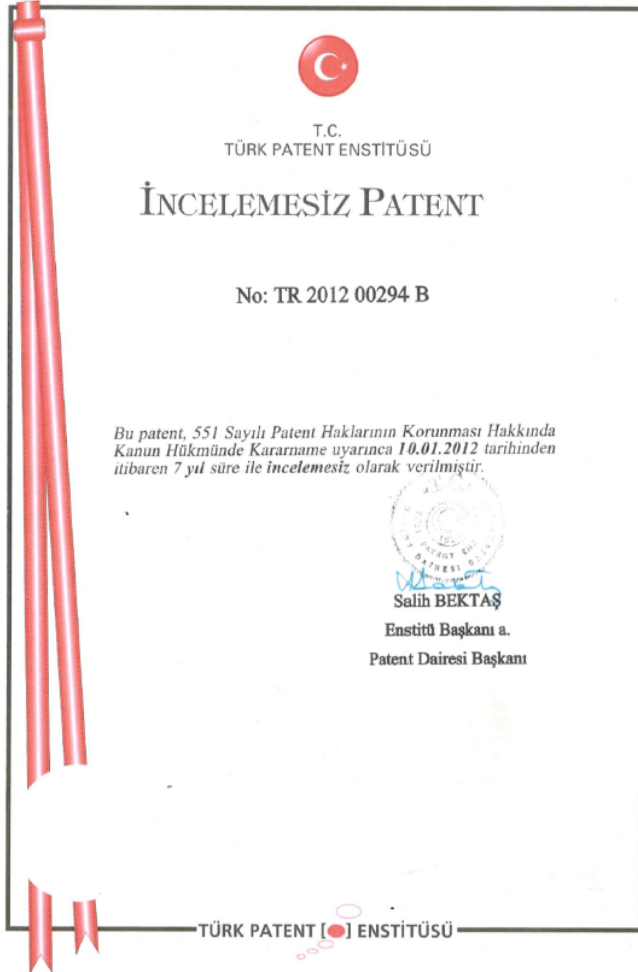
2020 R & D and Design Centers and technology development zones summit, 3rd in Turkey in employment of 15 and below design personnel.



OUR PATENTS



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QUALITY MANAGEMENT



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SERTİFİKA



TKARE MAK. İNŞ. MÜH. MİM. SAN. TİC. LTD. ŞTİ

Konak Mah. 1.Badem Sok. No:26, Lotus Plaza B Blok Kat:7 Daire:85
16110 Nilüfer / Bursa
Türkiye

Şirketinin, aşağıda belirtilen geçerlilik alanında bir **Kalite Yönetim Sistemini** yürürlüğe koyduğunu ve uygulamakta olduğunu teyit eder.

Geçerlilik Alanı:
Endüstriyel Ürün Tasarımı, Mekanik Tasarım, Sac Metal Kalıp Tasarım ve Mühendislik Hizmetleri.

Raporla belgelenmiş bir yönetim sistemi tetkiki sonunda, bu yönetim sisteminin aşağıda belirtilen teknik spesifikasyonun şartlarını yerine getirdiği kanıtlanmıştır:

ISO 9001 : 2015

Sertifika kayıt No	31300202 QM15
Geçerlilik başlangıç tarihi	2023-01-10
Geçerlilik bitiş tarihi	2026-01-09
Sertifikalandırmaya ilişkin kalite denetimi	2023-01-10



DQS GmbH

Markus Bieher

Markus Bieher
Şirket Müdürü

DQS IS A MEMBER OF



Accredited Body: DQS GmbH, August-Scharnhorst-Straße 21, 69469 Frankfurt am Main, Germany
Administrative Office: DQS Denetim ve Belgelendirme Ltd. Şti., 19 Mayıs Mah. Sinan Erkan Cad.,
Paşa Korusu Sitesi No: 18/81 Blok, 34736 Kadıköy - İstanbul / Turkey
The validity of this certificate can only be verified by the QR code.

INFORMATION SECURITY



Welcome to the World of Design



CERTIFICATE



This is to certify that

TKARE MAK. İNŞ. MÜH. MİM. SAN. TİC. LTD. ŞTİ

Konak Mah. 1. Badem Sok. No:26, Lotus Plaza B Blok Kat:7 Daire:85
16110 Nilüfer / Bursa
Türkiye

has implemented and maintains an **Information Security Management System**.

Scope:

Industrial Design, Mechanical Design, Sheet Metal Tool and Die Design, and Engineering Services for the Automotive, Home Appliances, Defense, Space and Aviation Sectors

Statement of applicability: Rev02 - 15.01.2021

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO / IEC 27001 : 2013

Equivalent to: DIN EN ISO / IEC 27001 : 2017

Certificate registration no. 31300202 ISMS17

Valid from 2024-01-18

Valid until 2025-10-31

Date of certification 2023-11-30



DQS GmbH

Christian Gerling

Christian Gerling
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Strasse 21, 60433 Frankfurt am Main, Germany
Administrative Office: DQS Holding GmbH, Konrad-Adenauer-Allee 8-10, 61118 Bad Vilbel, Germany
The validity of this certificate can only be verified by the QR-code.

DQS IS A MEMBER OF



OUR CERTIFICATE



Welcome to the World of Design

**Great Place to
Work-Sertifikasyonu™**

Çalışanları için harika iş yeri deneyimi sunan şirketlerden biri olduğumuz için gururluyuz.



**Great
Place
To
Work®**

Certified

MAR 2023-MAR 2024

TÜRKİYE

www.tkare.com.tr



#GPTWCertified



TKARE MÜHENDİSLİK

Great Place To Work® Certified
Mart 2023





Welcome to the World of Design

“In your projects, reliable, professional for a helping hand; TKARE Engineering”

SERVICES

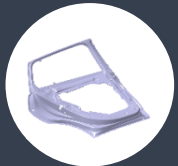


Welcome to the World of Design

01

Sheet Metal Tool & Die Engineering

- Product Design
- Feasibility & Simulations
- 3D Process / Method
- Die Design
- Tool & Die Kinematic Analysis



02

Machine / Mechanical Design

- Special Machine Designs
- Mass Production Machine Designs
- Apparatus & Fixture Designs



03

Software

- Pam Stamp
(Sheet Metal forming simulations)
- Expressus
(Sheet Metal tool & die kinematic analysis and transfer system analysis)



04

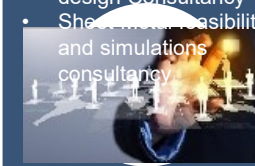
Reverse Engineering



05

Training & Consultancy

- Engineering Consultancy
- Project Management Consultancy
- Sheet Metal Product Design Consultancy
- Sheet Metal tool & die design Consultancy
- Sheet Metal feasibility and simulations consultancy



