



**A Revolutionary Fuel Additive with  
Potential to Change the Fuel Industry**

# FuelGems: More Efficient and Cleaner Fuel for the \$3.5 trillion market and a More Sustainable Planet.

**Diesel and gasoline will power 80% of all vehicles by 2050. Fuel is not efficient, dangerous and deadly for the environment and human health. The world needs a solution today.**

Revolutionary additive for instant and continuous increase in mileage for gasoline and diesel engines, emissions reduction and engine protection.

Innovative nanotechnology based additive to give users up to 1000% ROI.

# There are major problems with gasoline and diesel



## Deadly emissions

Contaminated air and toxic emissions from dirty fuel cause over 5 million people to die annually



## Fuel is expensive

Fuel is a huge expense that every company wants to minimize



## Fuel became more corrosive

Up to 70% more corrosive to the engine



## Refineries need to differentiate fuel

Fuel is currently a commodity that provides no extra value

# Solution by FuelGems

## ○ FuelGems decreases emissions

Decreases unburnt hydrocarbons by 50%  
Decreases carbon monoxide by up to 15%  
Decreases CO2 by up to 8%  
Decreases particulate pollution

## ○ FuelGems increases lubrication

Increases engine life  
Increases fuel pump life

## ○ Highly affordable (2 cents extra per gallon)

Refineries can differentiate fuel and create new fuel class

## ○ Saves fuel

Up to 8% (users ROI up to 1000%)

## ○ Tiny amount needed

1-5 grams per 260 gallons (a whopping 800x less than competing additives)

# Highlights



Ready for world-wide expansion:  
**LICENSING & OUTSOURCING**



Direct market opportunity: **\$40+ BILLION**



Fuel market:  
**\$3.5 TRILLION**



Strong returns & environmental impact: **ROI UP TO 1000%, EMISSION REDUCTION UP TO 50%**



Key components of nanoparticle  
**UP TO 95% MORE AFFORDABLE**



Traction: **multiple MOUs, 1500%+ growth in total clients over the past year**

# Highlights



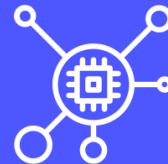
5 years in development and testing: **1 MILLION+ MILES DRIVEN WITH ADDITIVE**



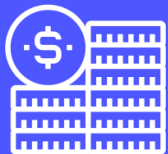
Technology: **NEXT GENERATION NANOPARTICLE AND ITS PRODUCTION METHOD**



**PATENTS** by top-tier IP firm Knobbe & Martens.



Nanoparticle: **PROPRIETARY, CHEAP TO MANUFACTURE IN BULK AND ENVIRONMENTALLY SAFE**



Nanoparticles can be sold and used in **SEVERAL MULTI-BILLION DOLLAR INDUSTRIES**



