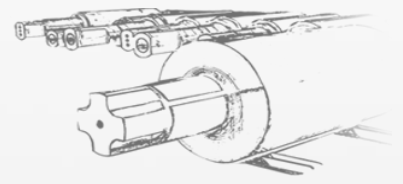
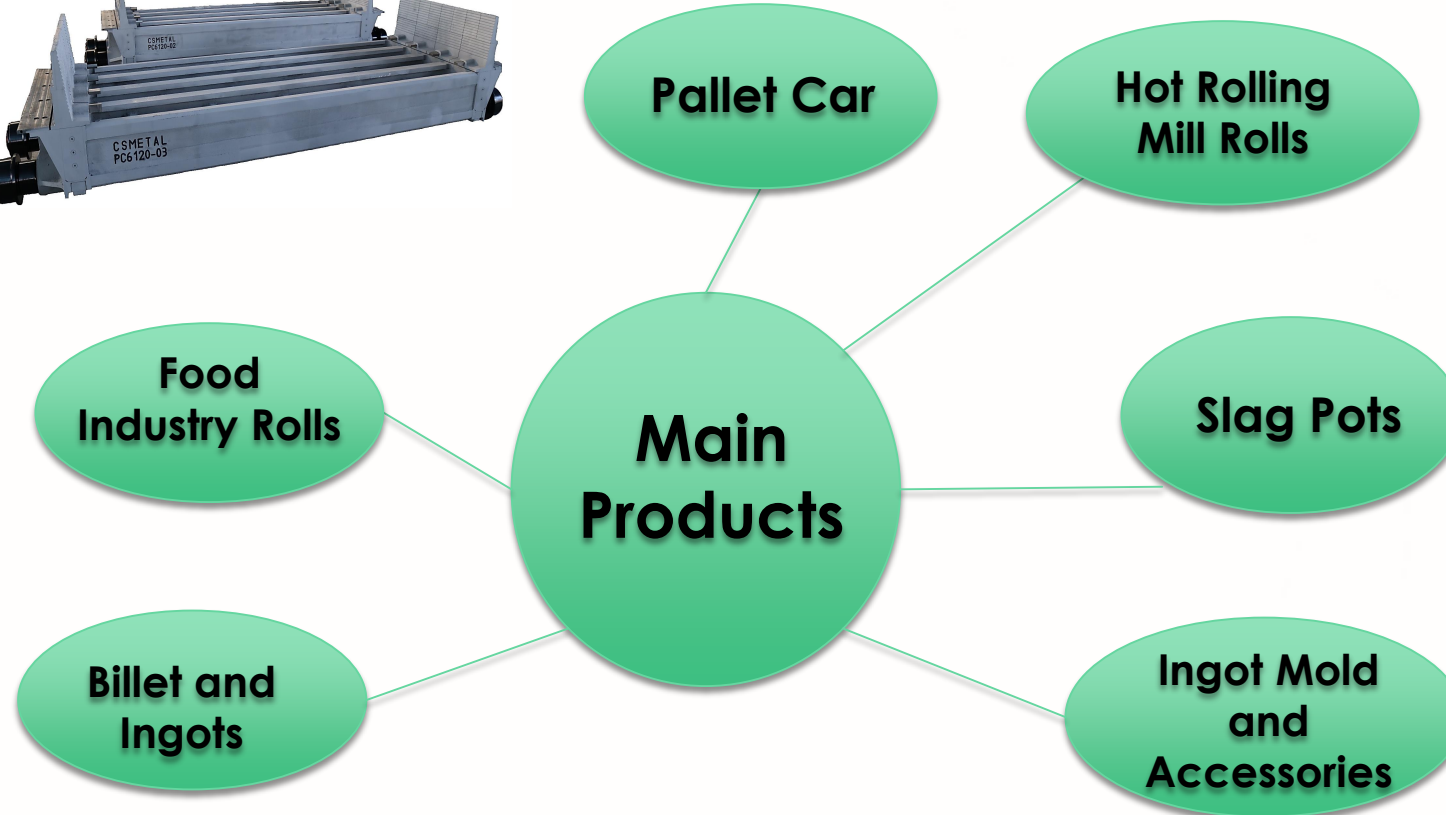


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CS METAL ISTANBUL
Pallet Car Introduction 2020



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Casting and Manufacturing Sites

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Casting plant for Rings
& Rolls

