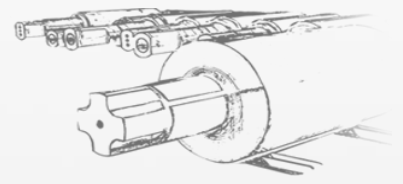


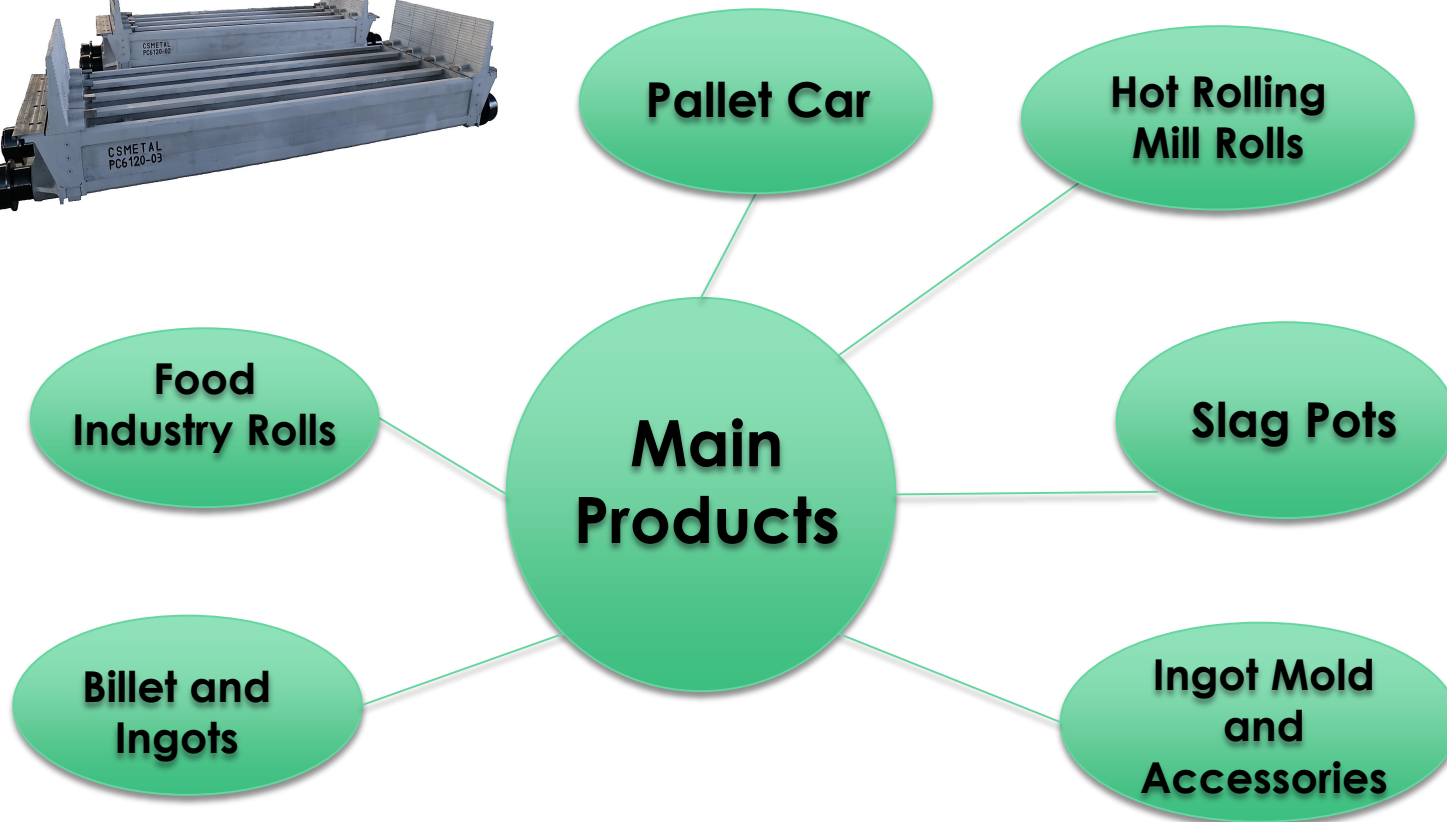
**CSMetal**



# **CS METAL ISTANBUL**

**Pallet Car Introduction 2020**

## Variety of Products



CSMETAL

Casting plant for Rings  
& Rolls

Casting plant for Cast  
Iron and Heavy Steel  
Parts

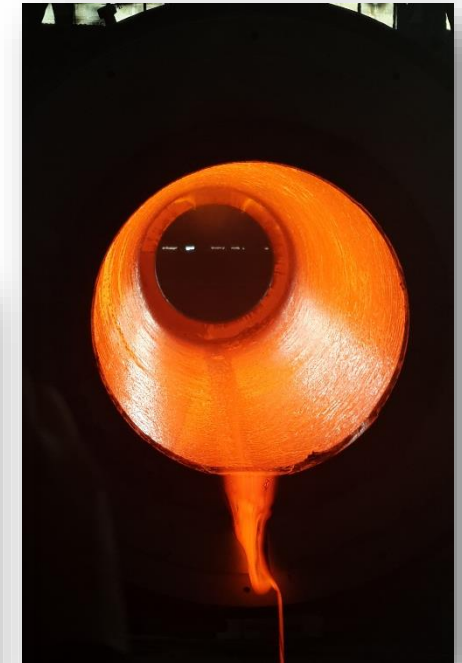
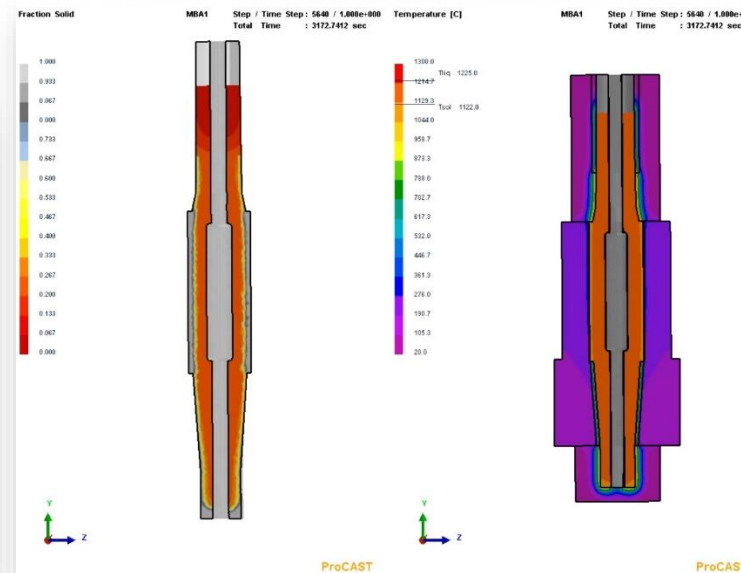
Machining Factory





## Casting plant for Rings & Rolls

- Production of Static and Centrifugal Cast (Vertical/Horizontal) Rings & Rolls
- ✓ Total Melt Capacity: **35,000 Ton/ Annum**
- ✓ Total Production Area: **22,000 m<sup>2</sup>**



## Casting plant for Cast Iron and Heavy Steel Parts

- Production of Ingot Molds and Accessories
- Production of Cast Iron and Heavy Steel Parts
- Continuous Casting of Small Section Billets



