



Home Refueling Station for Natural Gas Vehicles

**ROBERT STRODS**

CO – FOUNDER & MD

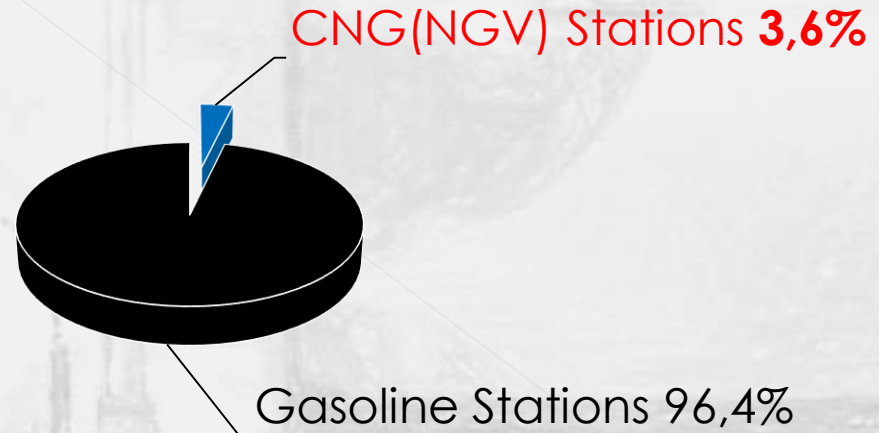
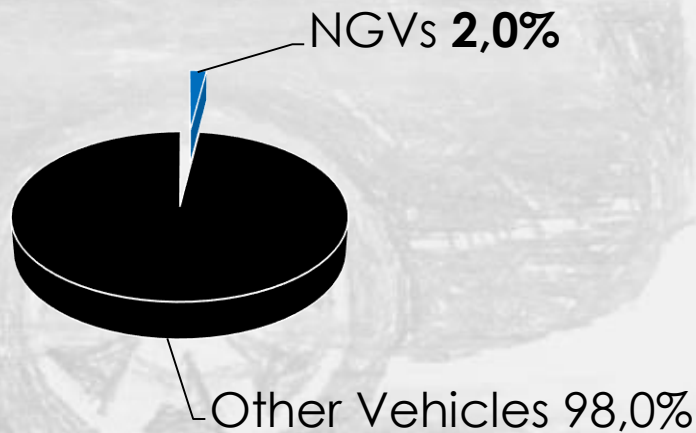
PHONE: +371 2 971 5632

E- MAIL: [ROBERT@HYGENGROUP.COM](mailto:ROBERT@HYGENGROUP.COM)

