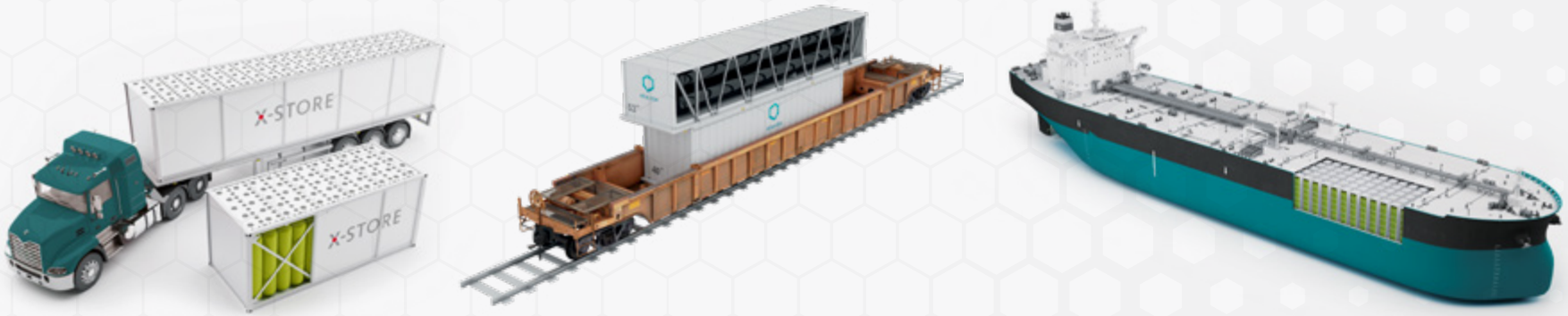
Clean air everywhere

HEXAGON
AGILITY

How Hexagon Agility Mobile Pipeline® Works

Mobile Pipeline by Hexagon Agility is a flexible method of delivering gaseous energy fuels to permanent or temporary sites not serviced by pipeline.

Trailers and modules are outfitted with cutting-edge Hexagon Agility composite cylinders to transport compressed gaseous fuels: natural gas, renewable natural gas, and hydrogen. Our intermodal containers are tested to internationally accepted standards ensuring safety and compatibility for rail, marine, and truck based transportation. **Hexagon Agility's Titan cylinders are the largest composite cylinders in the world now available.**



Why Mobile Pipeline®?

COST-EFFECTIVE

For medium and large energy users, **Mobile Pipeline** delivers gaseous fuels less expensively than other energy sources and is ideally suited for short and medium distance applications.

MEETS DEMAND

Mobile Pipeline operators deliver on-demand natural gas to areas not served by traditional pipeline, whether the demand is permanent or transient, industrial facilities such as paper mills and temporary facilities such as oil field services.

ENVIRONMENTALLY FRIENDLY

Natural gas emits 30% less CO_2 compared to heating oil and or diesel only. Propane is an oil distillate and has a CI between diesel and natural gas. **Mobile Pipeline** increases access of natural gas to sites that were off the gas grid, reducing emissions and helping meet increasingly stringent environmental regulations.

CASE STUDY

A paper mill in the U.S. Pacific Northwest saves $1.2MM and reduces emissions by 17,000 tons of CO_2 per year, every year with Mobile Pipeline®

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Mobile Pipeline: The cost-effective, environmentally friendly energy solution for sites off the gas grid

Mobile Pipeline® Applications

ENERGY-INTENSIVE INDUSTRIES

Conversion to natural gas from incumbent fuels provides industrial customers with a stable, low-cost energy source with a decrease in CO_2 emissions. **Mobile Pipeline** has the capacity to meet large industrial needs for this increasingly in-demand fuel source.

VIRTUAL INTERCONNECTS

Mobile Pipeline has become a vital part of the solution to increase natural gas supply to areas that lack sufficient pipeline capacity for peak demand requirements. CNG can be re-injected into a pipeline to serve this demand in a manner more cost-effective than other methods.

CREATION OF GAS ISLANDS

When a town, industrial park, or other region is isolated from the natural gas grid, **Mobile Pipeline** delivers a valuable fuel source with gas islands to serve multiple end-use customers. Modules may be shipped by barge across water to islands to peninsulas.