06

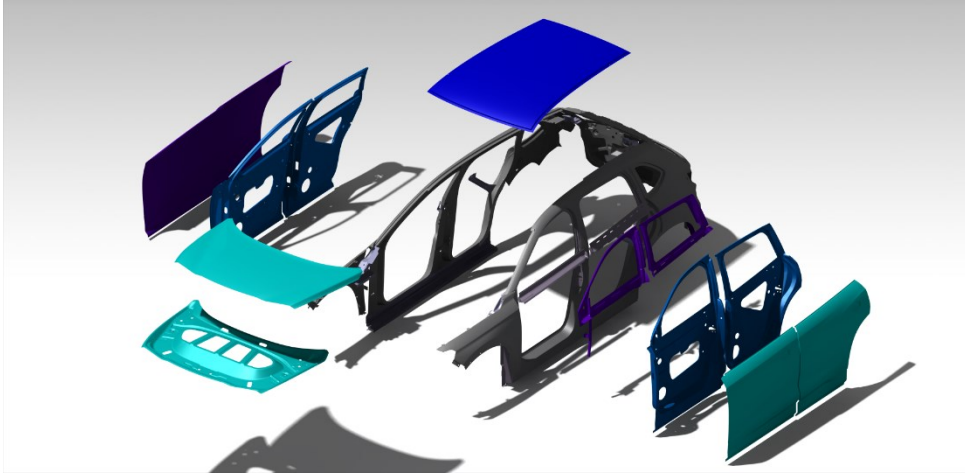
Project Management



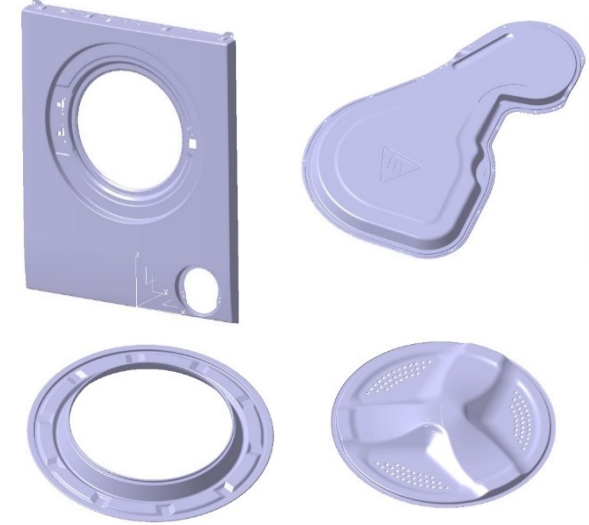
•Product Design

Design of functional, producible products with our experience in Sheet Metal sector.

Automotive



Home Appliance



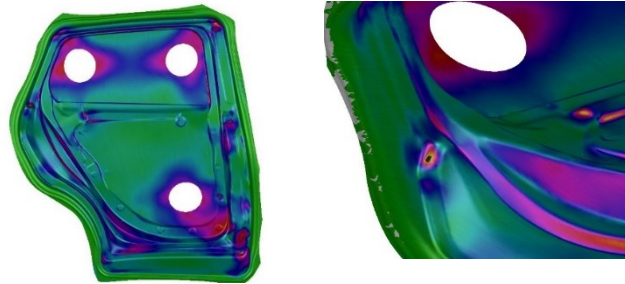
•Feasibility & Simulations

It's a very important step that the manufacturability of the product is analyzed, decreasing production time and labor in die design and production to an optimum level before starting die design. By doing virtual environment simulations, engineering softwares are used that directs fast die production with minimum costs in this process.

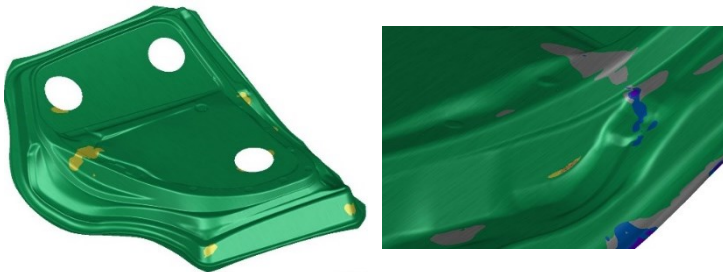
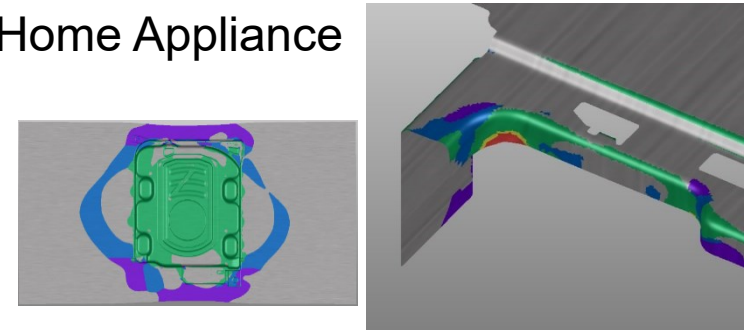
All work carried out are reported to our customers. After the simulations; the products in a desired level can be created in the very first part pressing by creating springback compensation surfaces if necessary.

"It's Important To See the Future While Making a Decision"

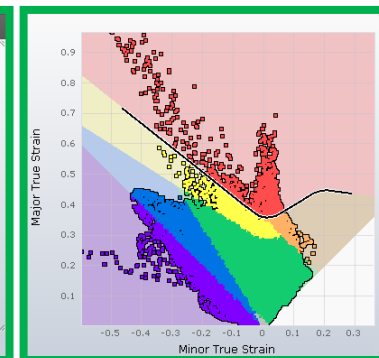
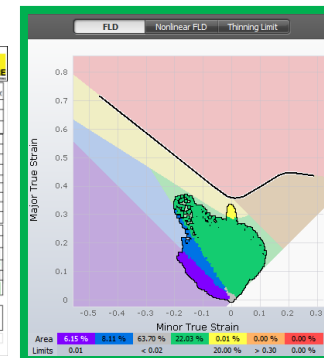
Automotive



Home Appliance



SIMULATION REPORT		TKARE	
		Alert of the Calculation Formability Analysis <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Springback Analysis <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Surface Defect Analysis <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Simulation Name: H:\MFC\KAR020110\KAR020110\KAR020110\KAR020110.dwg Reference Cat File: H:_0202017_A2012100_000_14_00_RELEASE Date: 13.03.2017 Version Type: 1.0 Part Name: Inner Panel Rear Door LH Part Number: K007021100 Subgroup Number: Rgr 03.04 Blank Material: EPS second case Material Thickness: 0.80 mm Coating: 0.00 mm Rolling Direction: RFR		Accuracy: 2D Radial Penetration: 0.22 mm Max element angle: 22.50° Max element size: 20.00 mm Max element layer: 10 Programming: P/L Execution Date: 13.03.2017 Software: A8	
Simulation Parameters: Mesh Size: 2.00 mm Cast Reference to: H:_0202017_A2012100_000_14_00_RELEASE Friction Coefficient: 0.15		Accuracy: 2D Radial Penetration: 0.22 mm Max element angle: 22.50° Max element size: 20.00 mm Max element layer: 10 Programming: P/L Execution Date: 13.03.2017 Software: A8	



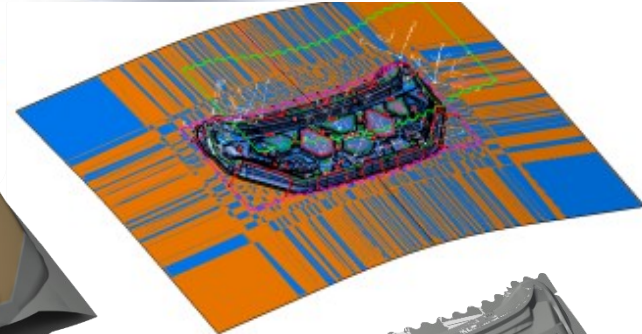
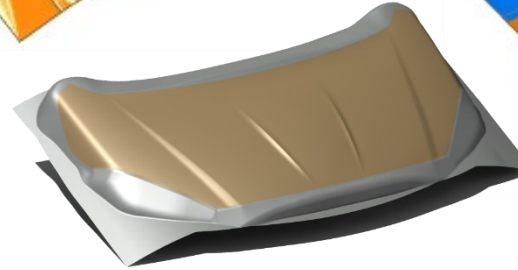
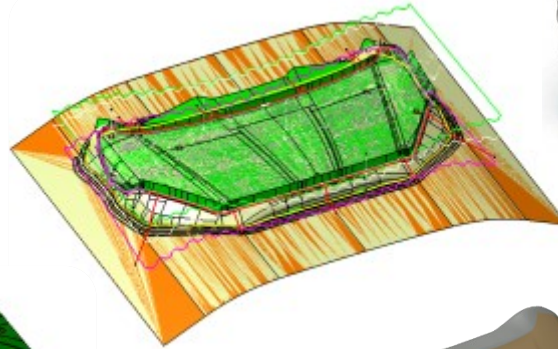
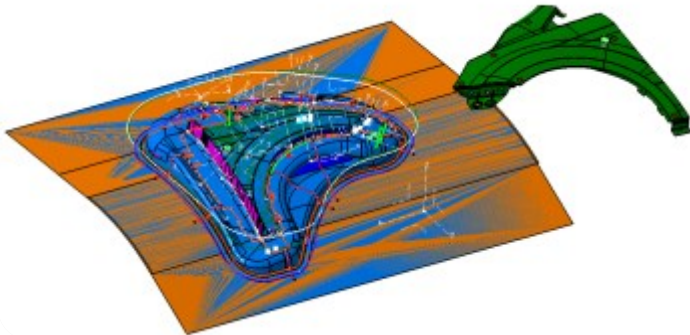
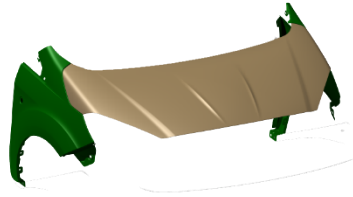
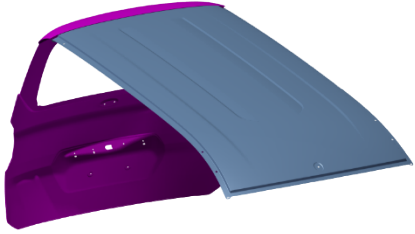
SERVICES



Welcome to the World of Design

•Process Design

“Correct Process, Correct Die Design.”