Testing: **COMPREHENSIVE AND INTRICATE TESTS DONE AT VARIOUS RESEARCH CENTERS**

# FuelGems pilot & pre-pilot potential clients are in USA, Europe and Asia

## USA

P.M. \$ 700 bn  
P/g \$ 2.60

## Europe

P.M. \$ 530 bn  
P/g \$ 6.0

## China & India

P.M. \$ 620 bn  
P/g \$ 4.0

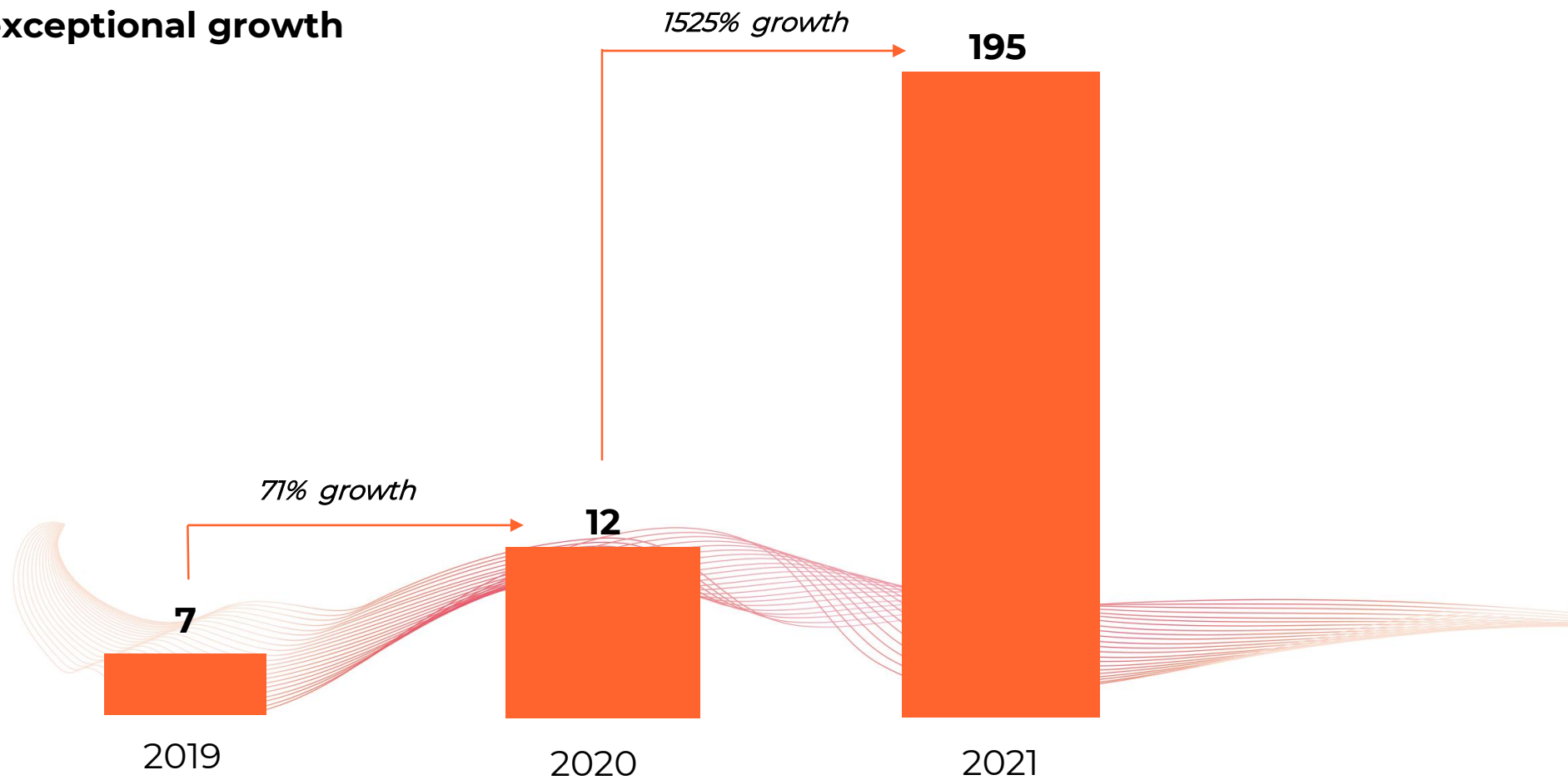
\*P.M. — Petroleum market  
P/g — Price per gallon

Source: BP plc, Bloomberg



# Traction

Product is showing exceptional growth



Total prospective clients (B2B and B2C)



# Sales pipeline traction

## Pilot stage



### OMV

OIL&GAS **\$20bn+** revenue  
interest from **BOARD OF DIRECTORS**



### Ovostar Union

FARMING **\$100mln** revenue  
interest from **BOARD OF DIRECTORS**

**CONFIDENTIAL**

### MOU with Company

FLEET OPERATOR **\$25bn+** revenue  
interest from **VENTURE & LOGISTICS DIVISIONS**