- ✓ Total Melt Capacity: 250,000 Ton per year
- ✓ Total Area: 50,000 m<sup>2</sup>

### Turning:

- Small to Medium Rolls, Rings, Ingot Molds and Accessories
- Heavy Rolls
- Weight: 100 Kg to Max.: 200 Ton
- Work-piece dim: 3000\*12000 mm (Dia. x L)

### Milling:

- Pallet cars
- Working and Back-up roll chock
- Weight: Maximum: 120 Ton
- Work-piece dim: 1600\*2500\*6000 mm (W x H x L)







# Pallet Car

For sinter machine

DECEMBER-2020

▶ **Introduction**



## Pallet Car

### ▶ Pallet Car :

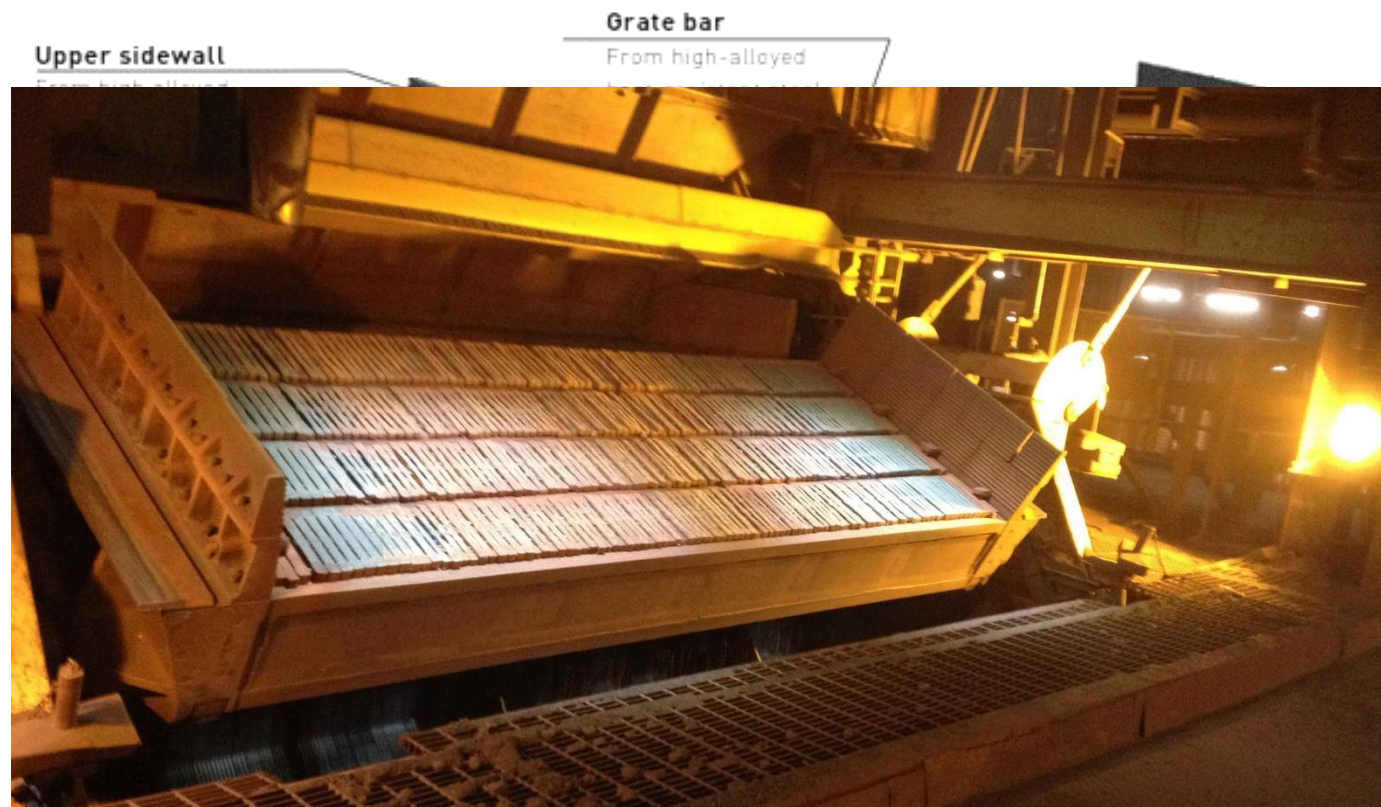
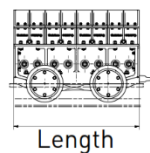
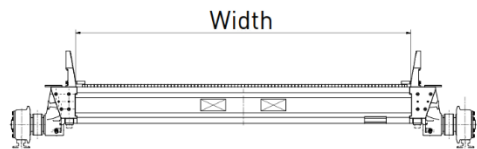
- One of the important components of a sinter machine
- Designed for reliable operation and low maintenance
- Split high-alloyed upper sidewall design for high temperature resistance
- Pallet bed heights up to 550 mm