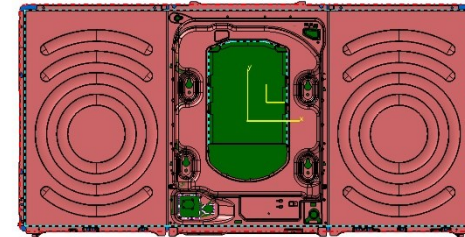
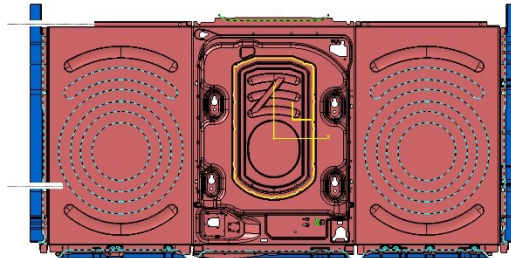
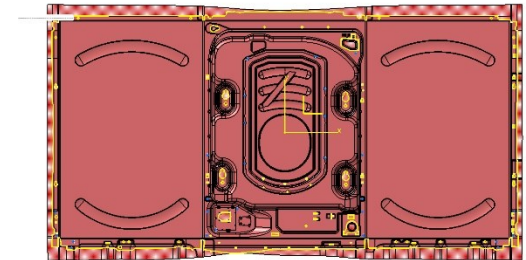
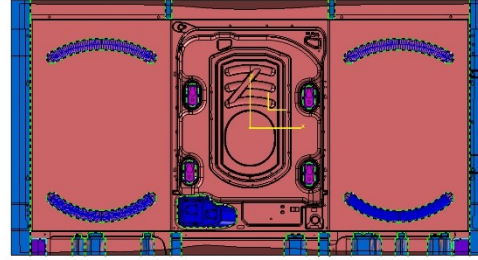
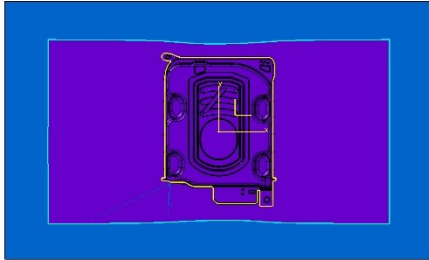
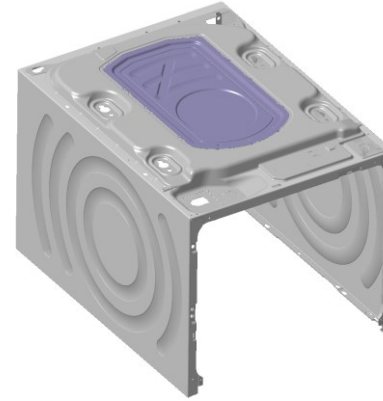


SERVICES



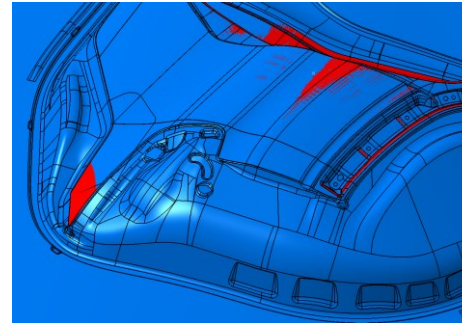
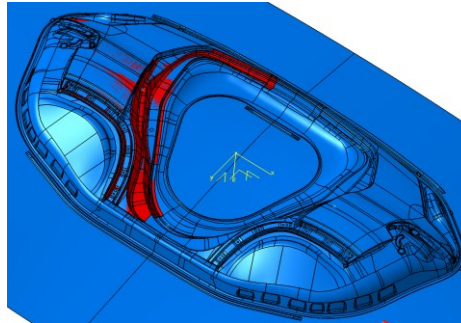
Welcome to the World of Design

•Process Design (Home Appliances) “Correct Process, Correct Die Design.”



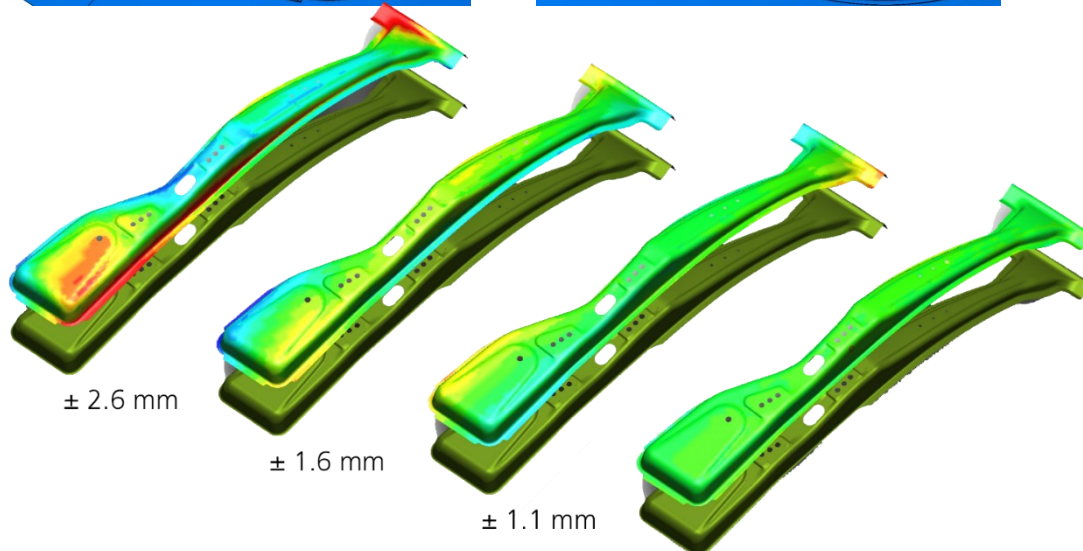
•Springback

After the simulations; the products in a desired level can be created in the very first part pressing by creating springback compensation surfaces if necessary.



