

KOREAN COMPANY CATALOG

- G-Philos
- Daeha
- FCMT
- NK AETHER
- HYLIIUM INDUSTRIES
- Daehyun ST



CONTACTS



Sang Kim / Managing Director



<http://www.g-philos.co.kr>



184, Giheung-ro 116beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea

CERTIFICATION

ISO9001:2015

Corporation Registration Number

107-87-19548

Number of Employees

- (Office) Business / Managements : 17

- (R&D) Research / Development : 21

- (Factory) Manufacturing / Quality : 21




FINANCIAL & EXPORT DATA

(mil US\$)	2019	2020
Annual Sales	6.1	9.4
Annual Exports	-	-

COMPANY INTRODUCTION

Based on unrivaled technological progress and a sense of mission, G-Philos will become a global leading player in the realization of carbon neutrality and in the upcoming hydrogen economy. We are supporting renewable energy EPC and hydrogen suppliers.

PRODUCT INFORMATION

Product	Description	Manufacturing Process
 <p>Green Hydrogen System(P2G)</p>	<ul style="list-style-type: none"> Based on Off-Grid Solution. Directly connectable with any renewables Module-oriented Container type system Strengthen safety management Wide Supply Scope: Including Electrolyser & storage 	<ol style="list-style-type: none"> Analysis of Surrounding Design / Drawing Manufacturing System Integration & Factory Acceptance Test Supervising Installation & Commissioning
 <p>Fuel Cell Power Converters/Inverters</p>	<ul style="list-style-type: none"> High speed switch frequency with adopting WBG(GaN) semiconductors Minimize ripples to enhance stack stability & lifetime CVCF, LTRV function for operation against grid faults Broad line up(600W ~ 1MW) with customized based on customer demand 	<ol style="list-style-type: none"> Stack/Load pattern analysis Algorithm Decision Listing Parts Manufacturing Factory Test Delivery
 <p>Renewable Energy Power Solution</p>	<ul style="list-style-type: none"> Bidirectional converters - Connect Variable renewables and grid UPS-hybrid operation - Provide more stability of microgrid Enhance redundancy - Matching voltage and power by Serial/Parallel Modulation Fast control performance with high Power Factor Commercialized Power system for P2G system 	<ol style="list-style-type: none"> Analysis of Surroundings Design, Listing Parts Instrument Manufacturing System integration & Factory Acceptance Test Site Acceptance Test(Optional)

MAJOR CUSTOMER

구분	OEM	Tier 1
1	Doosan Fuelcell - South Korea	Korea Research Institute of Ship and Ocean Engineering - KOREA
2	S-Fuelcell - South Korea	Korea Hydro & Nuclear Power - KOREA
3	Mico Power - South Korea	Korea Electric Power Corp. - KOREA

CONTACTS



min gwan Bae / Senior researcher



<http://www.dh06.co.kr>



137, Mieumsandan 3-ro, Gangseo-gu, Busan, Republic of Korea, 46744



CERTIFICATION

venture company
Hydrogen specialized company

Corporation Registration Number

606-86-07824

Number of Employees

- (Office) Business / Management : 18
- (R&D) Research / Development : 4
- (Factory) Manufacturing / Quality : 4

Major Sales Region

- Export Country A (45%) : China
- Export Country B (30%) : Vietnam
- Export Country C (25%) : India

FINANCIAL & EXPORT DATA




(mil US\$)	2019	2020
Annual Sales	10,674	12,664
Annual Exports	120	199

COMPANY INTRODUCTION

Daeha has been supplying hydrogen high pressure test equipment (pressure test, air tightness test, pressure repetition test) and hydrogen compressors to hydrogen charging stations and research institutes for more than 10 years.

We promise to do our best to become a company that leads the future with challenging spirit and technological development, and will constantly strive to provide the best quality and service required by our customers.