OIL AND GAS EXPLORATION

Drilling and hydraulic fracturing requires significant quantities of energy. **Mobile Pipeline** is used by oil and gas producers to reduce their consumption of diesel, reducing energy costs and emissions.

POWER GENERATION

When reliable onsite power is needed for a city, neighborhood or business **Mobile Pipeline** supplies natural gas for temporary energy or distributed power generation.

Mobile Pipeline® Applications

VEHICLE REFUELING

For areas that do not have adequate natural gas supply or infrastructure, **Mobile Pipeline®** is an alternate means of supplying gaseous fuels to vehicle fueling stations.

RENEWABLE NATURAL GAS

Mobile Pipeline® is used to transport Renewable Natural Gas (RNG) — the green fuel of today — to a pipeline. RNG creates an energy fuel from waste streams including landfills, agriculture and waste water. This clean fuel is fully interchangeable just like natural gas; only cleaner.

HYDROGEN — THE 21ST CENTURY FUEL

The world is seeing an increased demand for hydrogen as a fuel for motor vehicles. Hexagon Agility uses **Mobile Pipeline®** solutions to transport fuel grade hydrogen to where it is needed.

HIGH HORSEPOWER

The marine and rail industries also can benefit from **Mobile Pipeline®** products. Hexagon Agility has developed innovative and specialized solutions in the marine and rail industries that will address the specific concerns and limitations in these industries.

INDUSTRIAL GASES

Mobile Pipeline® is not just for energy gases. Industrial gases such as helium, argon, and nitrogen are also transportable. Lightweight composite materials allow 2–3 times more gas to be transported in a single trip when compared to traditional steel tube trailers.

Benefits of Mobile Pipeline®

UPSTREAM

Mobile Pipeline allows upstream producers to benefit from capturing gases that are currently flared. Mobile Pipeline helps producers meet their regulatory requirements, monetize the value of gases previously flared, all while reducing the producers' environmental footprint.

DOWNSTREAM

Facilities that lack access to natural gas are the principal downstream beneficiaries of CNG **Mobile Pipeline**. Replacing heating oil/diesel has saved end-use facilities 25%–35% on fuel costs while reducing environmental impact.

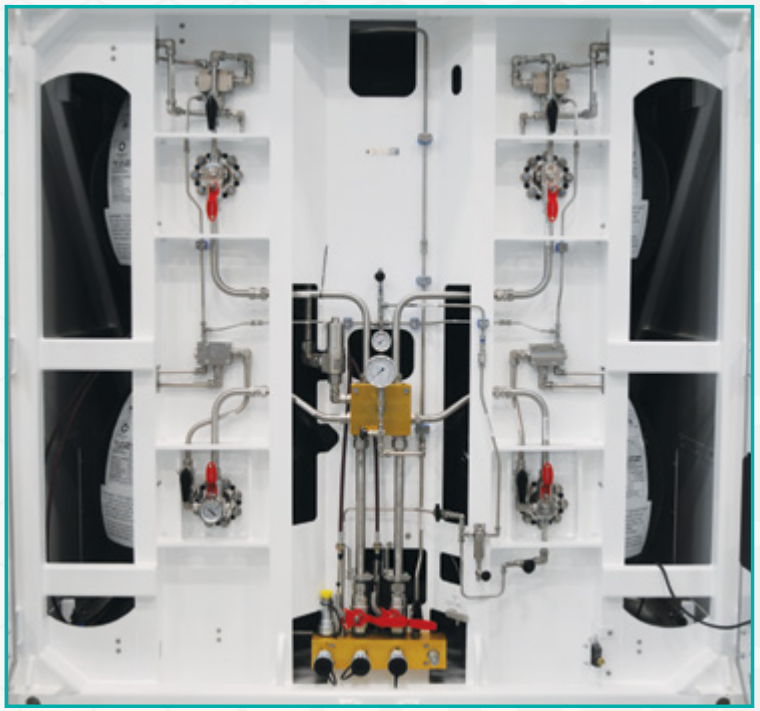
Hexagon Agility Means Safety

CORPORATE TRACK RECORD

Hexagon Agility has delivered more than 700,000 high-pressure gas full-composite cylinders over 25 years.