— Original

— Compansated



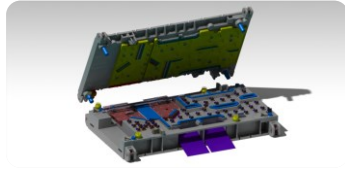
± 0.3 mm

SERVICES



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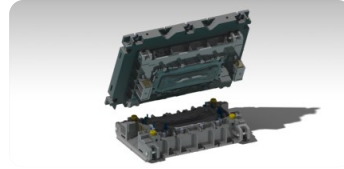
•DIE DESIGN



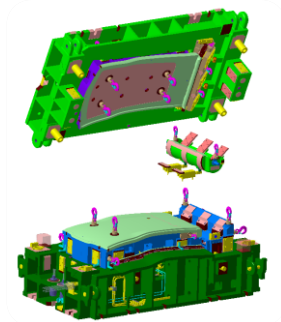
•Blanking Dies



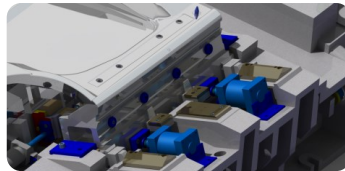
•Draw Dies
•Single Action Draw Dies
•Double Action Draw Dies



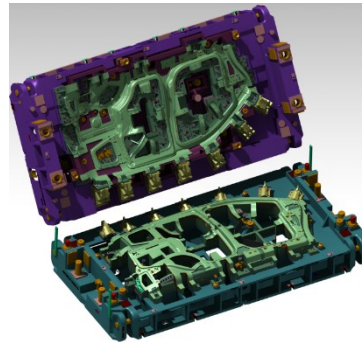
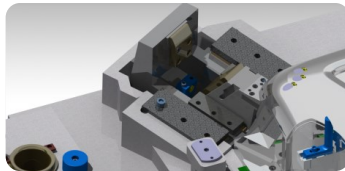
•Trim Dies



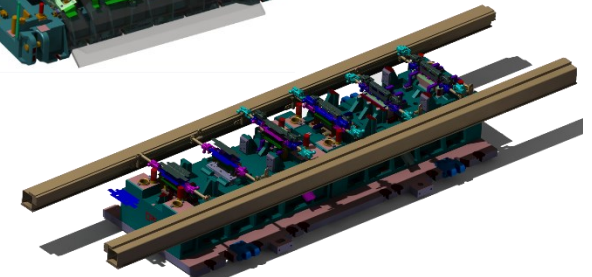
•Rotary Cam Units Dies



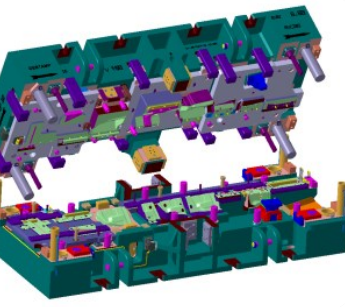
•Cam and Contra Cam Units Dies



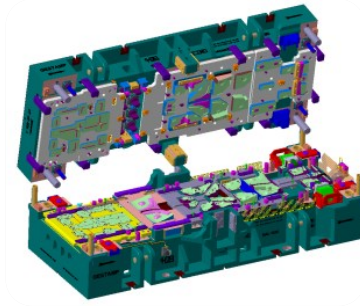
•Forming & Bending Dies



Transfer Dies



•Progressive Dies





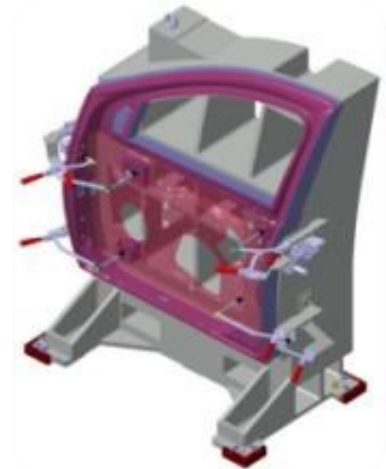
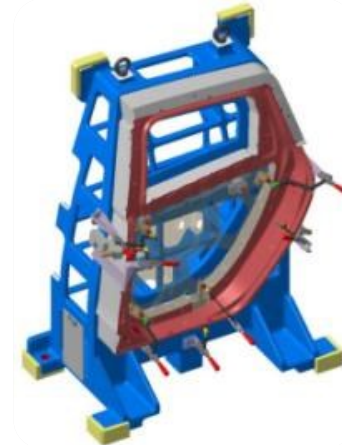
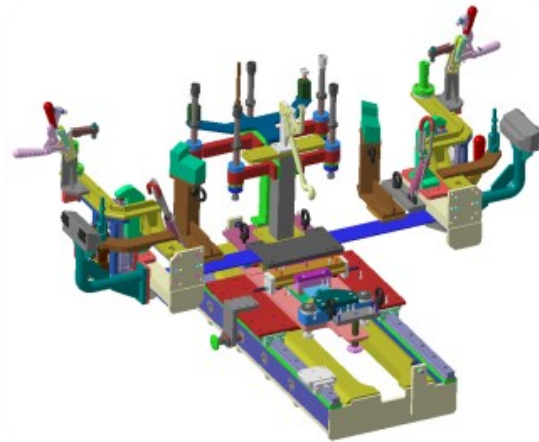
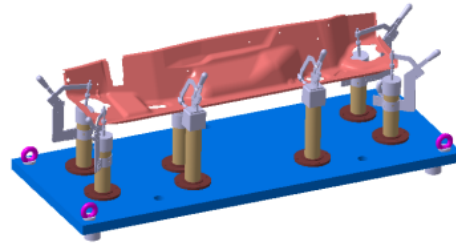
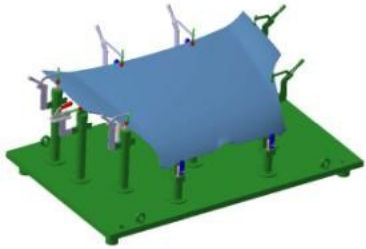
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“Good Design, Trouble-Free Manufacturing”

Welcome to the World of Design

•Gauge and Fixtures Design

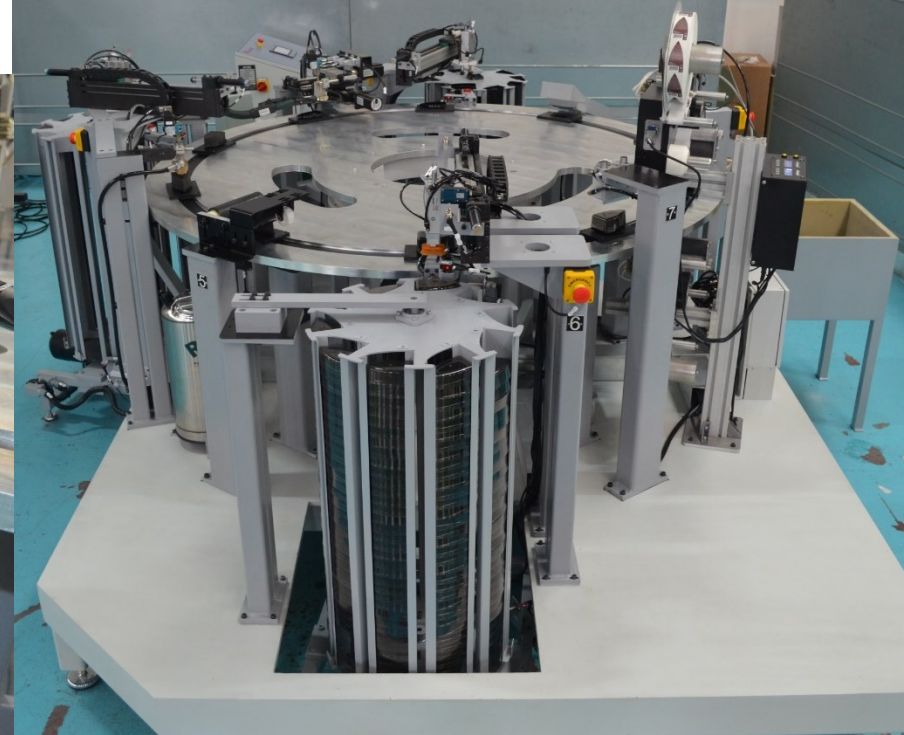
- Welding Gauges
- Mounting Gauges
- Testing Gauges
- Control Fixtures



Welcome to the World of Design

•Machine Design and Production

TKare Engineering; is providing service in “Machine Design and “Machine Manufacturing” special for your company. The company designs and manufactures turnkey machines from design to manufacture in special machinery.



