# HYUNDAI INDUSTRIAL

A New Leap Through Innovation





HYUNDAI INDUSTRIAL A New Leap Through Innovation

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Continuous R&D, with the best technology in the world

# Future Mobility Leading Company

Based on the management goal of "New Leap Through Innovation", Hyundai Industrial Co., Ltd. will lead the future through quality innovation, technology development and customer satisfaction.



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Establishment year	e CEO	<sub>ប៉ូម៉ឺម៉ឺ</sub> Employees	👸 Capital	Sales	😝 Business	<ul><li>Production</li><li>Sites</li></ul>
1978	Kang Hyun-seok Back Sang-yeol	<b>507</b> [Dom 434 Overseas 73]	USD 5.9 M [KRW 7.67 Billion]	USD 237 M [KRW 307.5 Billion]	Automotive Seat components [PAD,A/REST,H/REST]	5 Location 3 Countries



(Multi-stage A/REST, H/REST) [Exhibited at IZB exhibition in Germany]



3) Organization



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# 1. Introduction

4) Sales revenue



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# 2. Products



# 3. Production sites

1) Global Locations



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# 3. Plants

2) Production capacity [Ulsan/Maegok2 Plant]

PAD L	INE			[Ope	rating day: 22day/mo	onth, based on operatin	g time: 17hrs/day]
Name of Line	Production items	Length (m)	Carrier (EA)	Mold up (EA)	CAPA (pcs/month)	Productive amount (pcs/month)	Working ratio (%)
Line 1	PAD	78	42	84	195,118	160,461	82
Line 2	PAD	78	42	84	195,118	161,715	83
Line 3	PAD	78	42	84	195,118	170,044	87
	Total		126	252	585,354	492,220	84

ASSEMBLY LINE [Operating day: 22day/month, based on operating time: 8.5hrs/day] CAPA Productive amount Working ratio Name of Line Production items (car/month) (car/month) (%) 6,178 A/REST 5,170 84 Assembly 1,980 1,683 85 B/BOARD BACK ASSY 1,540 1,309 85 Total 9,698 8,162 84

# 3. Plants

2) Production capacity [Asan Plant]

PAD LINE			[Ope	rating day: 22day/r	month, based on operati	ng time: 10hrs/day]
Name of Line	Production items	Length (m)	Mold up (EA)	CAPA (pcs/month)	Productive amount (pcs/month)	Working ratio (%)
Line 1 (Cut&Sew)	A/REST, H/REST	Ø7.0	22	112,000	90,900	81
Line 2 (Cut&Sew)	A/REST, H/REST	Ø7.5	22	110,000	93,000	84
Line 3 (PIP)	H/REST	5.5	20	54,000	7,000	13
	Total	·	64	276,000	190,900	69

## ASSEMBLY LINE

[Operating day: 22day/month, based on operating time: 10hrs/day]

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Name of Line	Pr	oduction items	CAPA (car/month)	Productive amount (car/month)	Working ratio (%)
	A/REST	DN8/CE/MQ4/BD/HM/MV	42,100	33,400	79
	A/REST	CV/DL3/GL3	20,900	16,000	77
Assembly	H/REST	GN7/GL3/DL3/CV/MQ4	45,500	38,400	84
	L/REST	MV	5,000	3,000	60
	RR SIDE SEAT	DN8/DL3	9,900	7,000	71
	Total		123,400	97,800	79

# 3. Plants

2) Production capacity [Beijing Plant]

PAD LINE			[Oper	ating day: 22	2day/month, base	ed on operating ti	me: 10hrs/day]
Name of Line	l	Production items	Length (m)	Mold up (EA)	CAPA (pcs/month)	Productive amount (pcs/month)	Working ratio (%)
Line 1 (PIP)	H/REST	NX4c/TMc/ID	10	20	66,440	9,016	14
Line 2 (Cut&Sew)	A/REST, H/REST	NX4c/TMc/DN8c/DU2	10	30	72,600	36,183	50
		Total		50	139,040	45,199	33

## ASSEMBLY LINE

[Operating day: 22day/month, based on operating time: 10hrs/day]

Name of Line	Pr	oduction items	CAPA (car/month)	Productive amount (car/month)	Working ratio (%)
Assembly	A/REST,H/REST	NX4c/TMc/DN8c/DU2/CN7c	110,000	47,700	43
	Tota	I	110,000	47,700	43

**4. R&D** 1) Overview



#### Design

- New technology development
- PMS operation
- In-house design of seat components (A/REST, H/REST, Cup holder)



Equipment	Retained quantity
CATIA V5	10 сору
LS-DYNA	1 сору
Hyper Mesh	1 сору

#### Analysis

- Product Performance Preverification
- Durability Pre-verification



#### Development

- Components Development
- Mold Development
- Material Development
- Multi-hardness foam material research



# Verification

- Stiffness/Performance
- NVH/Environment/Material
- Durability



Test item	Retained quantity	Test Equipment	
Structure/ Function	2	Durability, Static load	
physical property test	7	Universal material tester etc.	
Regulation test	3	Flammability, Heavy metals, VOc	•

# Proto

- Prototype manufacturing
- Problem analysis and improvement
- Prototype Assembly verification

Equipment	Retained quantity
OptiTex(Pattern CAD)	2 сору
Digitizer	1 сору
Cutting plotter	1 сору



# 4. R&D 2) Patent status

# Patent Result

Patents Domestic: 47

Overseas: 4

Utility Models

Overseas: 1

Patent pending Domestic : 9 PCT : 2



자동차용 컵홀더(스윙 팝업 컵홀더)

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# 4. R&D

3) New technology

# H/REST

#### Tilting type

Sliding forward/backward by securing slide gear to hinge A/B



#### Sliding type

▷ 35mm position adjustable when operating the side button (4step)





# A/REST

#### Multi-stage type

Compact size can be applied to various products that require angle adjustment



Nonstep cylinder type

▷ The angle of the armrest can be finely adjusted by utilizing the gas cylinder



# CUP HOLDER

Swing-down type (GEN 2)

▷ Increase the depth of cup storage compared to the previous one ( $60 \rightarrow 67$ mm)

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#### Foldable type

The cup holder foldable type secures the storage space inside the armrest



# 4. R&D

3) New technology

#### Multi-Layer Harness Foam

- Technical Overview
- Sequential gradient haardness charateristics appears from the compression force side to the bottom of Foam pad (Using a single raw material)





Upper : Soft Middle : Medium(Existing Equivalence) Lower : Hard

#### Compression characteristics

- Blue part has a large rate of change in compression range



Compressed from the middle layer

Traditional Foam



Compressed sequentially from the top

Multi-Layer Hardness Foam

- Technical effect
- Improved seating comfort and slimming

ÖHD





- Excellent roll stavility
- ightarrow Reduced motion sickness or discomfort





# 4. R&D

4) Certificate status

#### *Quality/Environment/Safety Management System*

System	Registration date	Certificate authority	Notes
IATF 16949	2005. 05. 10	KFQ	Ulsan(H.Q) / Asan Plant
IATF 16949	2006. 07. 25	KFQ	Beijing Plant
ISO 14001	2007. 11. 20	KFQ	Ulsan(H.Q)
ISO 45001	2013. 09. 16	KFQ	Ulsan(H.Q) / Asan Plant
UL	2021. 10. 26	EUROFINS	Ulsan(H.Q)

#### Certificates









OHD:

# Thank You