MOBILE PIPELINE®

Mobile Pipeline TITAN® is designed specifically for bulk transportation of natural gas. Our composite cylinders hold up to triple the capacity of steel at the same vehicle weight. TITAN modules and trailers come equipped with a state-of-the-art fire protection system. If the ambient temperature surrounding the tanks reaches 230°F/110° C, the tank contents will be released to the top of the module and vented into the atmosphere.



Renewable Natural Gas

THE ZERO CARBON FUEL

Renewable Natural Gas (RNG) has the lowest carbon intensity of any transportation fuel. As Governments and Industry look to decarbonize our transportation systems, RNG is playing a crucial role.

In many cases the sources of RNG are located in our rural communities where pipeline infrastructure is not available. In other cases, costs to connect to a pipeline may be prohibitive. Mobile Pipeline® provides a cost-effective solution that allows this low or negative carbon intensity fuel a pathway to our natural gas grid — and eventually to trucks and vehicles that use RNG.

Mobile Pipeline is ideal to store and transport clean and environmentally friendly renewable natural gas

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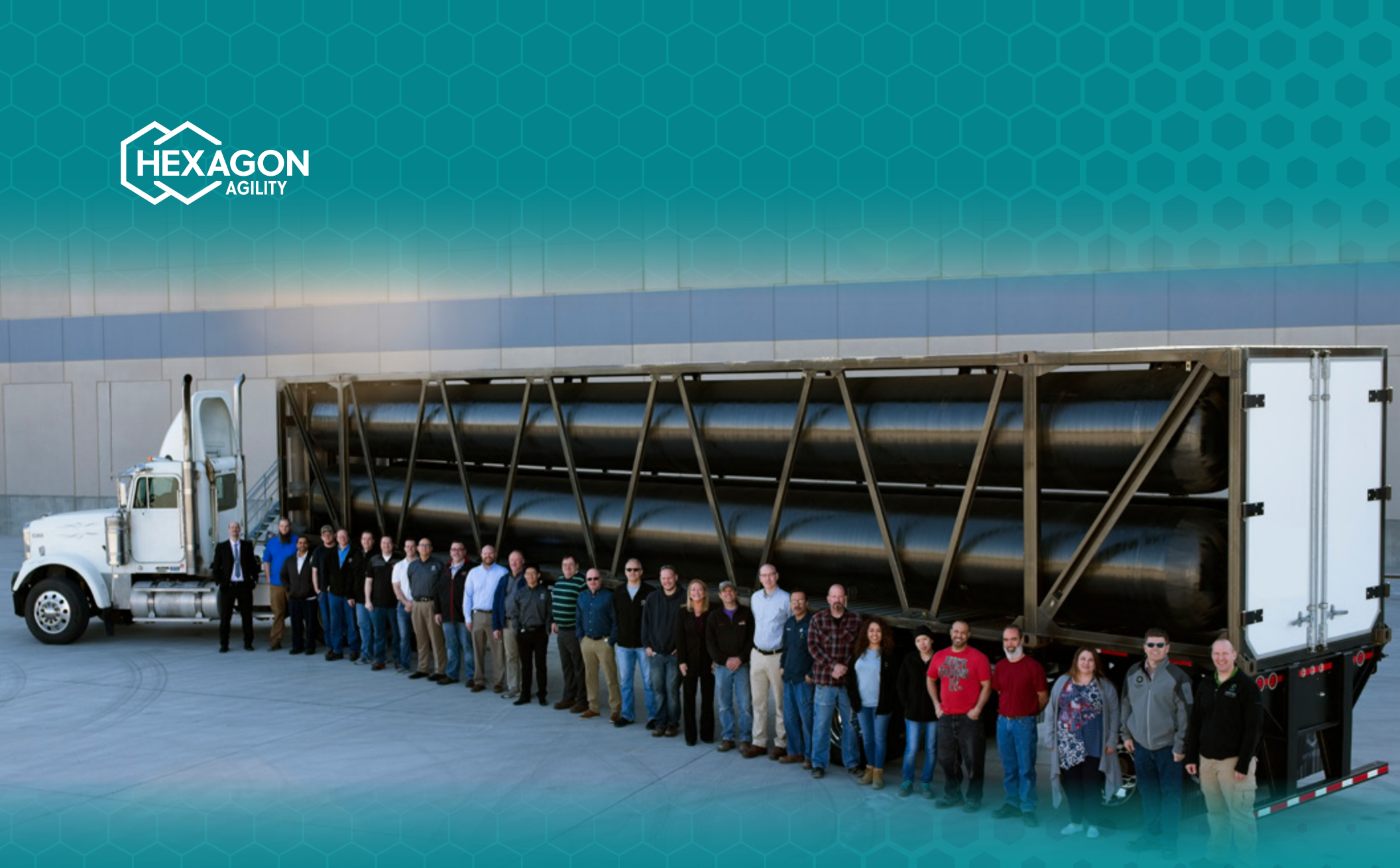