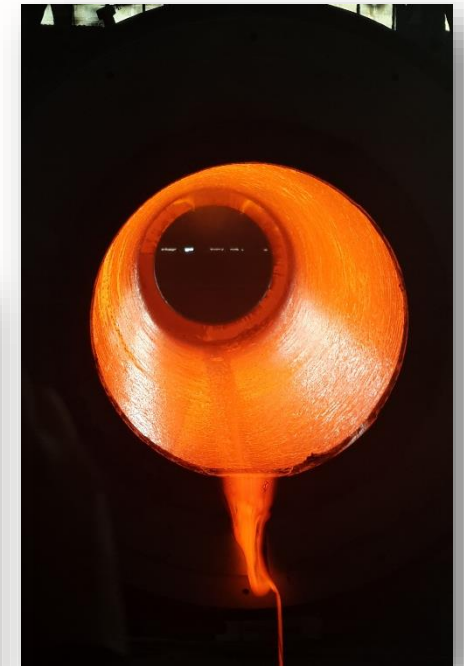
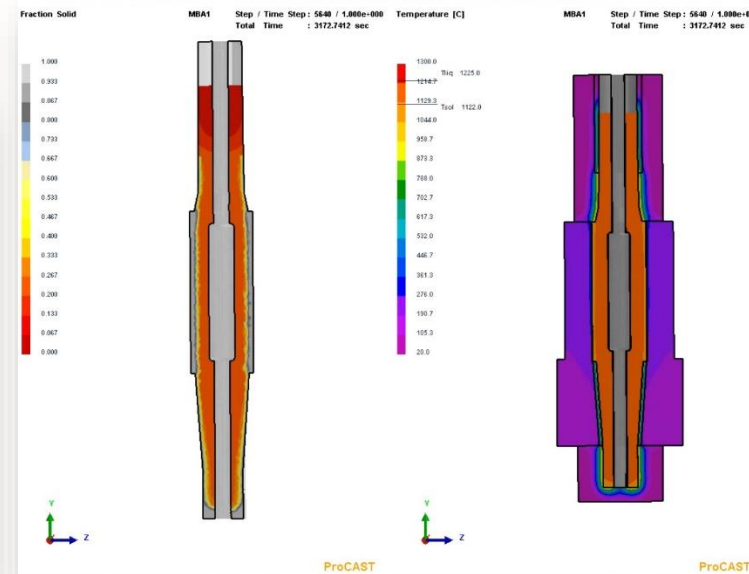
Casting plant for Cast
Iron and Heavy Steel
Parts