PRODUCT INFORMATION

Product	Description	Manufacturing Process
 <p>SHRS</p>	<p>Water electrolysis system for small mobility All-in-one (production + compression + storage + charging) As a small hydrogen refueling station (Simple Refueling Station) Products with improved economic efficiency and efficiency by disseminating and miniaturizing hydrogen charging stations</p>	<p>Technical Specification Design Assembly Running the Test Installation After Sale Service</p>
 <p>hydrogen compressor</p>	<p>Compressor via hydraulic system Can be used in hydrogen refueling stations. Use: For hydrogen refueling stations Pressure: 900bar</p>	<p>Technical Specification Design Assembly Running the Test Installation After Sale Service</p>
 <p>hydrogen liquefier</p>	<p>hydrogen liquefaction system Liquid hydrogen production capacity: 100L/day Use: Liquid hydrogen production (for small mobility), Liquid hydrogen component test (safety valve, other parts)</p>	<p>Technical Specification Design Assembly Running the Test Installation After Sale Service</p>

MAJOR CUSTOMER

구분	OEM	Tier 1	Tier 2	Tier 3
1	Hydrogen Compressor	Hyundai Rotem, S.Korea	Hyosung, S.Korea	Lotte, S.Korea



CONTACTS



Ma, Wonyong / Sales Team Leader



<https://www.fcmt.co.kr>



41-4, Burim-ro 170 Beon-gil, Dongan-gu, Anyang-si, Gyeong gi-do, Korea

CERTIFICATION

ISO 9001 : 2015

ISO 14001 : 2015

Corporation Registration Number

419-86-01769

Number of Employees

- (Office) Business / Managements :8

- (R&D) Research / Development : 6

- (Factory) Manufacturing / Quality : 7

Major Sales Region

FINANCIAL & EXPORT DATA

(mil US\$)	2019	2020
Annual Sales	-	-
Annual Exports	-	-

COMPANY INTRODUCTION

Based on the design and manufacturing technology of membrane electrode assemblies (MEA) & bipolar plates, we provide MEAs and stacks, which are key components of hydrogen or reformat gas fuel cell systems. In parallel, water electrolysis MEAs including anion exchange membranes (AEM), and Proton Exchange Membranes (PEM) are being developed for mass production.

PRODUCT INFORMATION

Product	Description	Manufacturing Process
 <p>Fuel Cell MEA</p>	<ul style="list-style-type: none"> ▶ Supply sheet type or roll type MEAs ▶ Application: automotive and stationary ▶ Uniform quality through roll to roll based production ▶ High dispersion techniques of catalyst slurry for high performance electrodes ▶ Design of catalyst layer and additive technologies for high durable MEA ▶ In line inspection technology for quality control 	Sheet type & Roll to Roll process
 <p>Fuel Cell Stack</p>	<ul style="list-style-type: none"> ▶ Size: 210mm(L), 177mm(H), 455mm(W) ▶ Output voltage: 0 ~ 9V (1kW class) ▶ Output current: 0 ~ 250A (no pressure) ▶ Rated power: 1000W @ 170A (up to 10kW) ▶ BP materials: Carbon composite or metal ▶ Cooling type: water ▶ Fuel: Hydrogen or reformed gas 	-
 <p>AEM MEA / PEM MEA</p>	<ul style="list-style-type: none"> ▶ AEM water electrolysis: As AEM water electrolysis works in alkaline medium, non-precious metal or low precious metal catalysts are applied for electrodes ▶ PEM water electrolysis: fluorinated or hydrocarbon based membranes are applied. ▶ Through FCMT's efficient MEA manufacturing technology, high performance and durable MEAs can be supplied. 	Sheet type process

CONTACTS



Brian BAE / General manager



www.nkaether.com



113, Noksansandan 17ro, Gangseo-gu, Busan, Korea

CERTIFICATION

ISO9001, ISO14001, ISO45001

Corporation Registration Number
169-87-01819

Number of Employees

- (Office) Business / Managements : 27
- (R&D) Research / Development : 6
- (Factory) Manufacturing / Quality : 38

Major Sales Region

- Export company A : South Africa (41%)
- Export company B : France (24%)
- Export company C: Taiwan (20%)
- Export company D : USA (9%)

FINANCIAL & EXPORT DATA

(mil US\$)	2019	2020
Annual Sales		43,123 mil
Annual Exports		34,536 mil



COMPANY INTRODUCTION

NK Aether Co., Ltd. was spun off from NK Group's cylinder division in May 2020 and reborn as a professional jumbo tube vessel manufacturer.