# Sales pipeline traction

## Pre-pilot stage



**BP**

OIL&GAS \$300bn+ revenue  
interest from CHIEF SCIENTIST



**Marubeni**

TRADING \$60bn+ Revenue  
interest from CEO



**PKN Orlen**

OIL&GAS \$30bn+ revenue  
interest from BOARD OF DIRECTORS



**Suncor Energy**

OIL&GAS \$30bn+ Revenue  
interest from CEO



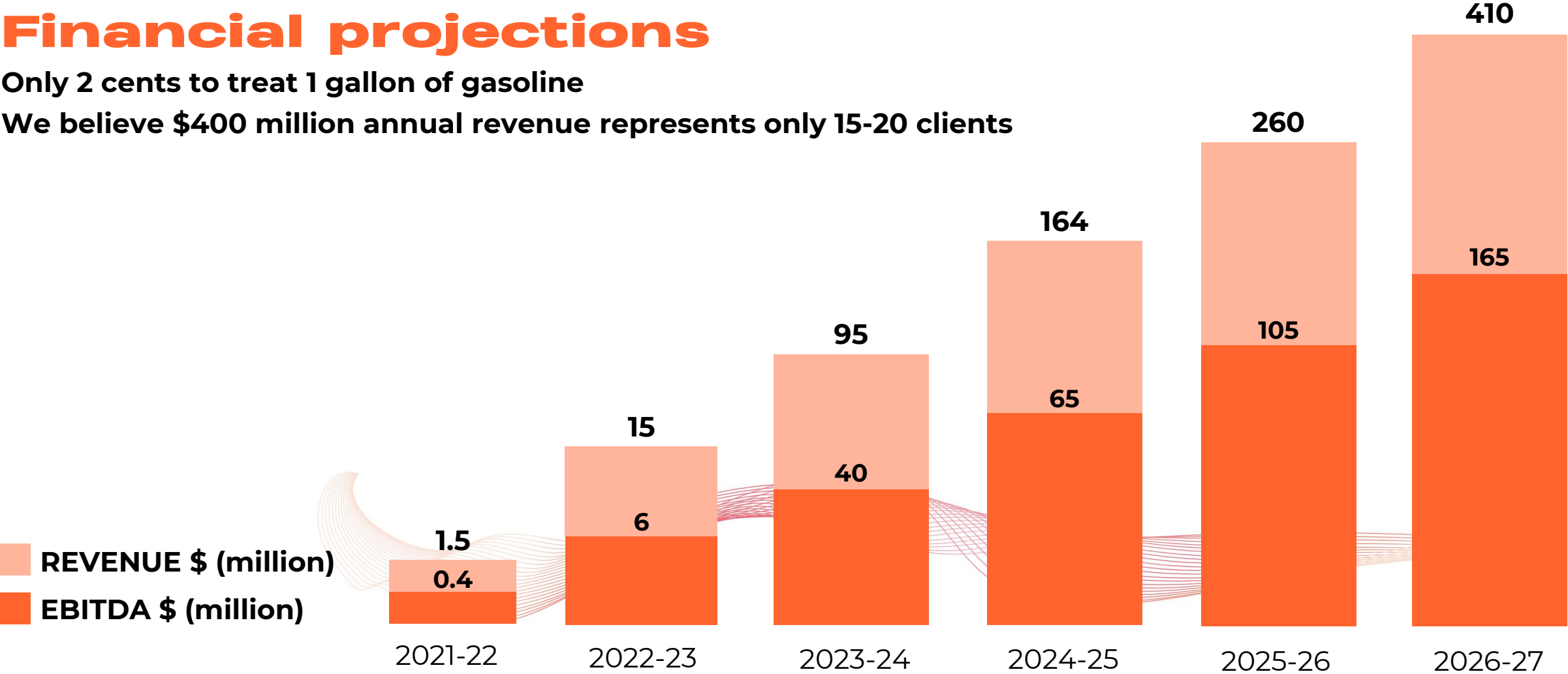
**Severstal**

STEEL \$6bn revenue  
interest from INVESTMENTS DIVISION

# Financial projections

Only 2 cents to treat 1 gallon of gasoline

We believe \$400 million annual revenue represents only 15-20 clients



**EBITDA 2027 \$165 (million)**



\*Theses are forward-looking projections which CANNOT be guaranteed.

# Prospective clients and go to market strategy

FuelGems pilot projects are corporate fleets and refineries. Gas Station Operators and Auto Retailers are next.

## Refineries

ExxonMobil



Chevron



## Gas Station Operators



Pilot. FLYING J.



## Corporate fleets



HALLIBURTON



## Chemicals for Fuel



# Prospective clients and go to market strategy

FuelGems pilot projects are corporate fleets and refineries. Gas Station Operators and Auto Retailers are next.

## Logistics



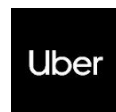
XPO Logistics



FedEx



## Used Car Market



GO JEK



DiDi

Grab

VIA VAN

## Auto Retail



# How FuelGems makes money

## The cost of fuel additive is insignificant

2 cents treats 1 gallon of gasoline

**\$12 million Revenue for FuelGems**

small gas station operator with 500 filling stations

**\$27 million Revenue for FuelGems**

one refinery

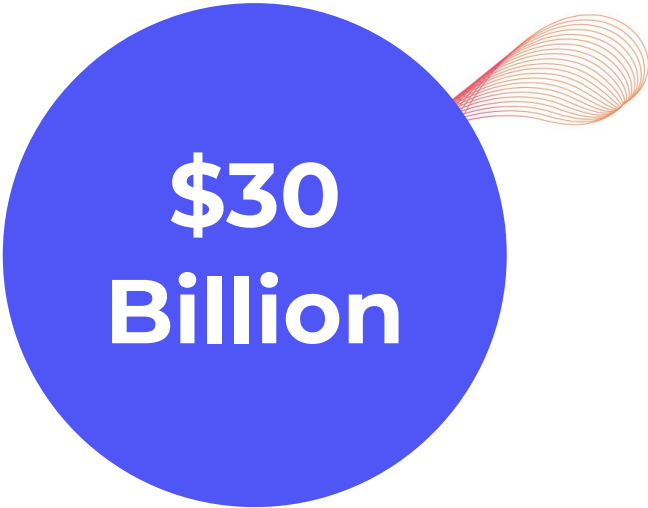
**220,000 gas stations and 220 refineries in USA and Europe**