Machining Factory



CSMetal 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 m²**



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 m²

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Machining Factory

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

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Pallet Car

▶ Introduction

► 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

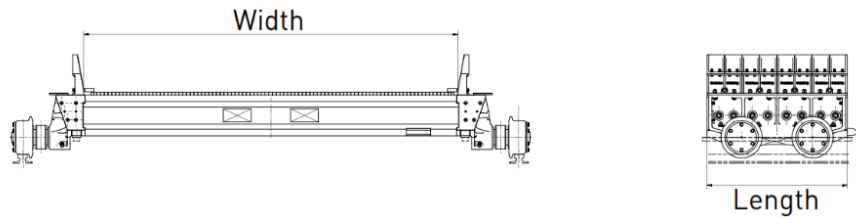


CS Metal

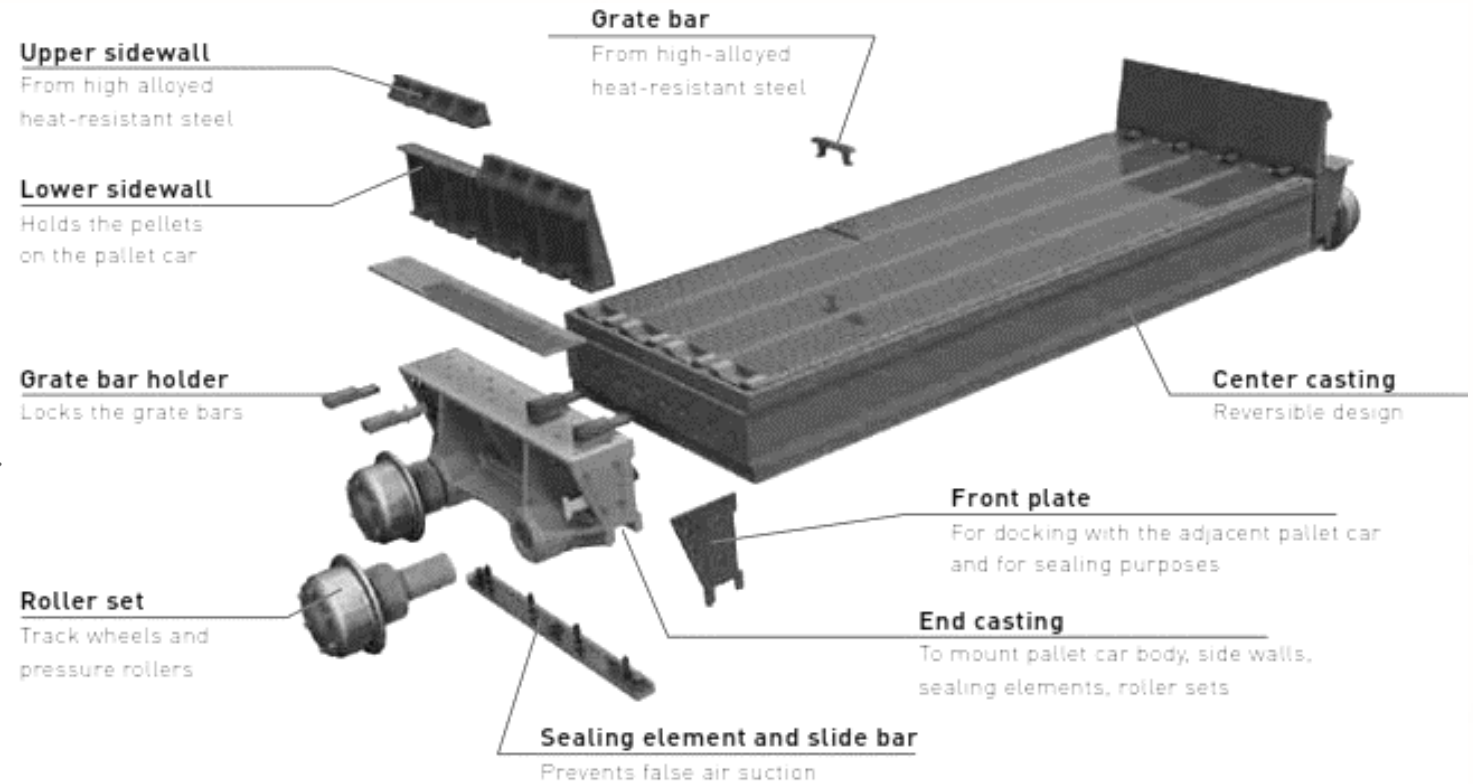
► Pallet car for pelletizing