# Natural Gas for Vehicles (NGVs)

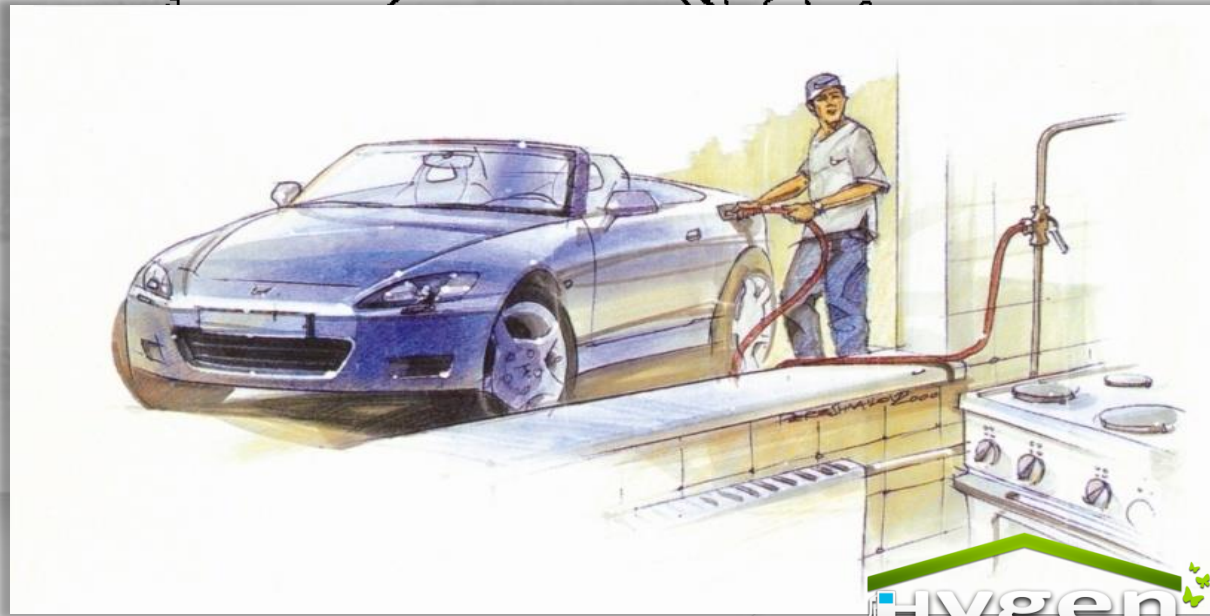
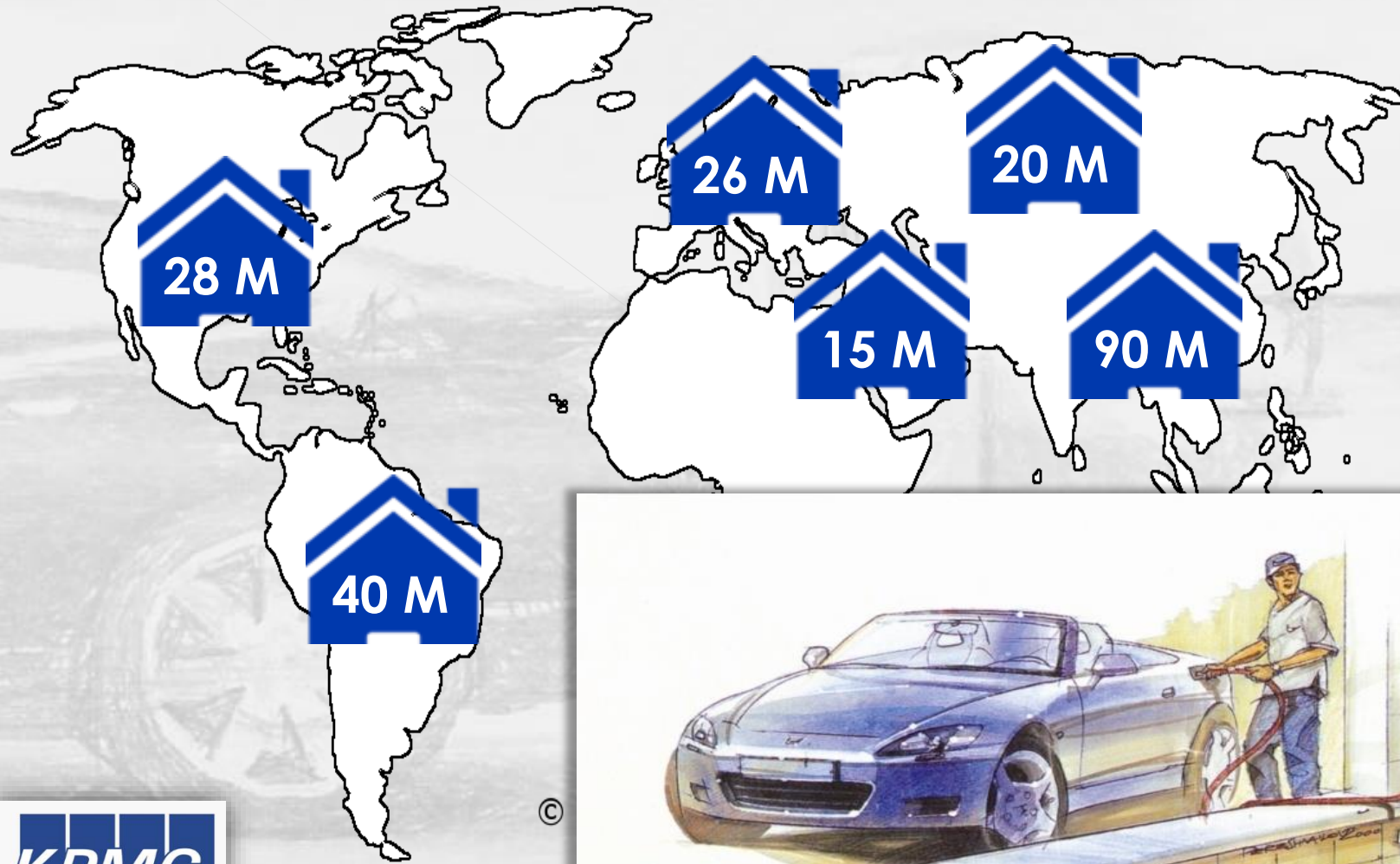
- ❖ **Cheaper** (40-80%)
- ❖ **Cleaner** (cuts local pollution & decreases CO2)
- ❖ **More Abundant** (proven reserves >300y)
- ❖ **Proved** (>20 M cars) & **Demanded**