•Software



Expressus (Die Kinematics)

Turkey Distributor

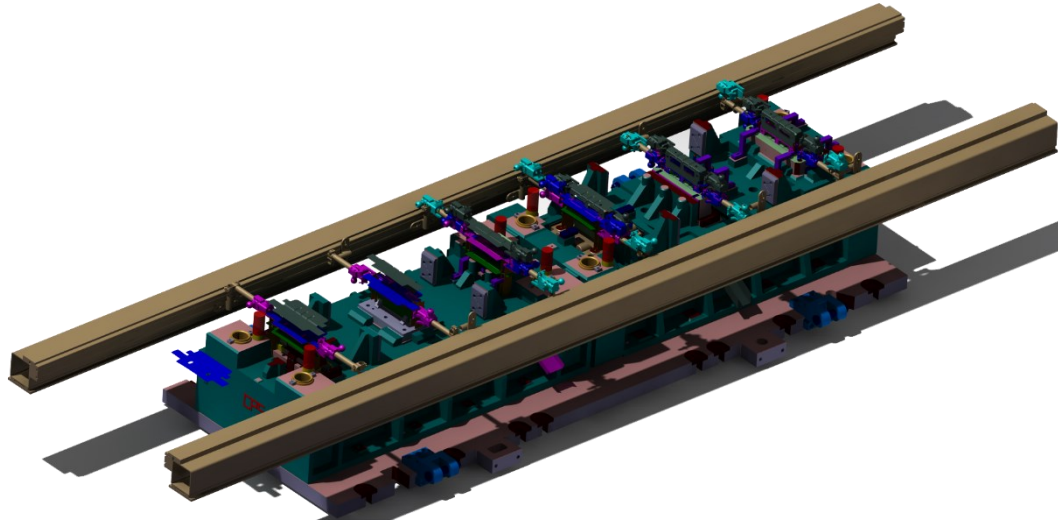
Tkare Engineering has become the only dealer of Japanese Die Kinematics program "EXPRESSUS" software since April 2014.

Thanks to Expressus;

During design phase; the under press kinematic simulation of dies has been done, we can analyze if there is any interference or faulty operating status. If it's asked press synchronization with the die can be installed and you can simulate transfer and cross bar applications. This means that during the design, you can be sure your die is working properly and you can start manufacturing process.

You can stop the simulation in a desired point of kinematic simulation, you can section from anywhere you would like and you can make measurements, initiations between die instruments or you can analyze the connection between die instruments.

During the simulation of transfer dies, you can determine the reflections of press speed to your die and you can confirm part production in optimum speed even during design phase.



SERVICES

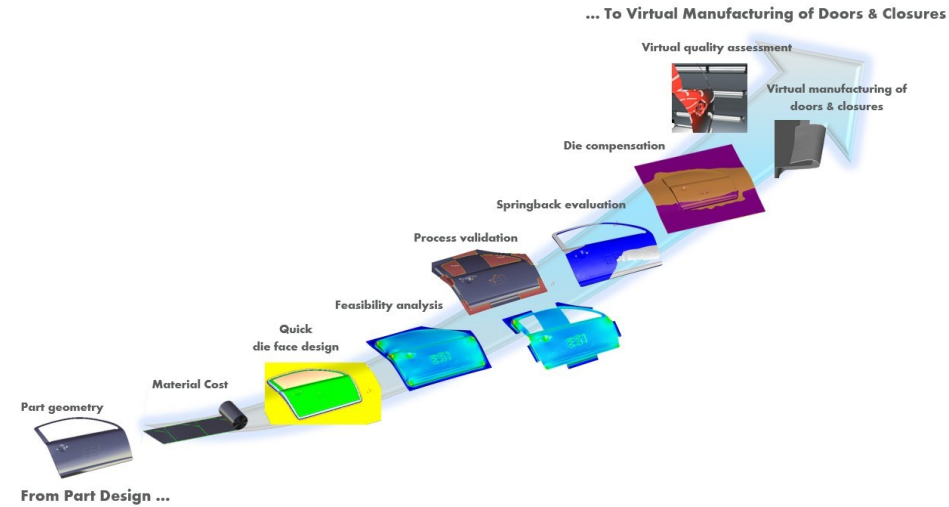


Welcome to the World of Design

•Software



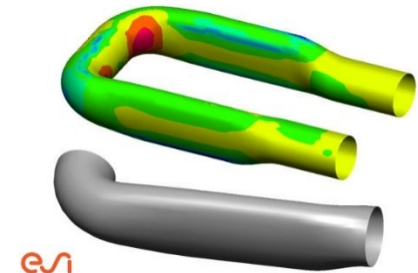
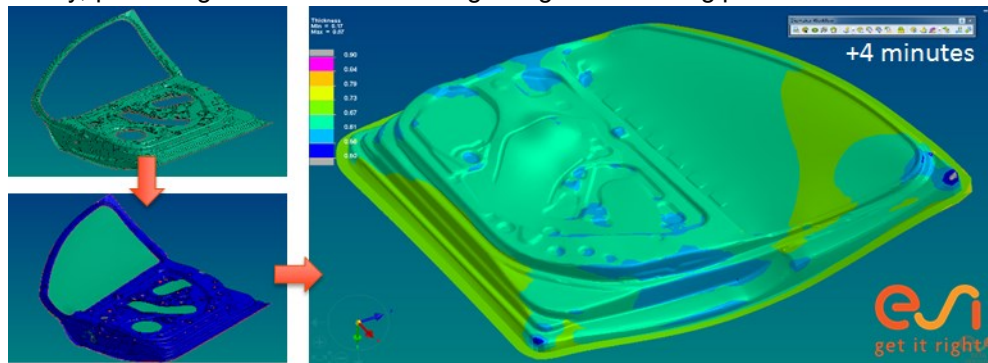
PAM-STAMP



Tkare Engineering is the distributor for Pam Stamp software in Turkey.

From Design/Concept to Try-out

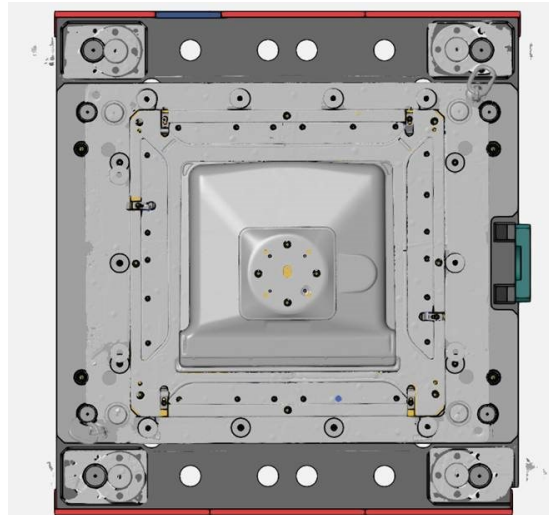
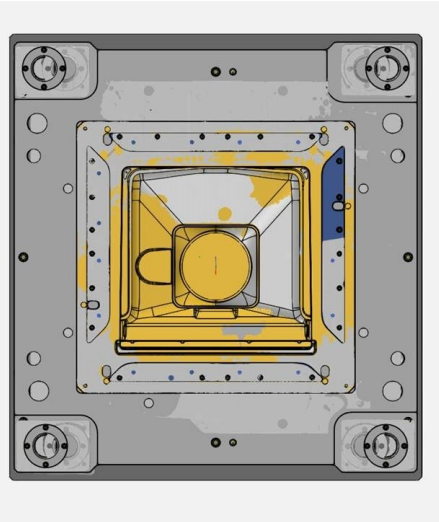
For any given metal forming process, it is possible today to conceive everything in a virtual engineering equivalent - from detailing customer requests to virtually inspecting the final product, as well as setting-up the production facilities. This includes material cost estimation, die design and feasibility, part design validation and tooling design and forming processes.