Standard dimensions

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



Pallet Car

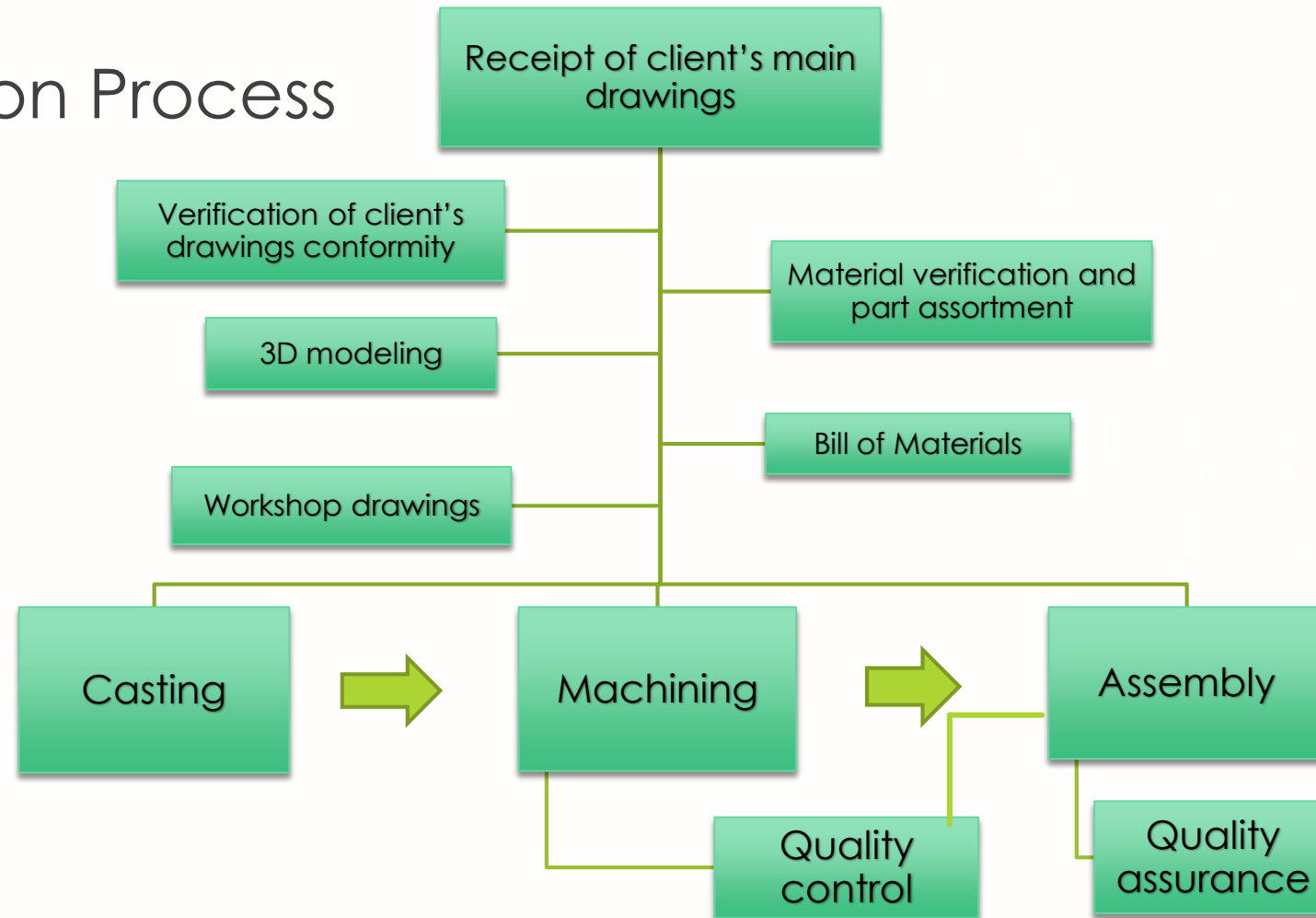


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Pallet Car

▶ **Design and Engineering**

► Production Process



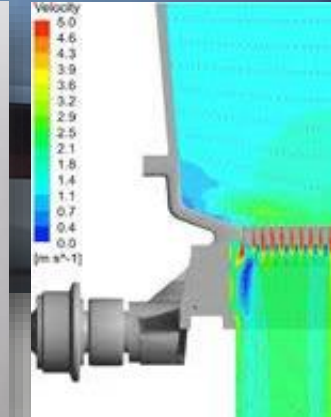
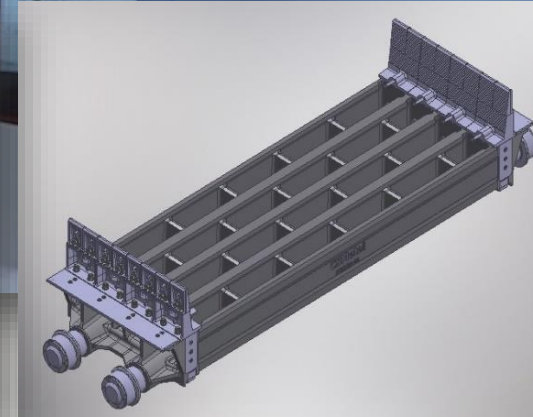
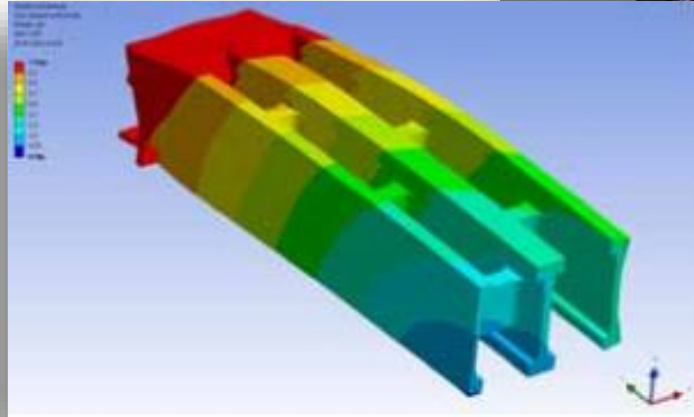
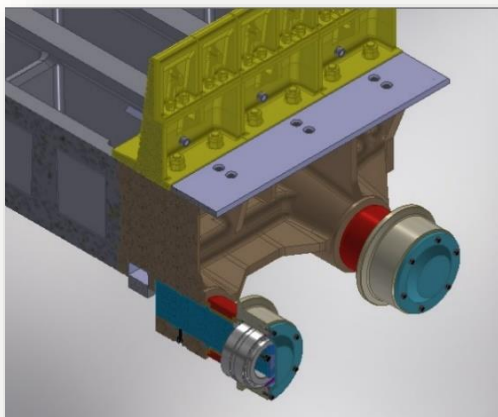
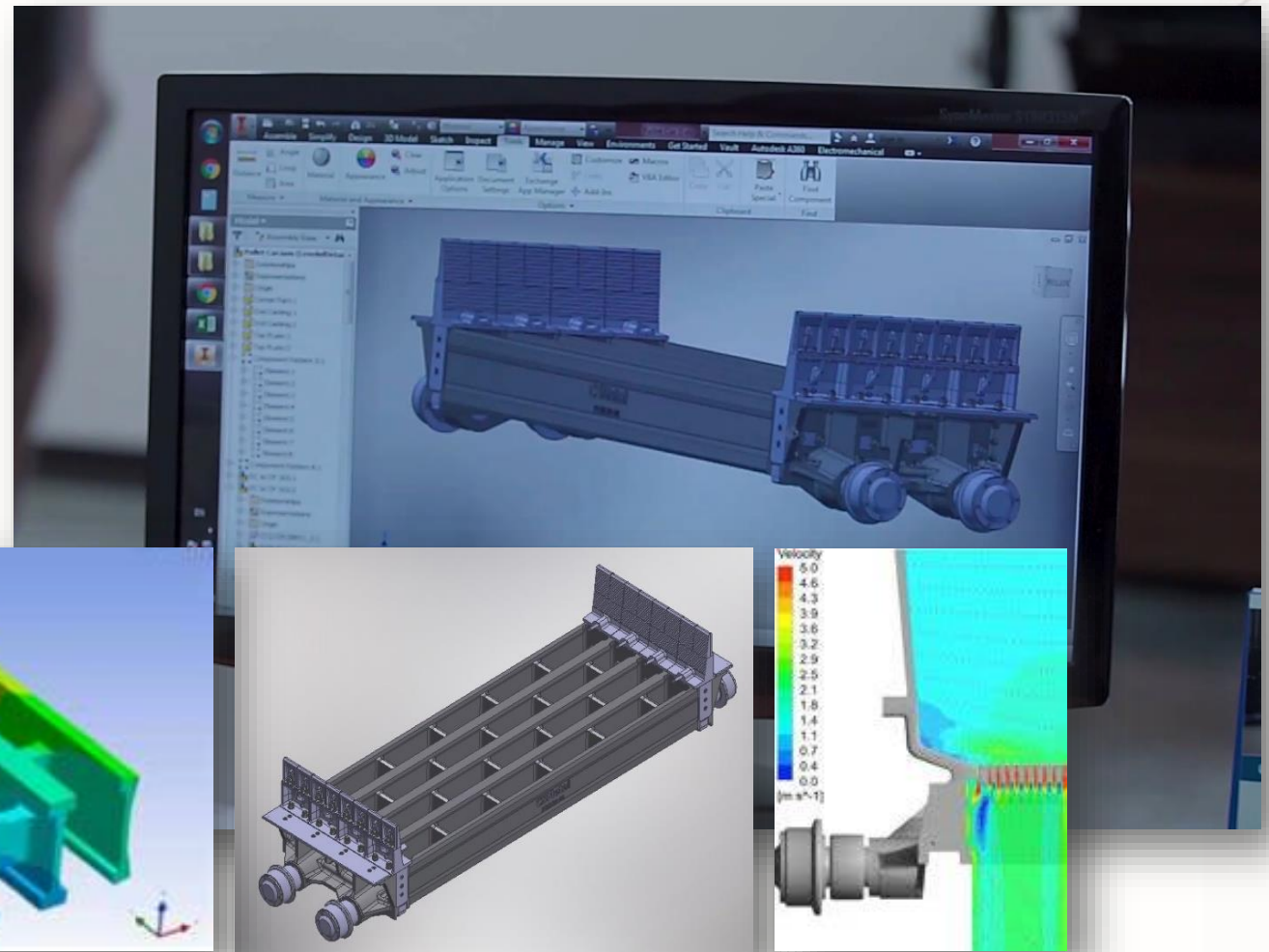
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Pallet Car