Mobile Pipeline: The cost-effective, environmentally friendly energy solution for sites off the gas grid

MOBILE PIPELINE® TRANSPORT SOLUTIONS

		X-STORE® DOT 20 ft	TITAN4® 40 ft	TITAN4® 53 ft	TITAN® XL Trailer 40 ft*
Cylinder system approval		DOT / ABS			
Hydraulic capacity, approx.	g / l	5,695 / 21,630	8,995 / 34,048	12,190 / 46,144	13,021 / 49,290
Nominal transport capacity (15° C)	scf / m²	229,400 / 6,497	363,148 / 10,283	492,180 / 13,937	525,350 /14,876
Container dimensions length x width x height	ft / m	20 x 8.2 x 9.5 6.10 x 2.55 x 2.95	40 x 8 x 8 12.2 x 2.44 x 2.44	53 x 8 x 8.5 16.15 x 2.44 x 2.59	40 x 8.5 x 13.5 12.2 x 2.59 x 4.11
Net weight container, approx.	lb / kg	19,070 / 8,659	33,700 / 15,286	32,350 / 14,674	47,500 / 21,545
Gas weight CNG 0.04495 lb/scf or 0.75 kg/m³	lb / kg	10,270 / 5,695	16,324 / 7,404	22,124 / 10,035	23,614 / 10,711
Total weight + CNG	lb / kg	29,440 / 13,380	50,024 / 22,690	54,474 / 24,709	71,114 / 32,256
Quantity of cylinders	pcs	14 x (1,545 l)	4 x (8,512 l)	4 x (11,536 l)	12 (*)
Operating pressure (15° C)	MPa (bar)	25 (250)			
Burst pressure, minimum	MPa (bar)	60 (600)			
Cylinder operating temperature	°C	-40 / + 65			
Cylinder type		Type 4			
Cylinder design		Full carbon			
Cylinder liner material		High-Density polyethylene (HDPE)			
Inspection standard		DOT			
Allowed Transportation Modes		Rail, marine and truck			Truck only

* 4 units TITAN® 42" x 38', 1 unit TITAN® 42" x 28', 4 unit MAGNUM™ 26" x 224", 2 unit MAGNUM™ 26" x 174", 1 unit MAGNUM™ 26" x95"
** TITAN4® 30 ft. available in Southeast Asia only
*** TITAN XL Trailer tare weight varies depending on axle configurations.