# FuelGems market potential is \$40 billion



**Revenue from refineries and gas station operators**

USA, Europe and Asia



\$1.85 Trillion X 8% Savings X 20% of Savings



**Revenue from fleets**

Fleet fuel consumption in top 20 countries



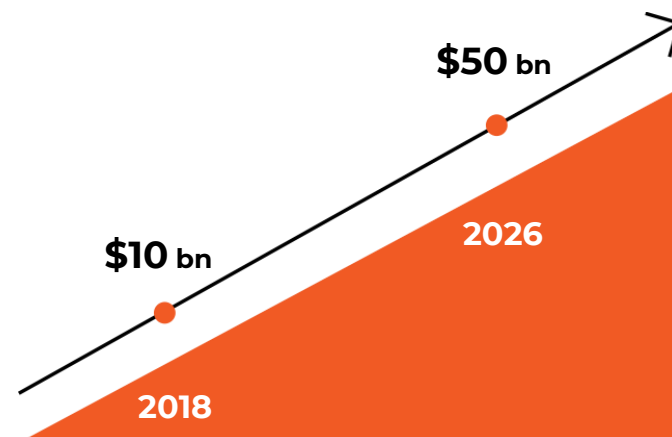
\$500 Billion X 8% Savings X 20% of Savings

# Fuel market is enormous while nanotechnology is one of the fastest growth technology sectors



- Nanoparticles will be used in products that represent over **\$2 trillion** in the global economy

🔴 Fuel market is **\$3.5 trillion**



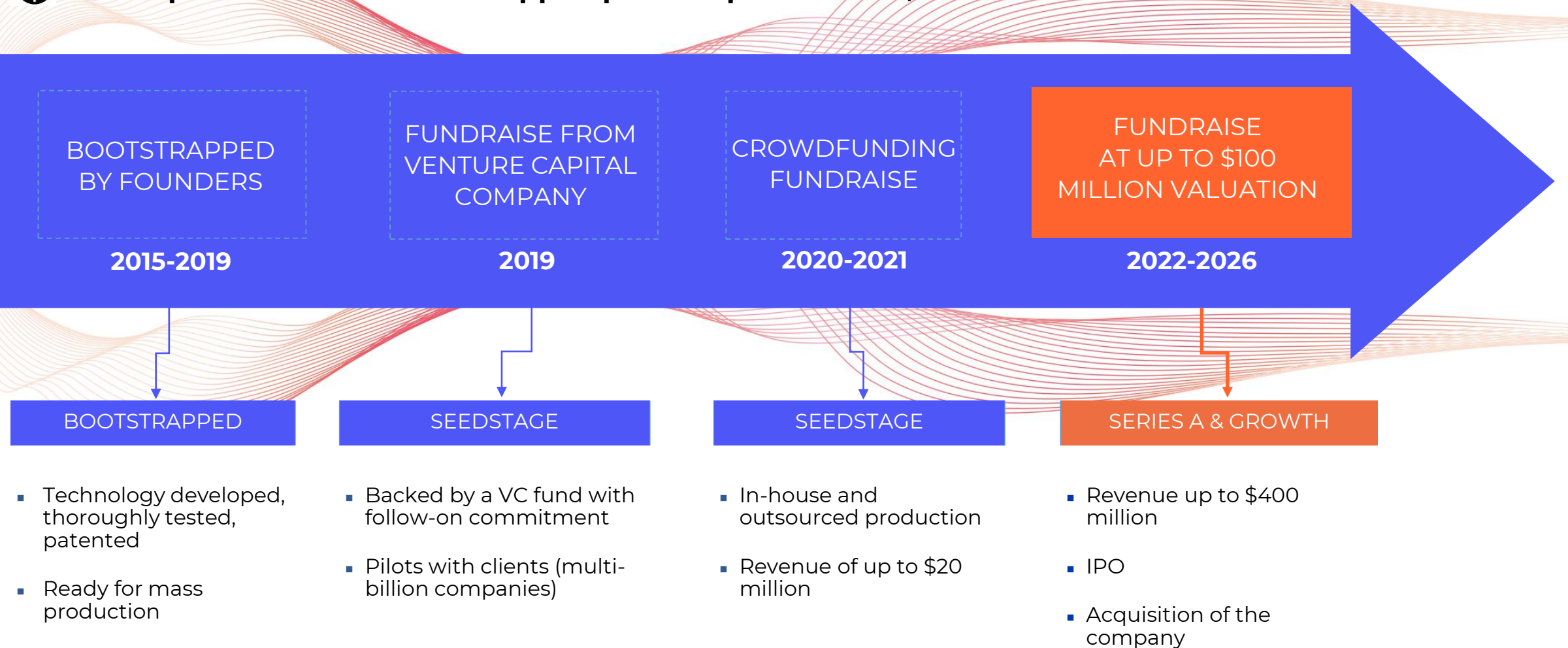
Nanoparticle market is red hot: **\$10 billion in 2018 to \$50 billion in 2026**: 15%+ CAGR Growth

Nanoparticles are amazing because they greatly enhance materials. Our nanoparticles improve gasoline and diesel.