**PROBLEM: LACK OF REFUELING INFRASTRUCTURE FOR NGVS**



**OPPORTUNITY: ITS SIMPLY NOT TRUE!**

# Gas Distribution Grid Solves it

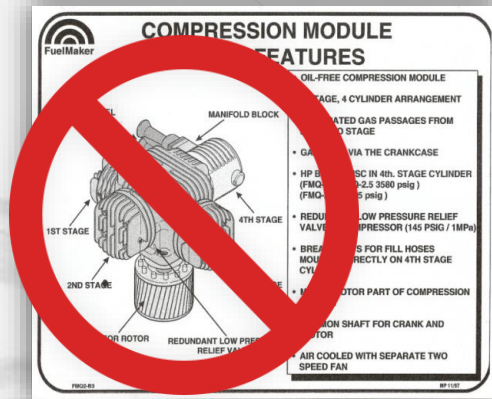


# Initial Industry Solution

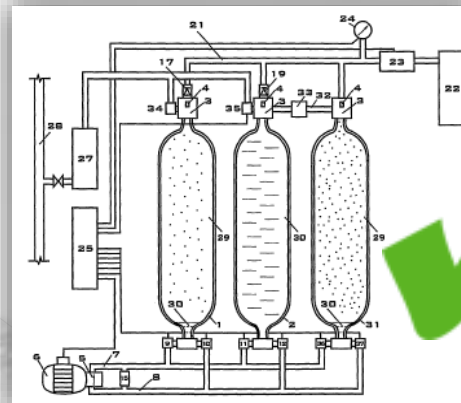
- ❖ FuelMaker's corp. Home Refueling appliance «**PHILL**»
- ❖ PHILL **proved** market «**traction**» and **business model**
- ❖ OEM strategic alliance partner - **HONDA**
- ❖ It failed - **too expensive, short service life, slow** to refuel NGVs



# HYGEN Home Refueling Station



VS



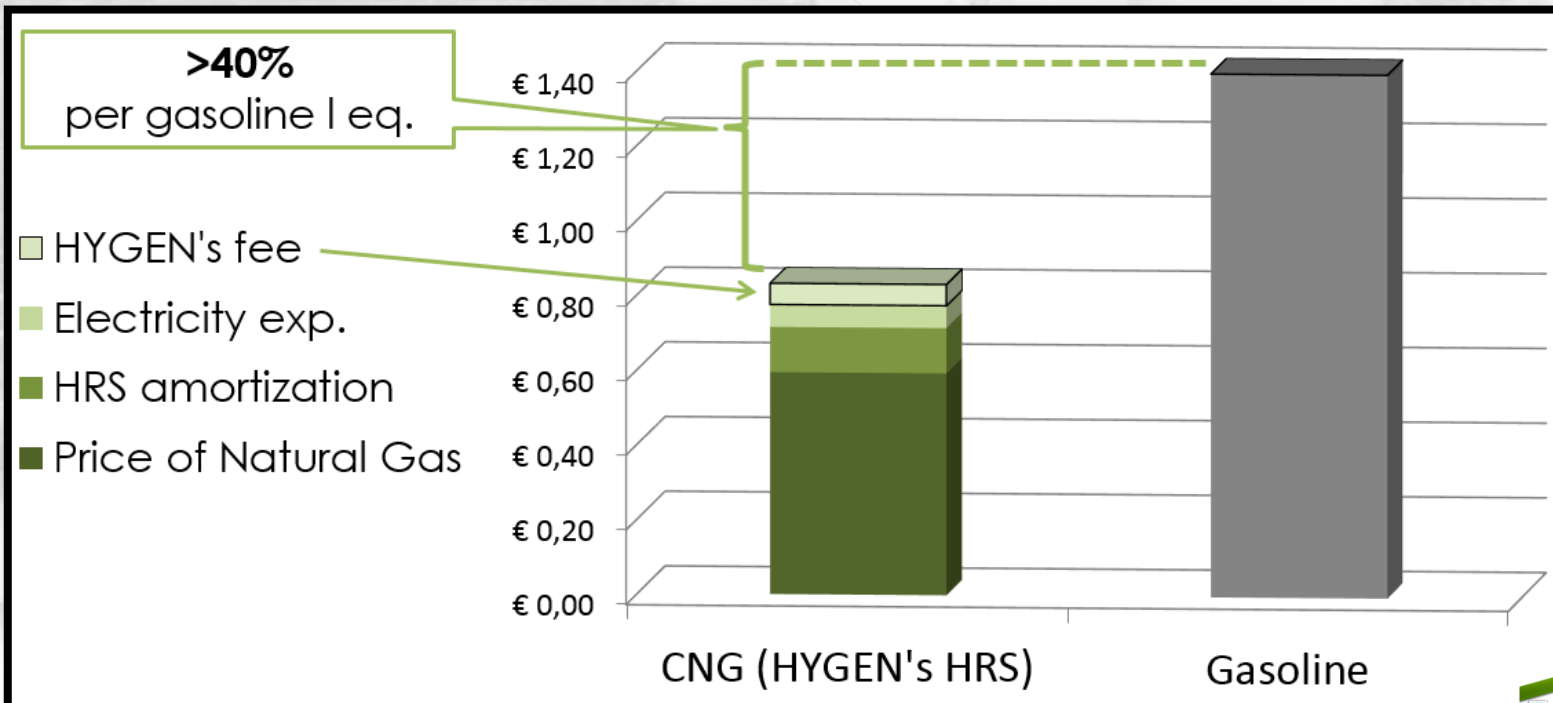
## 3 MAJOR BREAKTHROUGHS:

	<b>PHILL</b>	<b>HYGEN</b>
<b>1. Low Cost</b>	3500 EUR	<b>1 500 EUR</b>
<b>2. Long Service Life</b>	5 000 h	<b>20 000 h</b>
<b>3. Fast Refueling</b>	8 -12 h	<b>7 min.</b>

**10 X Economic Change and Superior Refueling Convenience**

# Driver's Values

- ❖ **Cuts fuel costs by >40% = 10 000 EUR savings** in car's lifetime
- ❖ **Convenience** (Filling at home)
- ❖ **No Investment** (Its part of Gas Utility Infrastructure)
- ❖ **Emission cut and CO2 reduction**
- ❖ Additional benefits (free parking, bus & taxi lane, tax reduction)



# Operational Plan



- ❖ Supported by **KIC Innoenergy with 2,4M EUR investment** in A Round in the beginning of 2015
- ❖ Finished & certified, internally & externally tested, **ready for market roll-out product by 2017**
- ❖ **Pilot Project** during 2017 (SoCalGas, Eesti GAS, others)

	2014	2015				2016				2017			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Feasibility Study	█	█											
Project Management	█	█	█	█	█	█	█	█	█	█	█	█	█
<b>Production Prototype</b>			█	█									
<b>Internal Testing &amp; Optimization</b>				█	█								
<b>External Testing &amp; Demonstration</b>					█	█	█	█					
<b>Product Certification</b>							█	█	█				
<b>Pilot Project</b>										█	█	█	█
Product Preparation for commercialization		█	█	█	█	█	█	█	█	█	█	█	█

# HYGEN Team

**Alex Safronov**  
Founder & CTO

Technical & Entrepreneurial background, 15 y experience in CNG industry

**Robert Strods**  
Co – Founder & MD

Financial & Entrepreneurial background, 6 y experience in CNG industry

**Ansis Mezulis**  
Scientific Officer

Core R&D background, 15 y R&D experience in relevant field

**Sergey Jaleiko**  
Engineer

Engineering background, 25 y R&D in electronics, 15y in mechanics

First in Eastern Europe commercially viable off-pipeline CNG pilot project with Dual Fuel buses

Chairing CEN/TC/326, WG6  
EU Standards for  
CNG Home Appliances



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG





# Contact Info



**ROBERT STRODS**

Co – FOUNDER & MD AT HYGEN

ADDR.: VAGONU STR.21, RIGA, LATVIA, EU

CELL: +371 2 971 5632

E- MAIL: [ROBERT@HYGENGROUP.COM](mailto:ROBERT@HYGENGROUP.COM)