X-STORE® GAS CONTAINER MODULES

HYBRID DESIGN, 250 BAR, CNG

		X-STORE® 10 ft	X-STORE® 20 ft	X-STORE® 30 ft	X-STORE® 40 ft	X-STORE® 45 ft	X-STORE® 48 ft
Approval	Cylinders	According to ISO 11439					
	System	Leak tested according to DIN EN 1779, not approved for U.S. and Canada					
	Container	According to ISO 668 including CSC approval				According to CSC	
	Corner Castings	According to ISO 668 including CSC approval					
Hydraulic capacity, approx.	l	8,400	18,900	29,400	39,900	45,150	47,950
Nominal transport capacity (15° C)	m^3	2,460	5,550	8,630	11,710	13,250	14,080
Container dimensions length x width x height	mm	3,048 x 2,438 x 2,743	6,058 x 2,438 x 2,743	9,087 x 2,483 x 2,743	12,192 x 2,438 x 2,743	13,176 x 2,438 x 2,743	14,630 x 2,438 x 2,743
Net weight container, approx.	kg	5,420	11,320	17,130	22,790	25,670	27,370
Gas weight CNG (D=0.75 kg/m^3)	kg	1,770	3,990	6,210	8,430	9,540	10,140
Total weight + CNG	kg	7,190	15,310	23,340	31,220	35,210	37,510
Quantity of cylinders	pcs	24	54	84	114	129	137
Min. residual pressure (15 °C)	MPa (bar)	1 (10)					
Operating pressure (15° C)	MPa (bar)	25 (250)					
Burst pressure, minimum	MPa (bar)	59 (590)					
Cylinder operating temperature	°C	-40 / +65					
Cylinder type		Type 4					
Cylinder marking		TH_500_HY_3a					
Cylinder design		Hybrid (glass fiber over carbon fiber)					
Cylinder liner material		High density polyethylene (HDPE)					
Service lifetime		Limited to 20 years					

1) Actual volumes of natural gas delivered will vary due to numerous variables. Please contact Hexagon Agility's team for more information regarding actual volume of gas that you can expect to deliver.

X-STORE® ADR GAS MODULES

		X-STORE® 10 ft	X-STORE® 20 ft	X-STORE® 30 ft	X-STORE® 40 ft	X-STORE® 45 ft
Approval	Cylinders	According to ISO 11119-3 / EN 12245*				
	System	ADR approved and leak tested according to DIN EN 1779				
	Container	According to ISO 668 including CSC approval				According to CSC
	Corner Castings	According to ISO 668				
Hydraulic capacity, approx.	l	8,400	18,900	29,400	39,900	45,150
Nominal transport capacity (15° C)	m^3	2,460	5,550	8,630	11,710	13,250
Container dimensions length x width x height	mm	3,048 x 2,438 x 2,743	6,058 x 2,438 x 2,743	9,087 x 2,483 x 2,743	12,192 x 2,438 x 2,743	13,176 x 2,438 x 2,743
Net weight container, approx.	kg	4,220	8,680	13,050	17,270	19,430
Gas weight CNG (D=0.75 kg/m^3)	kg	1,770	3,990	6,210	8,430	9,540
Total weight + CNG	kg	5,990	12,670	19,260	25,700	28,970
Quantity of cylinders	pcs	24	54	84	114	129
Min. residual pressure (15 °C)	MPa (bar)	1 (10)				
Operating pressure (15° C)	MPa (bar)	25 (250)				
Burst pressure, minimum	MPa (bar)	75 (750)				
Cylinder operating temperature	°C	-40 / +65				
Cylinder type		Type 4				
Cylinder marking		TH_500_3				
Cylinder design		Full carbon				
Cylinder liner material		High density polyethylene (HDPE)				
Service lifetime		Unlimited				
Inspection Standard		ISO 11623				