## Pallet Car

- ▶ Pallet car for pelletizing

Standard dimensions				
Width (m)	2.5	3.0	3.5	4.0
Length (m)	1.0	1.5	1.5	1.5

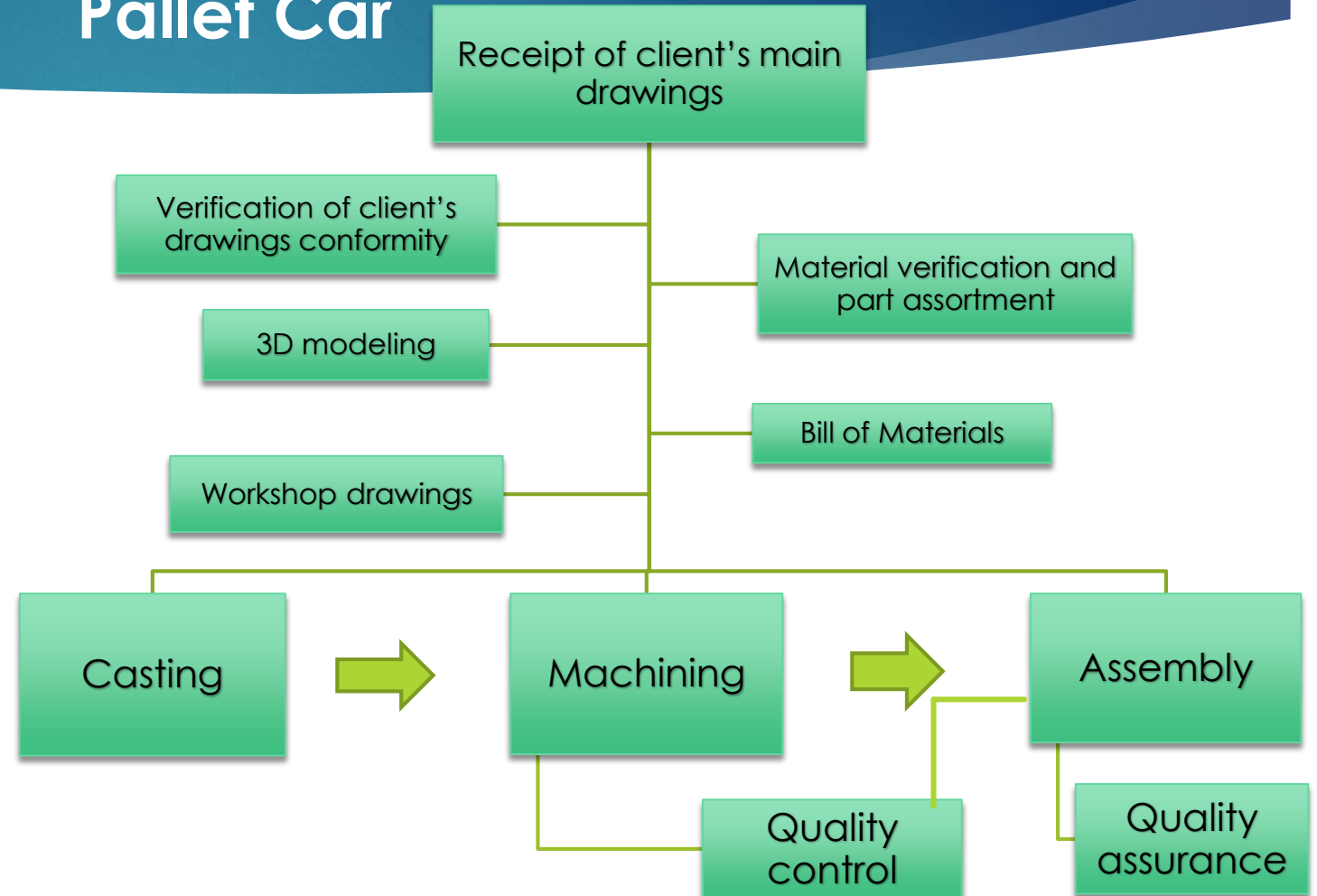




- ▶ **Design and Engineering**

## Pallet Car

### ► Production Process



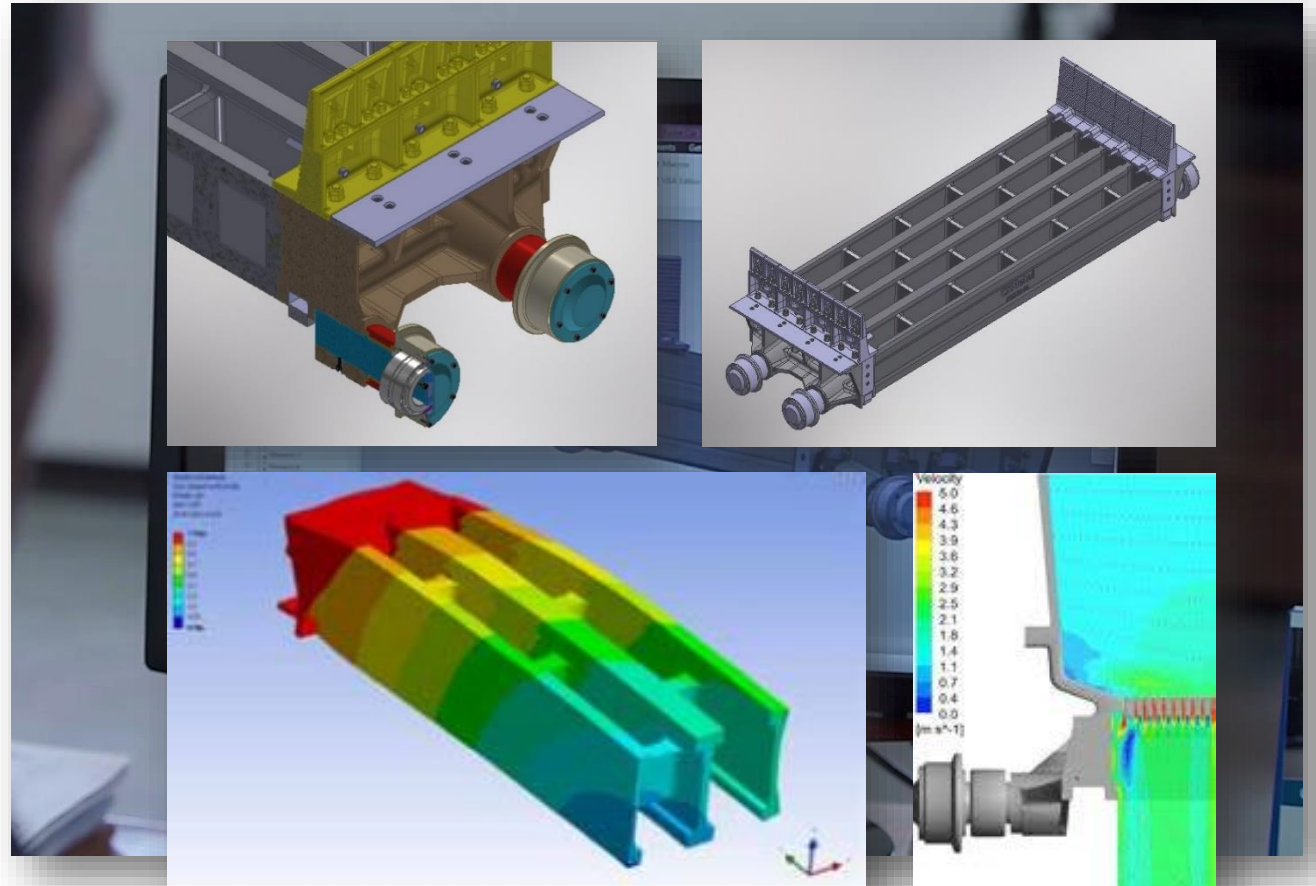


## Pallet Car

### ► Product design

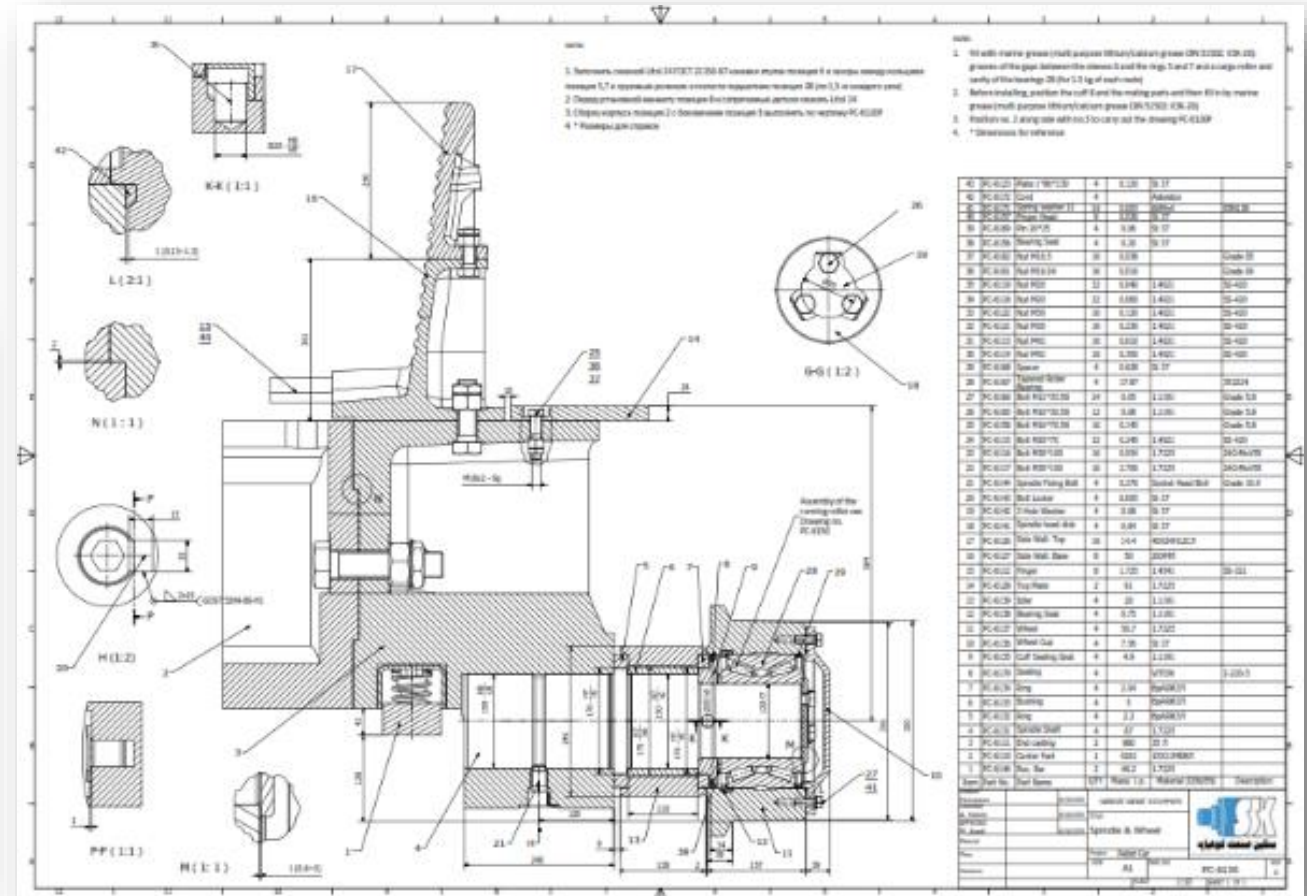
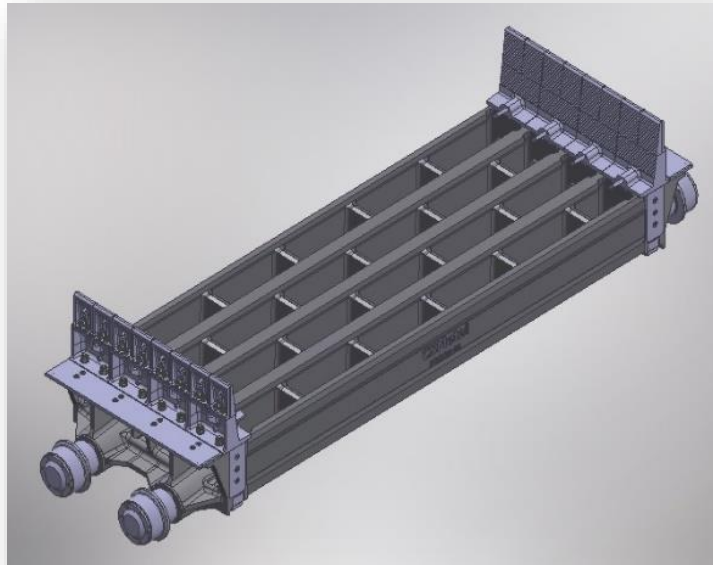
Highly motivated and proficient design and engineering team:

- Conceptual design
- Design and simulation
- Reverse engineering



## Pallet Car

► 3D modeling and Drafting





▶ **Casting Plant**

### ► Casting plant

More than 2,500 tons of total capacity is specified on pallet car casting parts:

- ✓ Center part
- ✓ End-casting
- ✓ Side-walls
- ✓ Grate bars



## Pallet Car

- ▶ Facilities:
- ▶ **Melting furnaces**
- ✓ 13 Medium frequency Induction furnaces:  
Capacities: 25, 17, 13, 6, and 4 tons





## Pallet Car

### ► Facilities:

### ► Pouring Ladles

- ✓ 8 Various types of ladles  
Capacities: from 5 to 16 tones
- ✓ 2 Special types of ladles  
Capacities: 35 and 25 tones



## Pallet Car

- ▶ Facilities:
- ▶ **4 Heat treatment chambers**
  - ✓ For Annealing, Normalizing, quenching, and Stress relieving of various sizes and shapes of casting parts
  - ✓ Max. dimensions: 5\*6\*10 m
  - ✓ Max. working temperature: 1100 °c
  - ✓ Tem. accuracy:  $\pm 5$  °c