TKARE ENGINEERING
04.02.2024

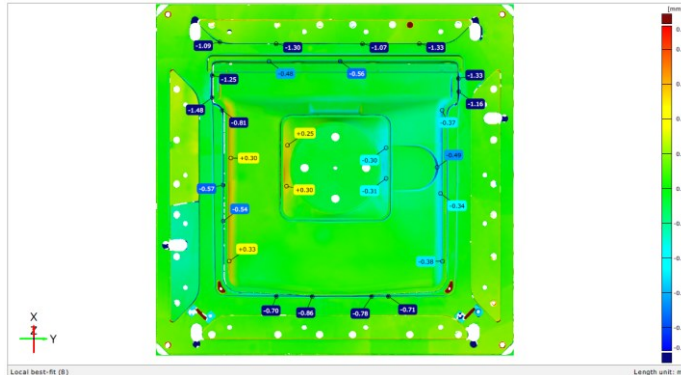
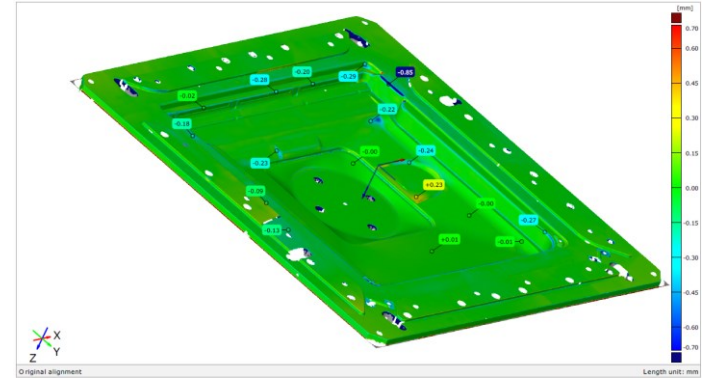
•Reverse Engineering

We are able to offer different services to our customers, especially with this method we use in the process verification phase.



001

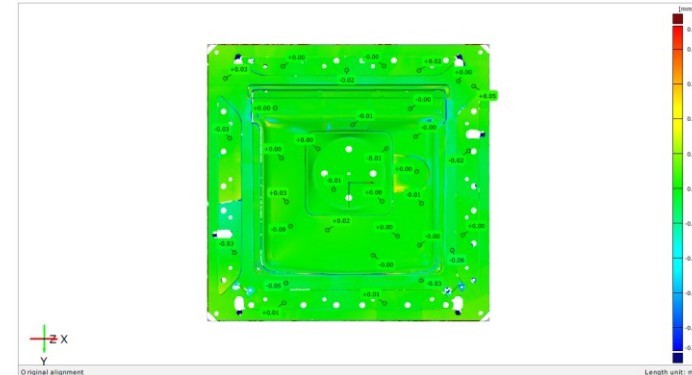
004



Local best-fit (B)

Length unit: mm

002

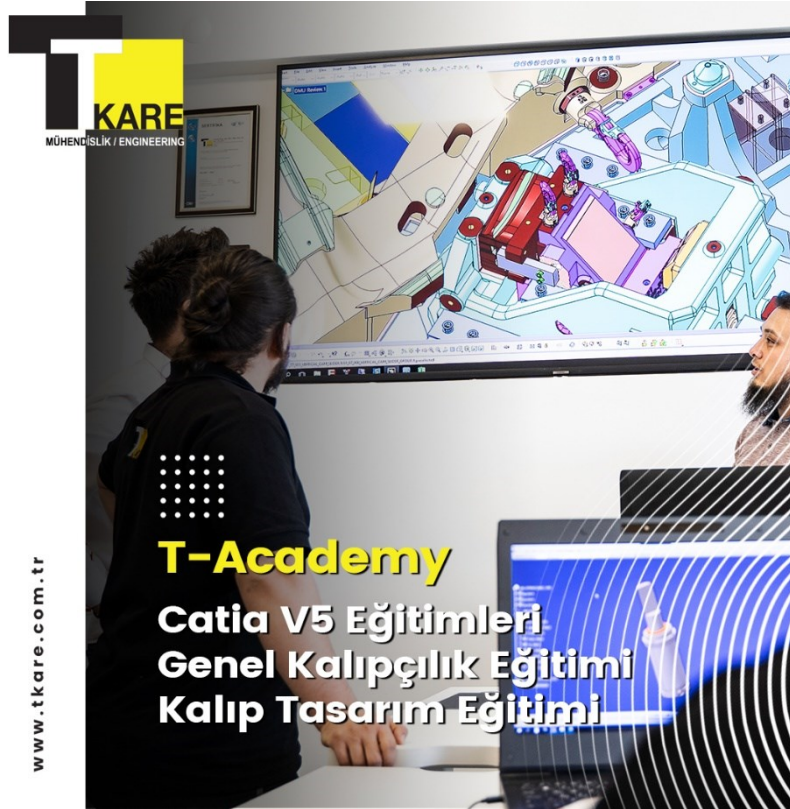


Original alignment

Length unit: mm

•T-ACADEMY

www.t-academy.com.tr



Training & Consultancy

- Catia V5 Training
- Tool & Die Training
 - Conventional tool&die training
 - Progressive Die design Training
 - Transfer Dies training
- Die Design Training
- 3D Process Training
- Sheet Metal Forming Simulation Training
 - Autoform R8
 - Pam Stamp 2021
- Parametric Die Design Training on Catia V5
- Ford Motor Company / Stamping Tools & Powertools Training
- Kinematic Simulation on Expressus

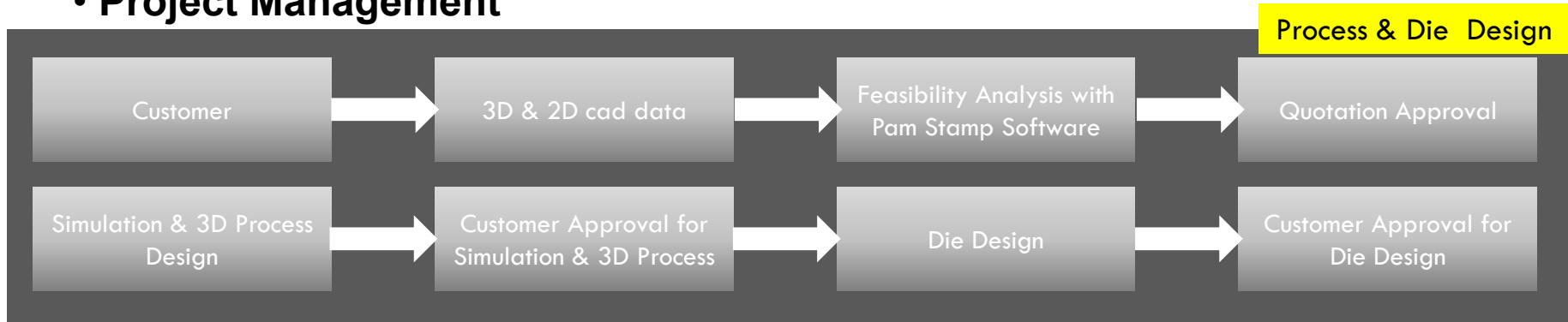
T-ACADEMY

PROJECT MANAGEMENT

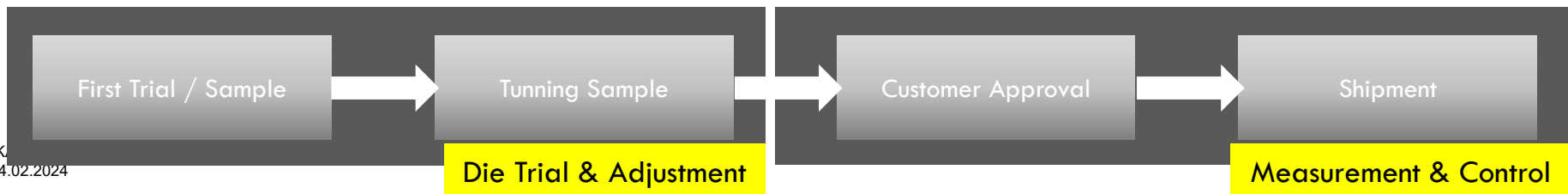
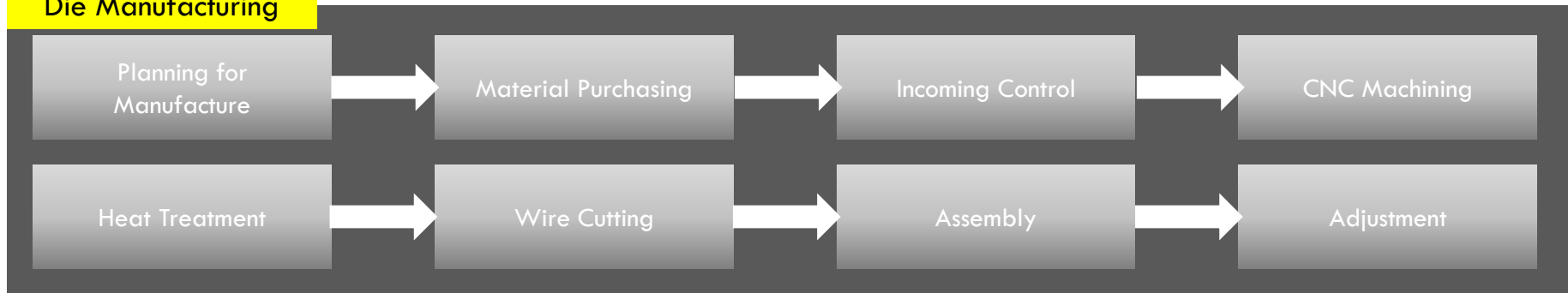