In the past 30 years, we have accumulated and developed high pressured gas vessel manufacturing technologies and knowhow.

We cover various industrial fields such as semiconductor gas, hydrogen, natural gas and industrial gas transportation & storage systems.

PRODUCT INFORMATION

Product	Description	Manufacturing Process
	Hydrogen tube trailers, supplied to hydrogen filling stations, are 40-foot or 32-foot integrated types and can be manufactured conforming to our customers' national standards and various customer requirements	Seamless spinning process
	500bar, 875bar working pressure tubes for Hydrogen storage	Seamless spinning process

Overseas Sales Office

Luo Dong Road, Baoshan District, Shanghai 1505, China

- Number of Employee : 59

Overseas Plant

- Overseas Plant Location

Luo Dong Road, Baoshan District, Shanghai 1505, China

- Product : High pressure cylinders

MAJOR CUSTOMER

No	OEM	Tier 1	Tier 2	Tier 3
1		Hynet - S.Korea	Wonik - S.Korea	SKM - S.Korea
2		Unique group - South Africa	Air Flow - France	Polygas - Taiwan

CONTACTS



Seo Young Kim / CEO

Davis Hong / Senior Executive Vice President
 Suah Kim / Predecessor



www.hylium-industries.com

61 Gajangsaneopseo-ro, Osan, Gyeonggi-do, 18103, Republic of Korea

CERTIFICATION

ISO9001, CE-PED HSB IE, KGS AC11, KGS AC113, ASME U U2 T

Corporation Registration Number
 105-88-06971

Number of Employees

- (Office) Business / Managements: 61
- (R&D) Research / Development : 40
- (Factory) Manufacturing / Quality : 12

Major Sales Region

US
 UK
 Australia
 France




FINANCIAL & EXPORT DATA

(mil US\$)	2019	2020
Annual Sales	\$519,130	\$217,391
Annual Exports	\$47,957	\$890

COMPANY INTRODUCTION

Hylium Industries, Inc. was established in 2014 as a Korea Institute of Science and Technology's (KIST) venture company. We have been developing the nation's first cryogenic liquid hydrogen manufacturing and storage technologies with R&D support from the Korean Government. Hylium Industries, Inc. develops creative technologies on compact hydrogen liquefaction and ultra light liquid hydrogen storage. The key technologies are liquid hydrogen fuel cell powered drones and mobile hydrogen refueling stations.

PRODUCT INFORMATION

Product	Discription	Manufacturing Process
 Hydrogen Drone	Drone operating on liquid hydrogen fuel. Flight Endurance: 5 hours +	Open Cathode PEMFC & LH2 Fuel Tank
 LH2 Fuel Tank	Lightweight liquid hydrogen tank suitable for drones.	Super Insulated LH2 tank
 mHRS	Carries up to 2,500L 3-atm, low-pressure liquid hydrogen in a 5-ton truck. Fueling high-purity hydrogen gas of over 99.995% to charge e 200+ FCEVs.	H2 Tank Storage Vaporizer LH2 Pump

Overseas Sales Office

- Overseas Sales Office Locations : US, China
- Number of Employees: 8

Overseas Plant

- Overseas Plant Location: China, Dong Guan
- Product: thermoelectric element

MAJOR CUSTOMER

No	OEM	Tier 1
1	Hyundai Motors	Gangwondo
2	KRISO	
3	Hanhwa	



COMPANY INTRODUCTION

Daehyun ST is a representative tape coating company in Korea and has a variety of customers and product lineups. Mobile as a major business accordingly. Display. We operate a tape coating business that is applied to batteries, semiconductors, and special applications. In addition, major customers have partnerships with global companies such as Samsung and Panasonic, and have established overseas subsidiaries in Vietnam, China, India, the United States, and Malaysia to secure global competitiveness. Daehyun ST is trying to provide all the solutions needed for various tapes. Recently, he entered the field of hydrogen sensors.