## Pallet Car

- ▶ Facilities:
- ▶ **Modeling and prototyping workshop**
- ✓ 2 CNC machine for foam machining of casting model
- ✓ Max. dimensions: 2500\*6000 mm





## Pallet Car

- ▶ Facilities:
- ▶ **Modeling and prototyping workshop**
- ✓ Capacity for making of various wooden models of casting parts



## Pallet Car

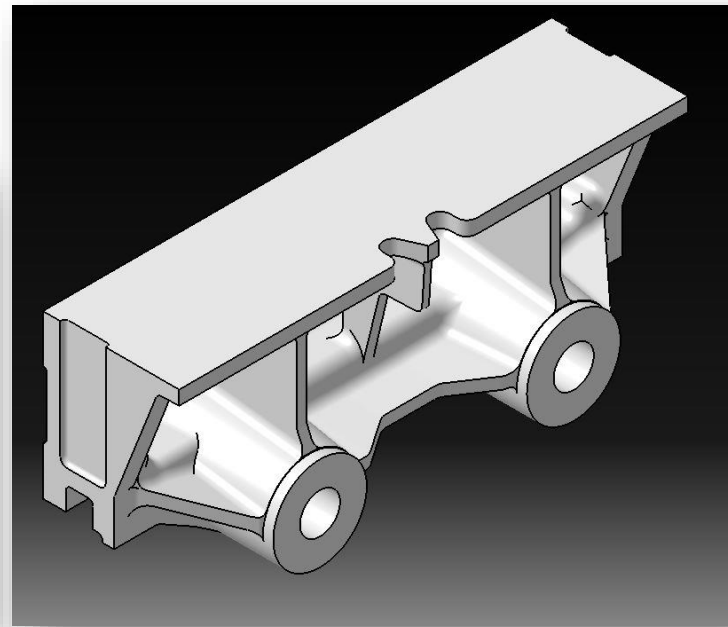
- ✓ Center-part full-mold casting





## Pallet Car

- ✓ End-casting full-mold casting





▶ **Machining Factory**

## Pallet Car

► Machining Factory

✓ Capacity in production of more than 240 units of Pallet Car per year



## Pallet Car

### ► Machines and equipment:

Item	Machine type	QNT	Description
1	Manual and CNC lathe Machine	58	L: 2000 to 13000 - Dia.: 500 to 3000 - Up to 160 tons
2	Roll Grinding Machine	5	L: 3000 to 6000 - Dia.: 630 to 1600 – Up to 45 tons
3	Manual and CNC Bridge Type Milling Machine	6	Up to 2500*5000*6000 (W*H*L)
4	Manual and CNC Milling Machine	6	
5	Manual and CNC Floor and Table Type Boring Machine	12	90-120-160
6	Manual and CNC Vertical lathe Machine	4	Max Dia.: 3000 – H: 2000
7	BTA and Deep Hole Drilling Machine	1	Dia.: 6 to 85 L: max 2000
8	Bridge Overhead Crane	15	From 5 to 50 tons



## Pallet Car

- ▶ Small Parts Machining Workshop



## Pallet Car

- ▶ Medium Parts  
Machining Workshop





## Pallet Car

- ▶ Medium Pats Machining workshop
- ▶ CNC and manual milling machines
- ▶ CNC and manual boring Machines
- ▶ CNC and Manual lathes
- ▶ Vertical lathes
- ▶ Grinding Machines





## Pallet Car

- ▶ Heavy-duty Machining Workshop:



## Pallet Car

- ▶ Heavy-duty Machining workshop
- ▶ CNC Bridge Milling Machines
- ▶ CNC and Manual Boring Machines
- ▶ Manual and CNC lathes
- ▶ CNC Grinding Machines





## Pallet Car

➤ Bridge-type CNC Milling Machines:

Working table dimensions: 6000\*1800 mm

Two Angle head is included

Max work-piece weight: up to 15 tons





## Pallet Car

- Floor and table type boring machines:
- ✓ Working table dimensions: 6000\*2000 mm
- ✓ Rotary table is included
- ✓ Max work-piece weight: up to 25 tons



- ▶ **Assembly and  
warehouse**

## Pallet Car

- Assembly saloon





## Pallet Car

- ▶ Warehouse
- ▶ Running Rollers
- ▶ Top plate
- ▶ Spring seal assembly
- ▶ Drive rollers