Welcome to the World of Design

• Project Management



Die Manufacturing



PROJECT MANAGEMENT



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TKARE
ENGINEERING & CONSTRUCTORS

Project Management Process & Die Design

- Customer
- 3D & 2D Cad Data
- Feasibility Analysis with Pam Stamp
- Quotation Approval
- Simulation & 3D Process Design
- Die Design & Customer Approval

www.tkare.com.tr

TKARE
ENGINEERING & CONSTRUCTORS

Project Management Die Manufacturing

- Planning for Manufacture
- Material Purchasing
- Incoming Control
- CNC Machining
- Heat Treatment
- Wire Cutting
- Assembly
- Adjustment

www.tkare.com.tr

TKARE
ENGINEERING & CONSTRUCTORS

Project Management Die Trial & Adjustment

- First Trial / Sample
- Tuning Sample

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TKARE
ENGINEERING & CONSTRUCTORS

Project Management Measurement & Control

- Customer Approval
- Shipment

www.tkare.com.tr

ORGANIZATION CHART

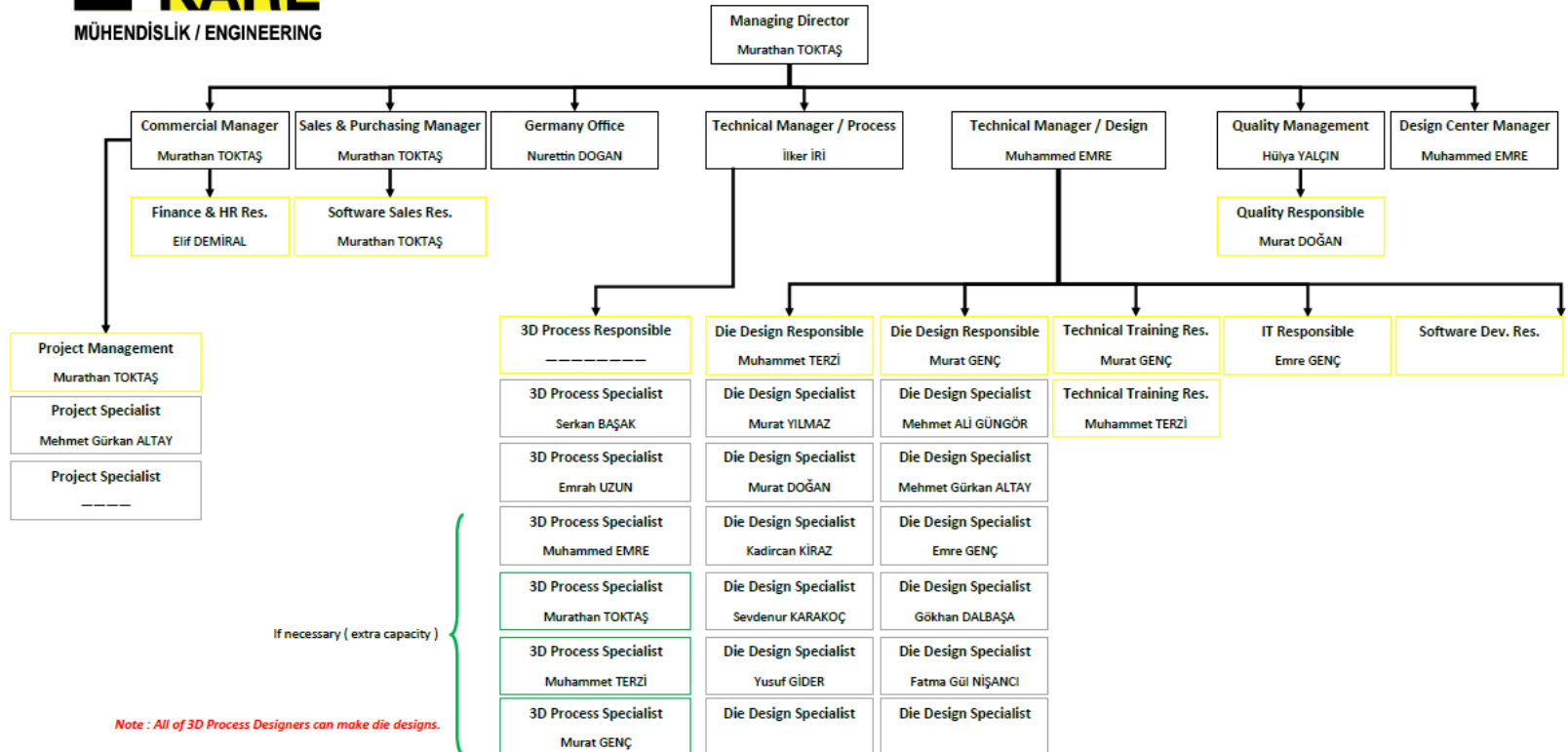


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TKARE ENGINEERING ORGANIZATION CHART

Release Date : 03.17.2023



WORK MANAGEMENT



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TASARIM PLANI / DESIGN PLAN									
Proje Adı / Proje Adı	Yatırımcı / Yatırımcı	Proje Adı / Proje Adı	Proje No / Proje No	Proje Durumu / Proje Durumu	Proje Başlangıcı / Proje Başlangıcı	Proje Bitişi / Proje Bitişi	Proje Durumu / Proje Durumu	Proje Durumu / Proje Durumu	Proje Durumu / Proje Durumu
23	T23-006-001	FORD OTOSAN	TV41-3005-6_Fender	İML	İT	İMMULASYON	BAŞLANGIÇ
25	T23-006-002	FORD OTOSAN	TV41-B-1073006_Toyotaka_C enter_iner	İML	İT	İMMULASYON	BAŞLANGIÇ
27	T23-006-003	FORD OTOSAN	TV41-V02012_Boof_Zor	İML	İT	İMMULASYON	BAŞLANGIÇ
28	T23-006-004	FORD OTOSAN	TV41-V02012_Front_Door_iner	İML	İT	İMMULASYON	BAŞLANGIÇ

- Design and Project Management
- Gantt Chart



Meeting and Meeting Room Management



Tarih	Ziyaret	Suber	Ekip
13 Mart Pazartesi	14 Mart Salı	15 Mart Çarşamba	16 Mart Perşembe
17 Mart Cuma	18 Mart Cumartesi	19 Mart Pazar	

GREAT TEAM



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12.YIL



TKARE ENGINEERING
04.02.2024

OUR CAPACITY



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Process & Simulation : ***600 hours per month***

Tool & Die Design : ***3.000 hours per month***

Project Management : ***600 hours per month***

DESIGN EXPORT TO...