We are also focusing on the colorimetric sensor and sensor business responsible for hydrogen safety. It is also planning to enter various genuine security markets and new markets with the world's first chameleon film technology.

PRODUCT INTRODUCTION

CONTACTS

	Sanghyun Park / Chief
	1337 Budeul-Ro, Paltan-Myun, Hwa seong-Si, Gyeonggi-do

CERTIFICATION

ISO9001, ISO14001, IATF16949
Corporation Registration Number
 105-88-06971

Number of Employees

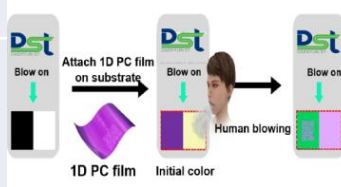
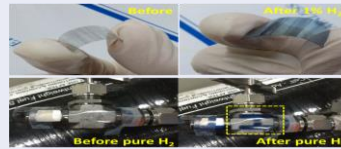
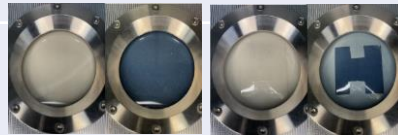
- (Office) Business / Managements : 250
- (R&D) Research / Development : 60
- (Factory) Manufacturing / Quality : 200

Major Sales Region

- Domestic 50%
- Vietnam 20%
- China 10%
- Others 10%

FINANCIAL & EXPORT DATA

(mil US\$)	2019	2020
Annual Sales	\$189M	\$167M
Annual Exports	50%	50%



1. For the first time in Korea, a colorless tape with a large area of hydrogen leakage. Development complete / Commercialization successful.
2. Get a solution that responds within 5 seconds.
3. When hydrogen leaks, you can check it with your naked eye.
4. Real-time response is possible by applying large area sensor technology.
5. IC-based hydrogen leakage sensor, R&D at the same time.

Roll to Roll

1. Display core component COF heat reduction. First mass production in Korea.
2. Secure various effects with our own formulation technology.
3. Domestic conglomerate S/D is conducting mass production Biz.
4. Secure various heat dissipation solutions.

Roll to Roll

High humidity activated film
World first Real-time reversible high humidity activated film by photonic crystal technology
Wide-width coating through roll to roll process
Developed polymeric materials to implement various colors

Roll to Roll

Overseas Sales Office

- DST USA : 13337 SOUTH STREET, SUITE #288, CERRITOS, CA 907 03
- DST CHINA : 4F, DISTRICT NO.18, ZHONGKAI HI-TECH DEVELOPMENT ZONE, HUIZHOU CITY, GUANGDONG, CHINA
- DST MALAYSIA - LOT61, PERSIARAN BUNGA TANJUNG2, SENAWANG INDUSTRIAL PARK
- DST VIETNAM - BA THIEN 2 INDUSTRIAL PARK, BA HIEN COMMUNE, BINH XUYEN DISTRICT, VINH PHUC PROVINCE

Overseas Plant

- DST VIETNAM - BA THIEN 2 INDUSTRIAL PARK, BA HIEN COMMUNE, BINH XUYEN DISTRICT, VINH PHUC PROVINCE
- Tape

MAJOR CUSTOMER

No	OEM	Tier 1	Tier 2	Tier 3
1		Samsung - Korea	Samsung - Vietnam	SDC - Korea
2		Panasonic - Japan	SDI - Hungary	LG - Korea
3		Hyundai - Korea	STECO - Korea	DB - Korea
4		VIVO - China	BH - Korea	SamsungLED - Korea