# Development timeline

💰 Development costs of bootstrapped phase equivalent to \$2 million



\*Theses are forward-looking projections which CANNOT be guaranteed

# Industry exits and financings




Fuel additives were involved in 120 deals with deal value over \$200 billion

	acquired	 HOUGHTON	\$1 bn
	acquired	 HUNTSMAN	\$415 million
	acquired	 Athlon Solutions	\$100+ million
	acquired	 North American Fuel Additives Business	

Active buyers are multi-billion dollar corporations



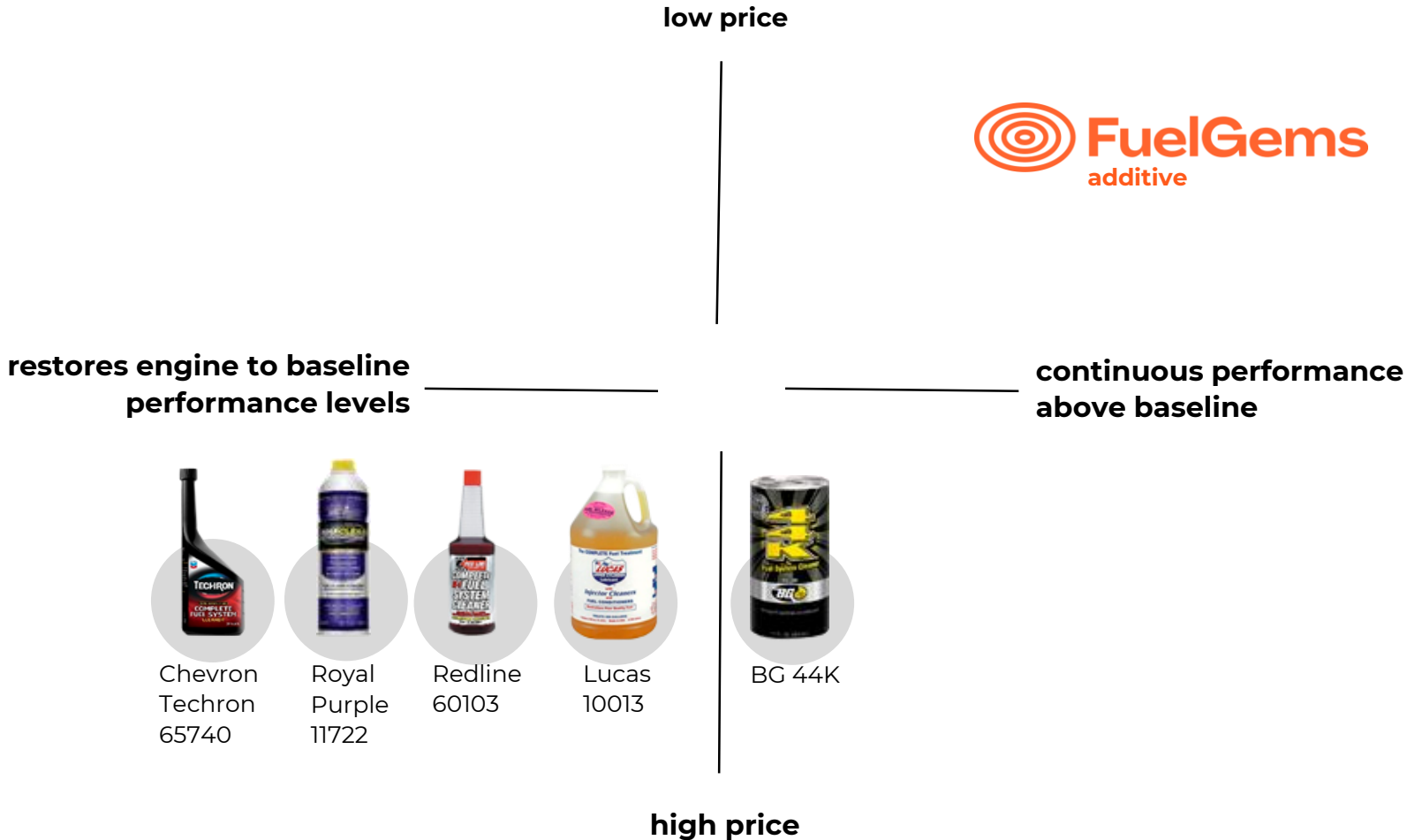
## Nanotechnology for energy conservation: selected financings

	Nanomech: nanotechnology, energy and lubrication <b>raised \$40 million</b>	Active growth
	Nano-C: nanotechnology, renewable energy, electronics <b>raised \$17 million</b>	Active growth
	Nanotech Industrial Solutions: oil additives <b>raised \$97 million</b>	Active growth

Source: Capital IQ, Crunchbase



# Current fuel additives are expensive and lack performance



For customers  
FuelGems is an easy  
solution with high  
performance and low  
price.