▶ Product design

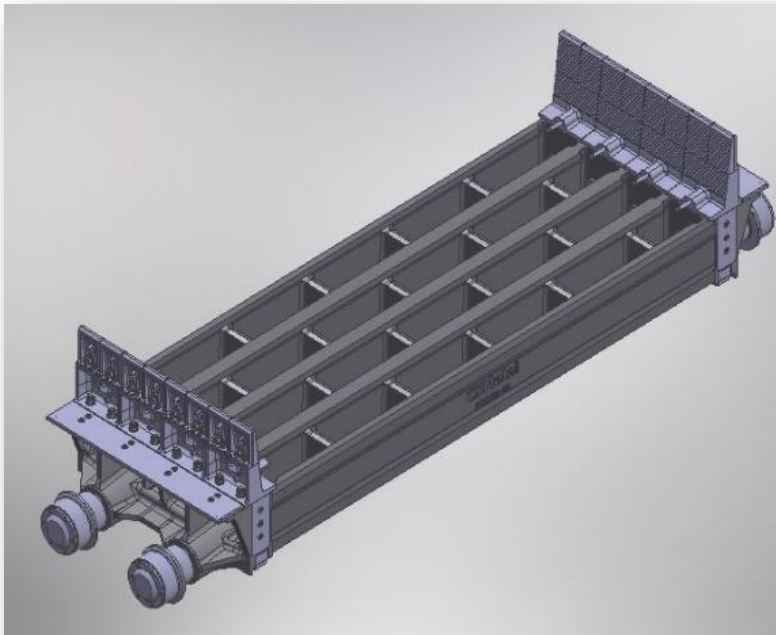
Highly motivated and proficient design and engineering team:

- ▶ Conceptual design
- ▶ Design and simulation
- ▶ Reverse engineering

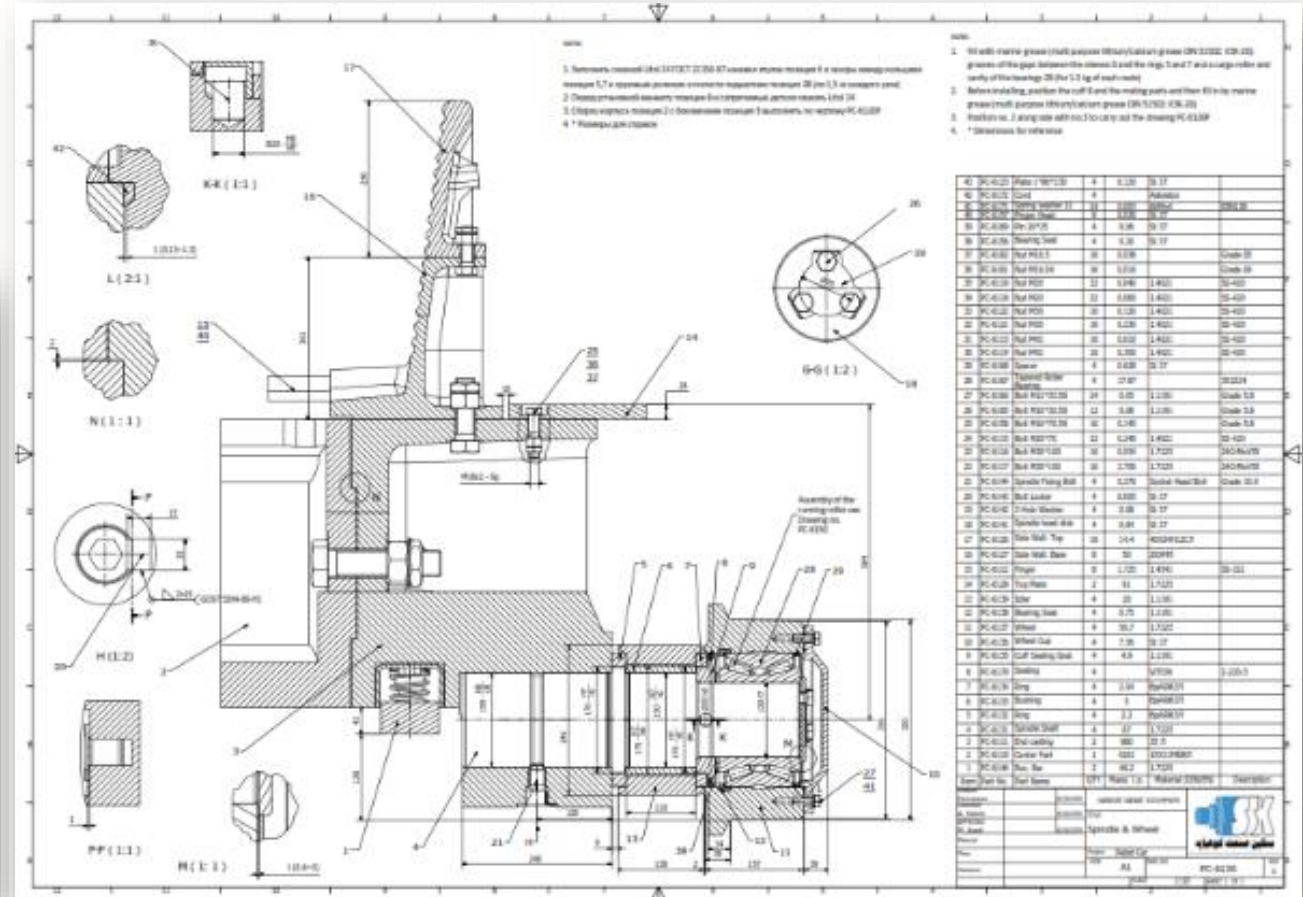


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- ▶ 3D modeling and Drafting