## Pallet Car

- ▶ Warehouse
- ▶ Running roller shaft





## Pallet Car

### ► Warehouse

- Sealing seat
- Side plate
- Bearing seat
- Fitting sleeve





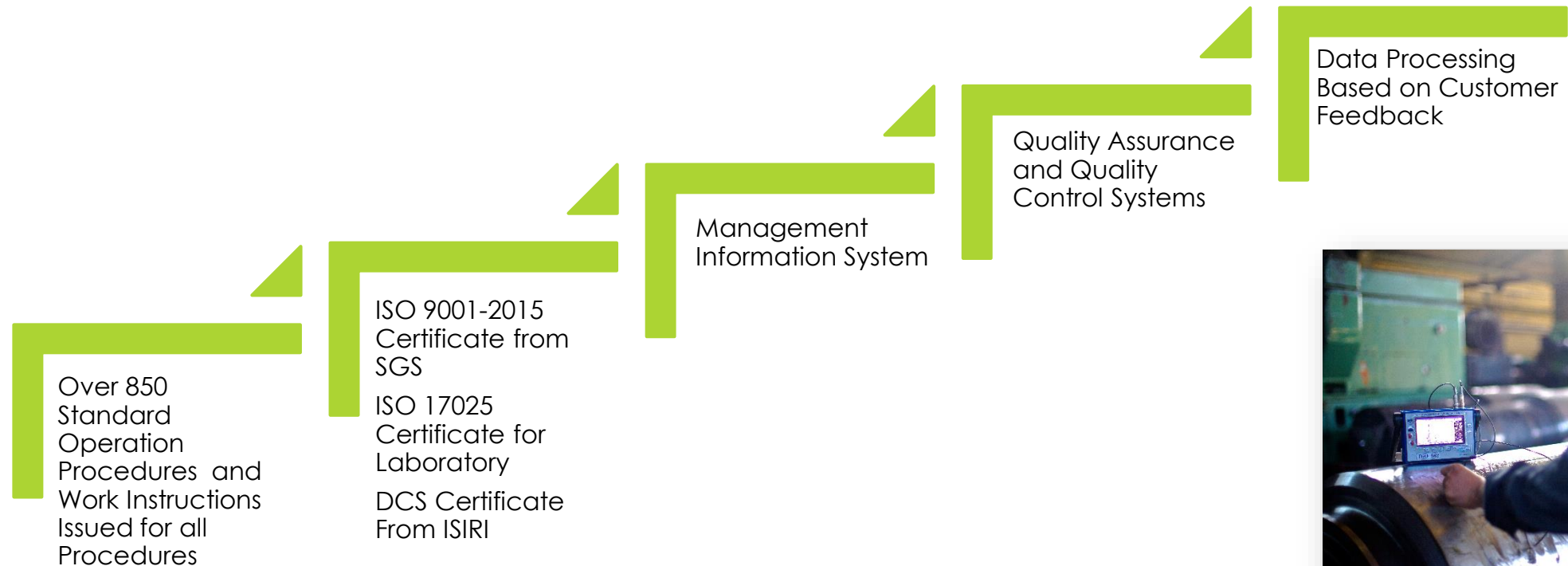
## Pallet Car

- ▶ Warehouse
- Lower & Upper side-walls



▶ **Quality Assurance:**

### ► Quality Assurance:





## Pallet Car

### ► Quality plan:

Table of content:		Page
1	Certificate of Conformance	3
2	Main Specifications of Pallet Car 6120	4
3	Part List	5
4	Quality Plan	6
5	Quality Certificates	11
6	Bearing Type and Specification	13
7	Warranty	14

#### 3- Certificate of Conformance:

Supplier Name: CS METAL  
 Supplier Address: 34740 Bagdat Cadessi Plaj Yolu, Sokak Anka  
 Cikmazi Teknik Yapı Suadiye Sahil Sitesi  
 No.6 E2 Blok Daire 14 Suadiye, Istanbul,  
 TURKEY

Supplier Number: 2090537802  
 Product Description: Pallet Car

Buyer: JSC « Metalloinvesting »  
 Buyer Address: Moscow region, Korolev, mkr.Yubileyny,  
 Lesnaya str., H. 14B, of. 062

Part Number: PC6120-15  
 Drawing Number: PC6120

Contract No.: MG-19-028-P  
 Quantity: 1

All technical requirements of the contract are satisfied. Quality and performance are in accordance with the contract, the specifications, and all references and associated contractual drawings and documents.

I, as a supplier to **METALLOINVEST**, acknowledge and certify the material covered under this document is produced in accordance with the following:

- All Contractual "Drawing" Requirements
- Supplier Standard Guide
- Product Conformance
- Free of Counterfeit Material

  
 Signature \_\_\_\_\_ Title \_\_\_\_\_ Completion Date \_\_\_\_\_

This certifies the parts/items/materials identified above conform to all applicable drawings and/or specifications as evidenced by reports or other documentation on file and all other purchase order and quality requirements have been met.

#### 4- QUALITY PLAN




Of

### Pallet Car

(Reverse Engineering and Production)

(P/N: PC6120-15)

## CS Metal

	Inspector	QC Manager	Project Manager
Name	M.R. Heydari	A.R. Emadzadeh	M. Asadi
Date	05/16/20	05/20/20	05/25/20
Signature			



## Pallet Car

▶ **Customers:**

# CSMetal

## Pallet Car

► Mettaloinvest:



Металлоинвест  
Михайловский ГОК

АО "Михайловский ГОК им. А.В. Варичева"  
307170, г. Железнодорожный Курской обл., ул. Ленина, д. 21,  
телефон справочной службы (47148) 9-12-09, телефон  
приемной Управляющего директора (47148) 94-105, 94-164,  
факс (47148) 46-696, ОГРН 16, ОКПО 1 22 47,  
ОКПО 00186849, ОГРН 1024601215088, ИНН 4633001577,  
КПП 997550001, расчетный счет № 40702810100190000207  
в «Банк ВТБ» (ПАО), доп. офис №16 «Земляной вал»  
г. Москва, БИК 044525187,  
корсчет № 30101810700000000187, ОГВЗД 07.10.2  
<http://metalloinvest.com>, [postfax@mgok.ru](mailto:postfax@mgok.ru)