FuelGems can price its  
additive up to 20 times  
cheaper than  
competitors and win a  
large market share  
very quickly.

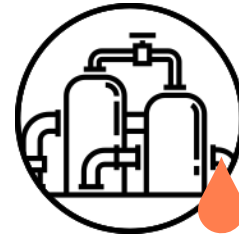
# How it works



**A tiny amount:**  
1-5 grams of nanoparticle  
"FuelGems" is needed **per 1**  
**ton** (260 gallons) of fuel



**Easy for gas stations:**  
just add to large fuel  
storage tank

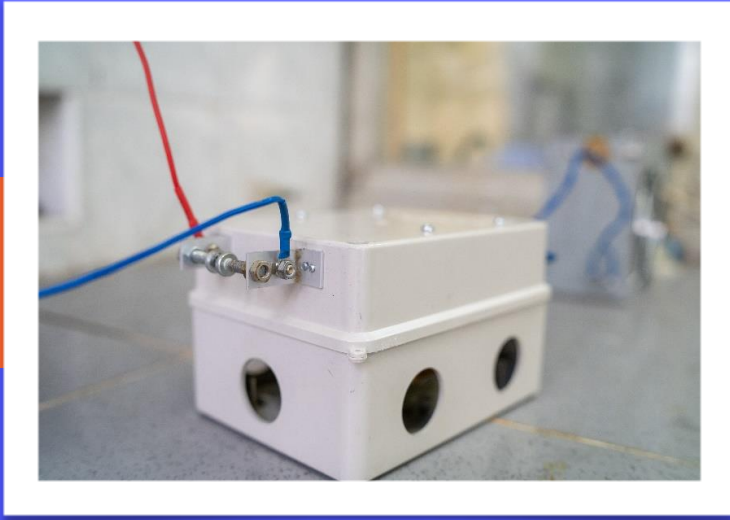


**Easy for refineries:**  
just add during the  
refining process

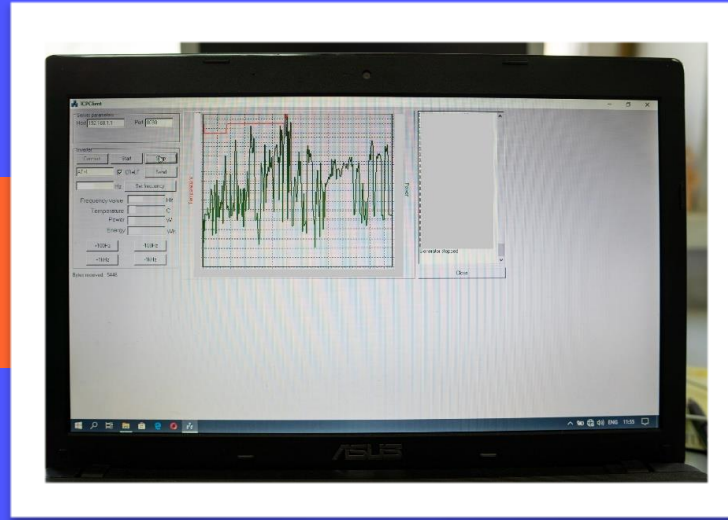


**Easy for drivers:** just  
add to fuel tank  
when filling up

# How it works



Reactor is a small device which easily fits on a laboratory table



Reactor is controlled by a software program



One small unit produces nanoparticles to treat 20 tons of fuel per day

- ✓ **Proprietary reactors and methodology to produce high amounts of nanoparticles at very low cost**
- ✓ **10-50 reactors fit in a small laboratory**
- ✓ **The technology and production is inexpensive and efficient**

# Proprietary and patented know-how

Unique and proprietary production method, unique nanoparticle and its stabilization



## Production method

Unique knowhow in electricity usage to form and apply plasma



## Chemical compounds

Synthesis of unique spherical carbon nano-sized clusters



## Stabilization

Nanoparticle is stabilized to disperse easily in fuel and avoid agglomeration for long life of nanoparticle in fuel

**Knobbe** **Martens**

INTELLECTUAL PROPERTY LAW

**Top-tier IP law firm, Knobbe Martens**  
filed the patents

# Technical validation

## Extensive university testing

### Nanotechnology, atomic, molecular and chemical testing

- Atomic force microscopy
- Transmission electron microscopy
- Scanning electron microscopy
- Raman spectroscopy
- Infrared spectroscopy
- Oxidation testing
- X-ray fluorescence spectroscopy
- Qualitative chemical analysis
- Energy-dispersive X-ray spectroscopy

### Tribology and friction

- Tribology and friction testing: measurement of friction
- Tribology and friction testing: liquid phase electron microscopy
- Tribology and friction testing: differential-phase laser scanning profilometer
- Tribology and friction testing: fuel pump, testing surfaces of various fuels