Pallet Car



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Pallet Car

▶ **Casting Plant**

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Pallet Car

► 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



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Pallet Car

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



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- ▶ 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



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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: ±5 °c



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

Pallet Car



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Pallet Car

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



CS Metal

Pallet Car

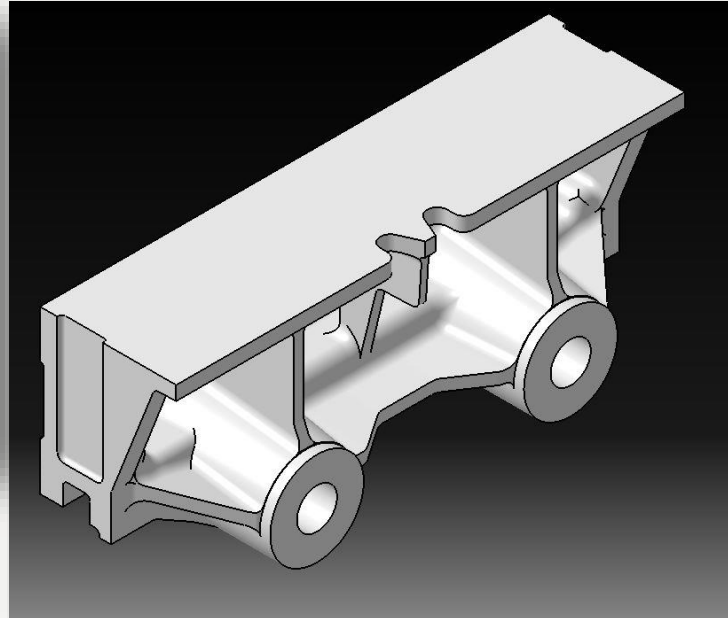
- ✓ Center-part full-mold casting



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Pallet Car

- ✓ End-casting full-mold casting



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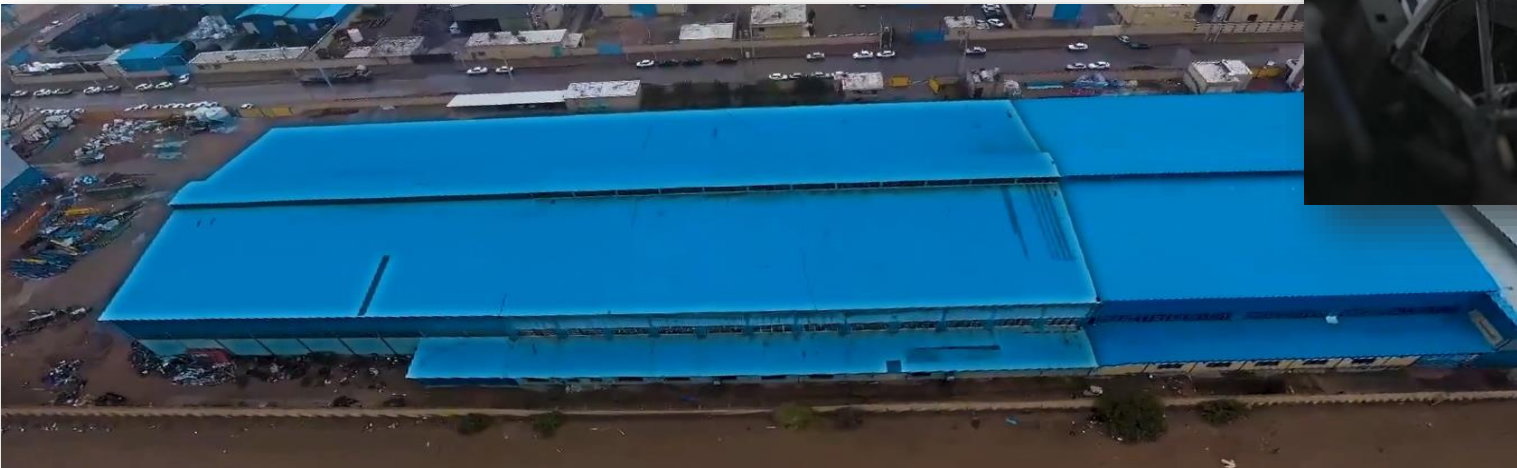
Pallet Car

▶ **Machining Factory**

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Pallet Car

- ▶ Machining Factory
- ✓ Capacity in production of more than 240 units of Pallet Car per year



► 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

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Pallet Car

- ▶ Small Parts Machining Workshop



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Pallet Car

- ▶ Medium Parts
Machining Workshop



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Pallet Car

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



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Pallet Car

- ▶ Heavy-duty Machining Workshop:



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Pallet Car

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



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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