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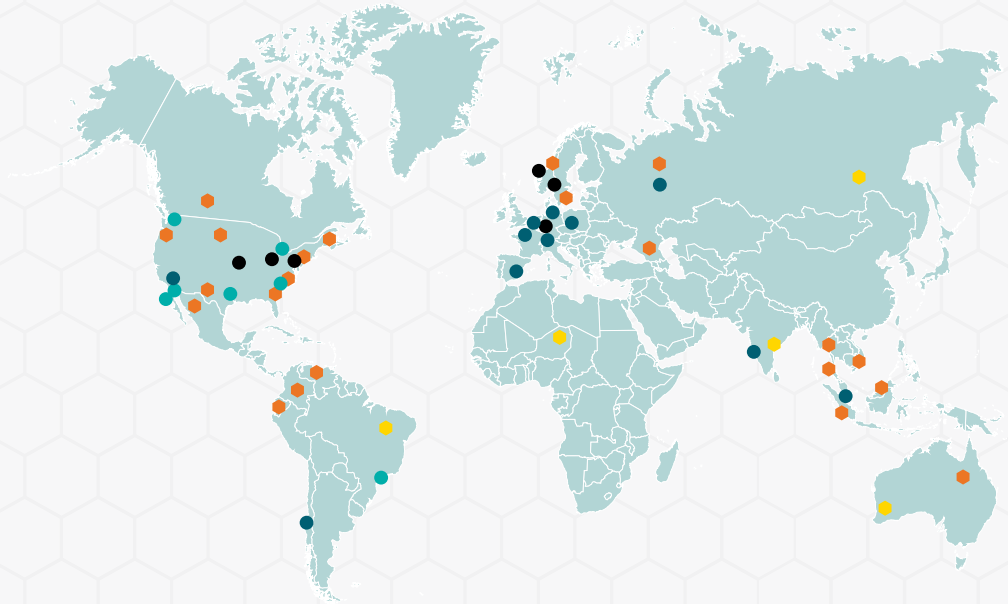
Driving Energy Transformation Around the Globe



Hexagon Administration and Production Sites

Aalesund, Norway
Headquarters

Raufoss, Norway
LPG Cylinders
Light-Duty Vehicles

Kassel, Germany
Hydrogen
Light-Duty Vehicles
Mobile Pipelines

Lincoln (NE), U.S.
Hydrogen
Mobile Pipelines

Heath (OH), U.S.
LPG Cylinder distribution

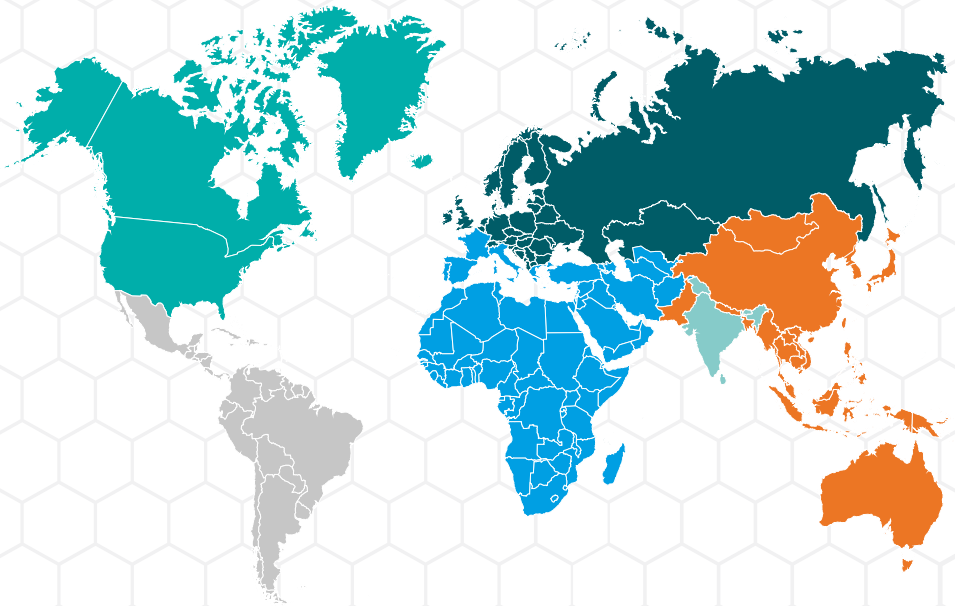
Taneytown (MD), U.S.
Hexagon MasterWorks

Agility Fuel Solutions

Raufoss, Norway
Lincoln (NE), U.S.
Costa Mesa (CA), U.S.
Fontana (CA), U.S.
Kelowna (BC), Canada
Wixom (MI), U.S.
Salisbury (NC), U.S.
Georgetown (TX), U.S.
Sao Paolo, Brazil

Existing markets/projects *Developing markets/projects*

We're Ready To Help Wherever You Are



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Work with the world leader in Mobile Pipeline solutions with more than 1,500 successful deployments and the most rigorous design, development and testing processes

For more information about moving compressed gases, visit: hexagonagility.com/mobile-pipeline