### Internal combustion engine testing

- Internal combustion gasoline engine bench test
- Internal combustion diesel engine bench test
- Internal combustion engine gas analyzer tests
- Real-life testing over 1,000,000 miles driven in real cars

**Comprehensive testing to fully examine the nanoparticles, their mechanism of action and effects: anti-friction and anti-oxidation**

# Technical validation

Engine cell testing at Coventry University



○ Jaguar Land Rover (JLR) engine used for testing

○ Dosing: 3 to 5 grams per 1 ton of fuel

Reduction of Unburnt Hydrocarbons: 50%

Reduction of Carbon Monoxide: 14%

○ There were no adverse effects to the engine



Savings during a 7,500 mile test conducted by a PhD Scientist with focus in automotive engineering using a C-Class Mercedes and EN590 Shell diesel

Fuel with FuelGems 9%

Research institute snapshot testing using diesel and gasoline engine (reduction of fuel use/increase in mileage)

Fuel no additive 0

Diesel with FuelGems 8%

Gasoline with FuelGems 7.5%

Real life testing

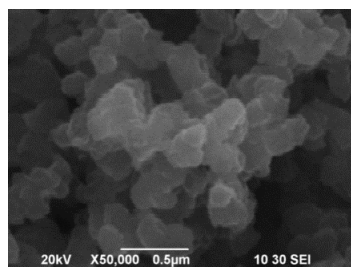
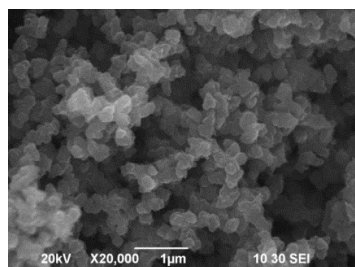
Cars drove over 1 million miles with the additive



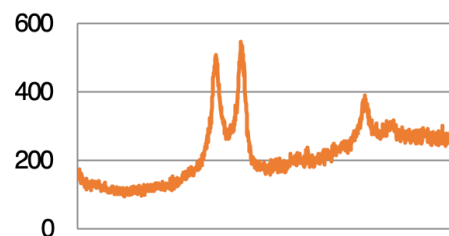
# Technical validation

## Nanotechnology analysis

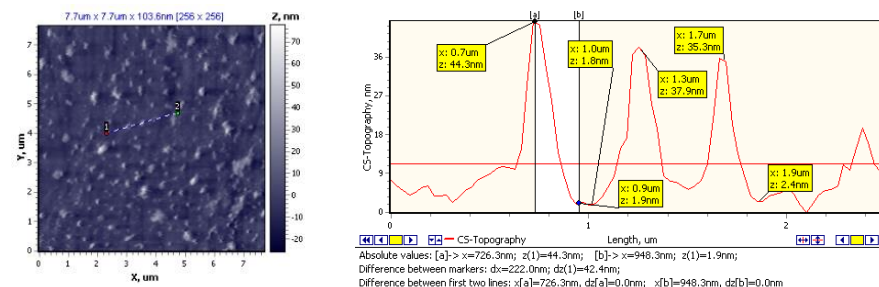
### Scanning Electron Microscope



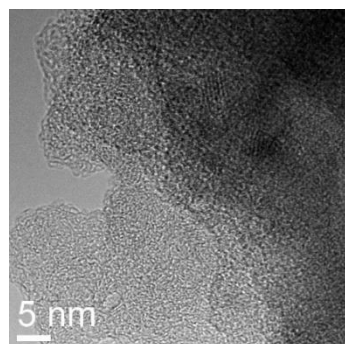
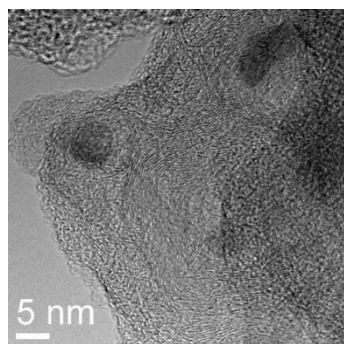
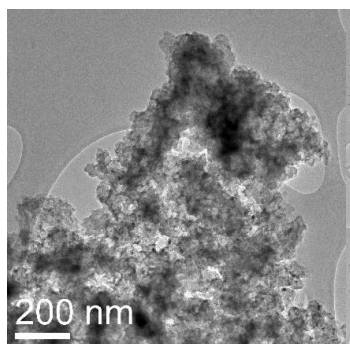
### RAMAN Spectroscopy