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



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Pallet Car

▶ **Assembly and
warehouse**

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Pallet Car

► Assembly saloon



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



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Pallet Car

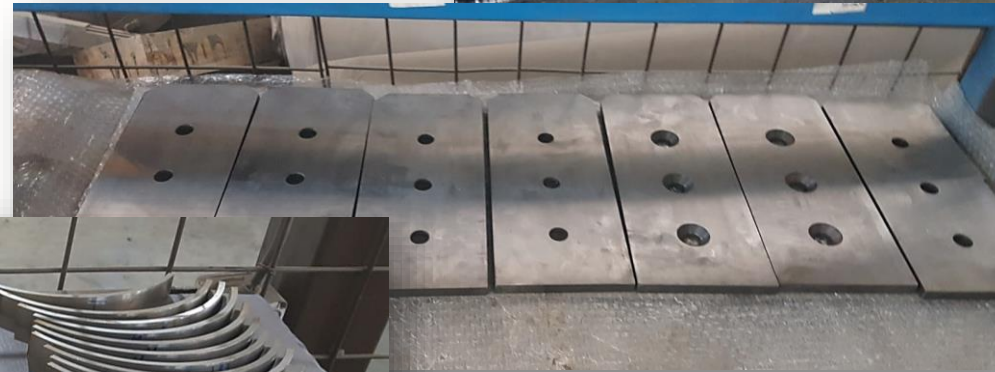
- ▶ Warehouse
- Running roller shaft



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Pallet Car

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



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Pallet Car

- ▶ Warehouse
- ▶ Lower & Upper side-walls



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Pallet Car

▶ **Quality Assurance:**

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Pallet Car

► Quality Assurance:



CSMetal

► Quality plan:

Pallet Car

3- Certificate of Conformance:

Supplier Name: CS METAL
 Supplier Address: 34740 Bagdat Cadessi Plaj Yolu, Sokak Anka Ckmazi 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

Table of content:

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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

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

CSMetal

Pallet Car

▶ **Customers:**

CSMetal

► Mettaloinvest:

Pallet Car



Metallinvest



Металлоинвест
Михайловский ГОК

АО "Михайловский ГОК им. А.В. Варичева"
307170, г. Железнодорожский Курской обл., ул. Ленина, д. 21,
телефон справочной службы (47148) 9-12-09, телефон
приватной Управляющей службы (47148) 94-105, 94-164,
факс (47148) 46-496, ОКФС 16, ОКПОФ 1 22 47,
ОКПО 00186849, ОГРН 1024601215088, ИНН 46330001577,
КПП 997550001, расчетный счет № 40702810100190000207
в «Банк ВТБ» (ПАО), доп. офис №16 «Земляной вал»
г. Москва, БИК 044525187,
корсчет № 30101810700000000187, ОКВЭД 07.10.2
<http://metalloinvest.com>, 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

Буянов И.С.

Ю.В. Попов
94-174

23.12.20

Искр. Фир. Выходимого В.
23.12.2020.

CSMetal

► MOBARAKE Steel Company:



Pallet Car



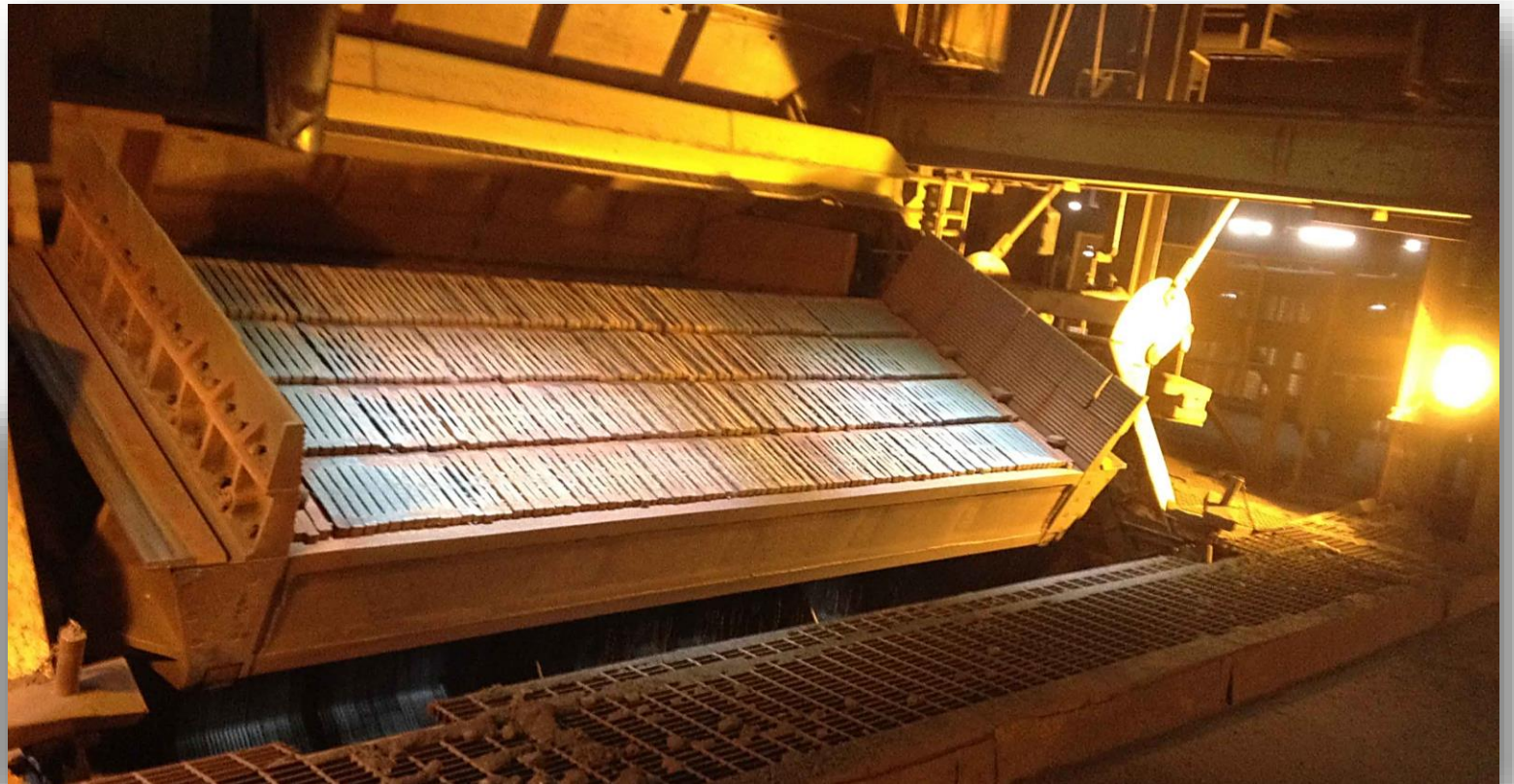
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Pallet Car