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COUNTRIES WE EXPORT DESIGN AND ENGINEERING



USA



GERMANY



ENGLAND



FRANCE



ITALY



SPAIN



HUNGARY



SLOVAKIA

OUR SOFTWARES



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Cad Softwares



PAM-STAMP



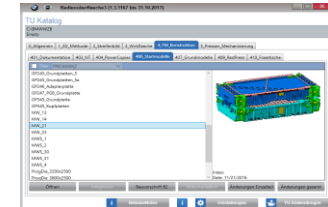
Simulations Softwares



Kinematic
Analysis Software
(Tool and transfer
system analysis)



FORD MOTOR COMPANY
"POWERTOOLS"



BMW
"CARISMA"

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T.C.
TÜRK PATENT ve MARKA KURUMU

MARKA YENİLEME BELGESİ

Marka No : 2011 102889 - Hizmet



Marka Sahibi : T KARE MAKİNE İNŞAAT MÜHENDİSLİK MİMARLIK SANAYİ VE TİCARET LİMİTED
ŞİRKETİ
TÜRKİYE CUMHURİYETİ
KONAK MAH. L.BADEM SK. 26 B 85 Nilüfer Bursa

Emtiası : 42
Bilimsel ve smai inceleme, araştırma hizmetleri; mühendislik hizmetleri.
Bilgisayar hizmetleri.
Bu sınıfa dahil olup mühendislik, mimarlık, bilgisayar hizmetleri
kapsamına girmeyen her türlü tasarım hizmetleri; grafik sanat tasarım
hizmetleri.
Sanat eserleri orijinallik onay hizmetleri.

İşbu Marka ilk defa 01/12/2011 tarihinde tescil edilmiş
olup, 01/12/2021 tarihinden itibaren ON YIL süreyle yenilenmiştir.


Prof. Dr. Habip ASAN
Türk Patent ve Marka
Kurumu Başkanı



TÜRK PATENT

REFERANCES



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Mercedes-Benz



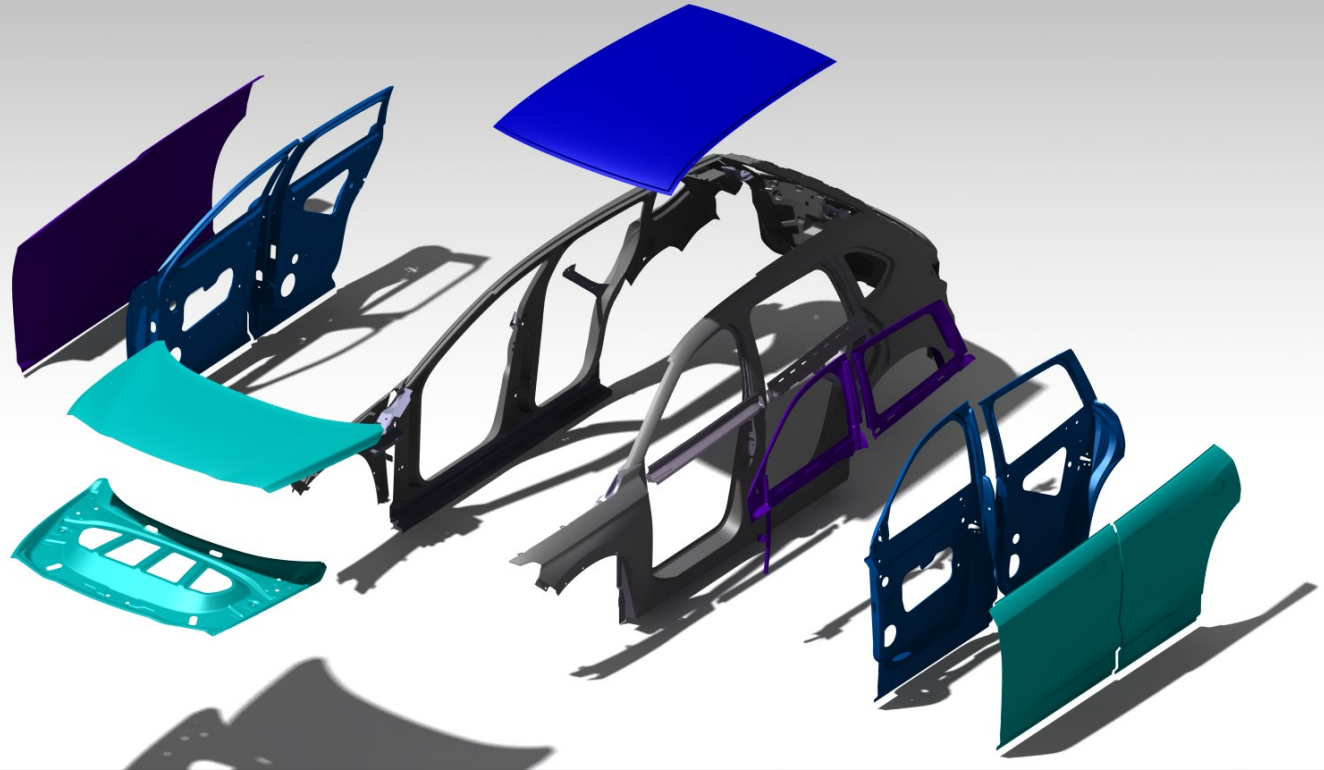
Domestic Car / Turkish Brand



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- Hood Outer
- Hood Inner
- Roof
- Panoramic Roof
- Front Door Inner
- Front Door Outer
- Back Door Inner
- Back Door Outer
- Front Door Frame
- Back Door Frame
- And others

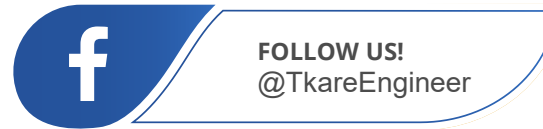
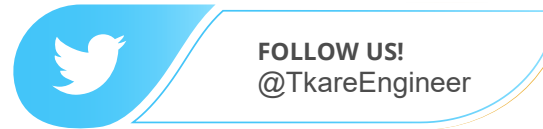
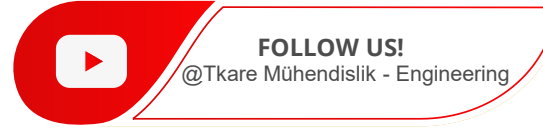
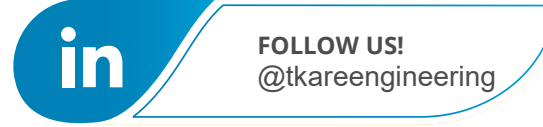


From feasibility to die design

Social Medias



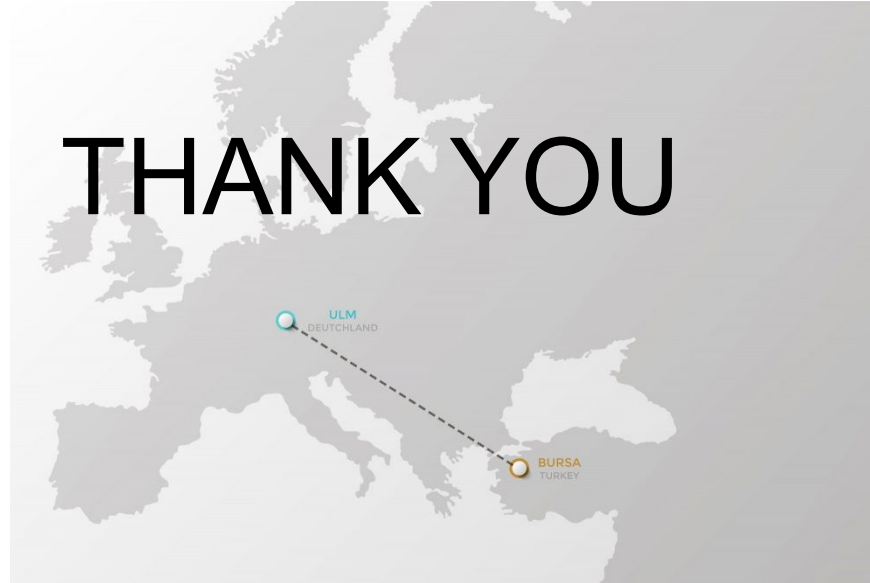
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THANK YOU



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