Исполнительному директору  
CSMETAL ISTANBUL DEMIR CELIK  
SANAYI VE TICARET LIMITED  
SIRKETI  
Баману Баяту

№ \_\_\_\_\_  
на № \_\_\_\_\_ от \_\_\_\_\_

Уважаемый Баман Баяту,

В 2020 году ваша компания поставила обжиговые тележки на АО «Михайловский ГОК им. А.В. Варичева» в количестве 15 единиц по контракту MG-19-052-P от 02.12.2019 года. В настоящий момент все 15 поставленных единиц оборудования находятся в эксплуатации. Компанией CSMetal были выполнены все условия и требования ПАО «Михайловский ГОК и А.В. Варичева» по качественным характеристикам указанного оборудования, замечаний нет.

Коммерческий директор

Буйанов И.С.

Ю.В. Попов  
94-174

Иск. Пров. Вачуевичев В.  
83.12.2020.



## Pallet Car

- ▶ MOBARAKE Steel Company:





## Pallet Car

- ▶ GOHAR-ZAMIN IRAN Ore:

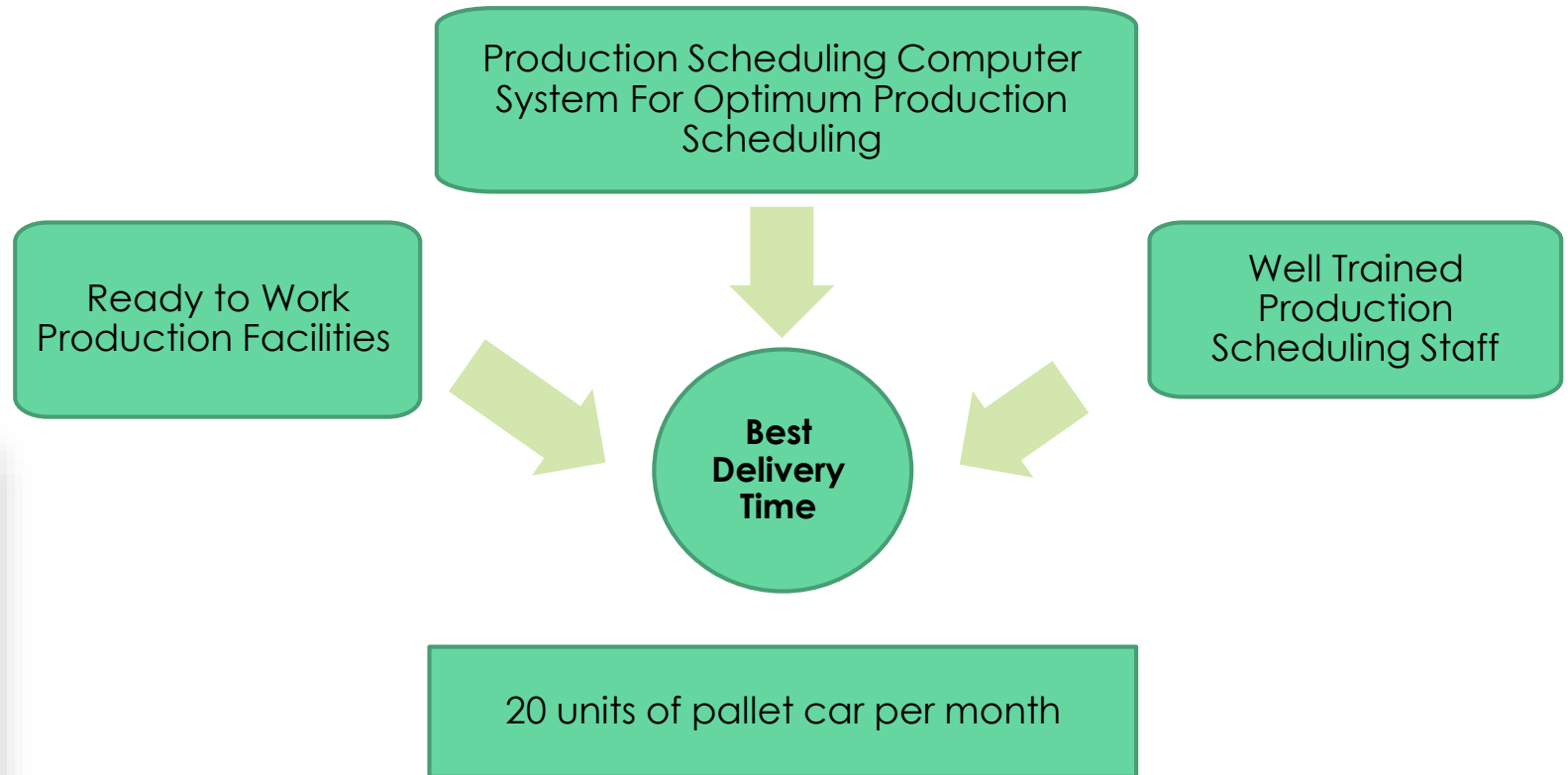


Goharzamin Iron Ore Company  
شرکت سنگ آهن گهر زمین



## Pallet Car

### ► Delivery time:







Pallet Car

▶ **Thank You**