▶ GOHAR-ZAMIN IRAN Ore:



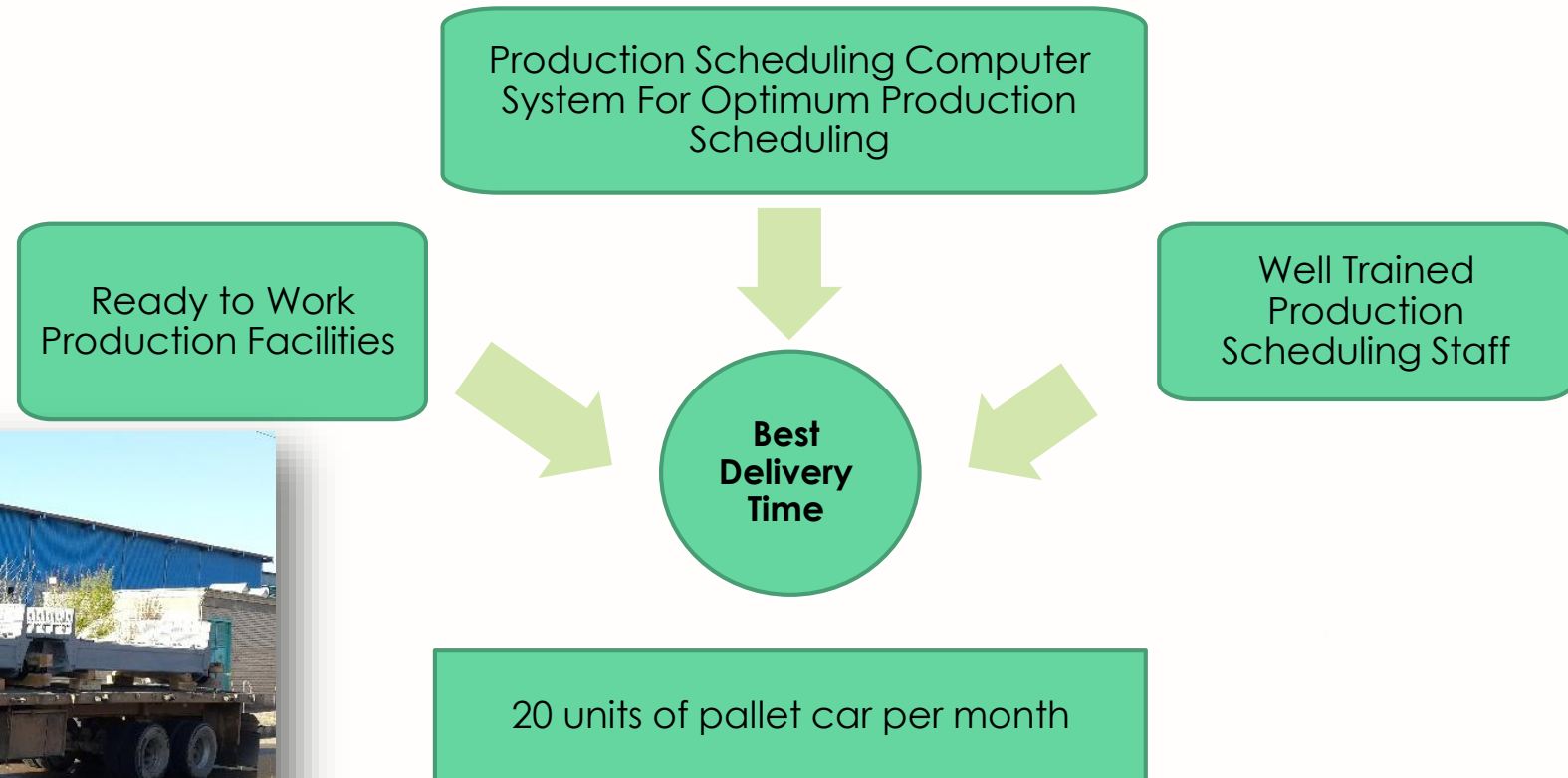
Goharzamin Iron Ore Company
شرکت سنگ آهن کهر زمین



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Pallet Car

► Delivery time:



CSMetal

Pallet Car

▶ **Thank You**