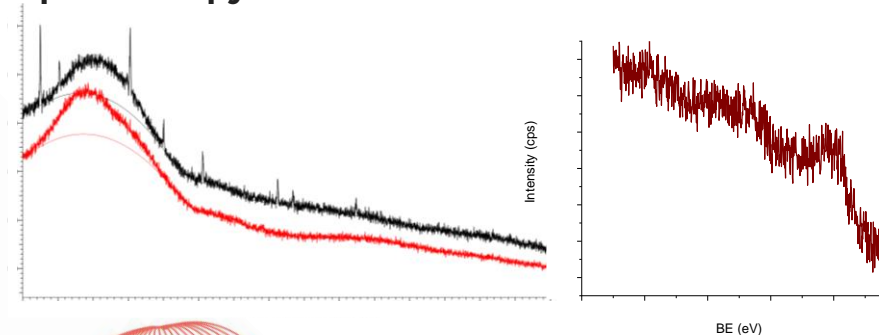
**Atomic Force Microscopy:** the nanoparticles are separated and packaged, ready to be added to fuel



### Transmission Electron Microscope and High Resolution Transmission Electron Microscopy: Nanoparticles sized 5-80 nm



### X-Ray Diffraction Analysis and X-ray Photoelectron Spectroscopy

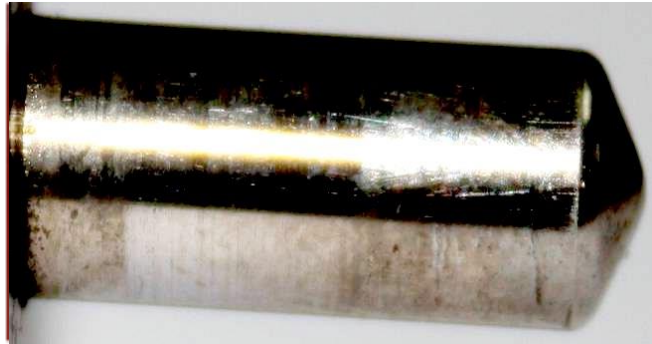


# Technical validation

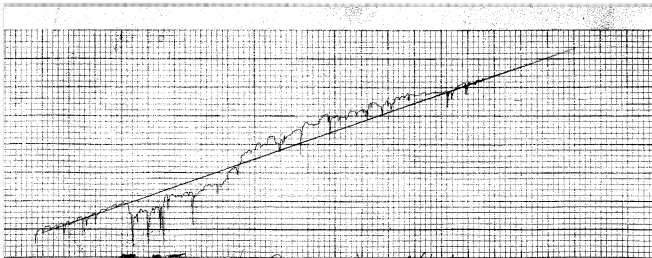
Testing at research centers and in real life

## Fuel no additive

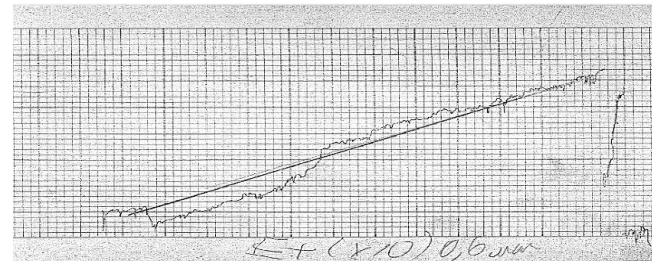
Fuel pump shaft



Wear profilogram



## Fuel with FuelGems

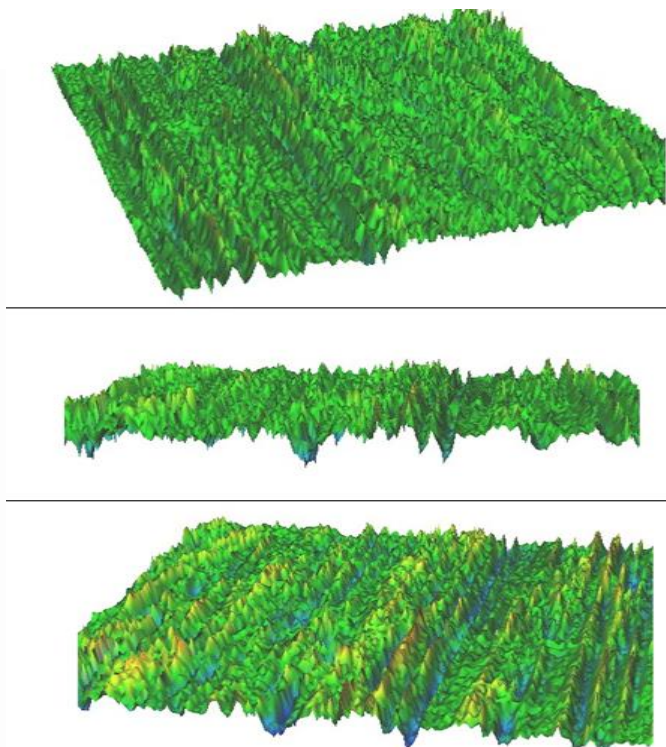


# Technical validation

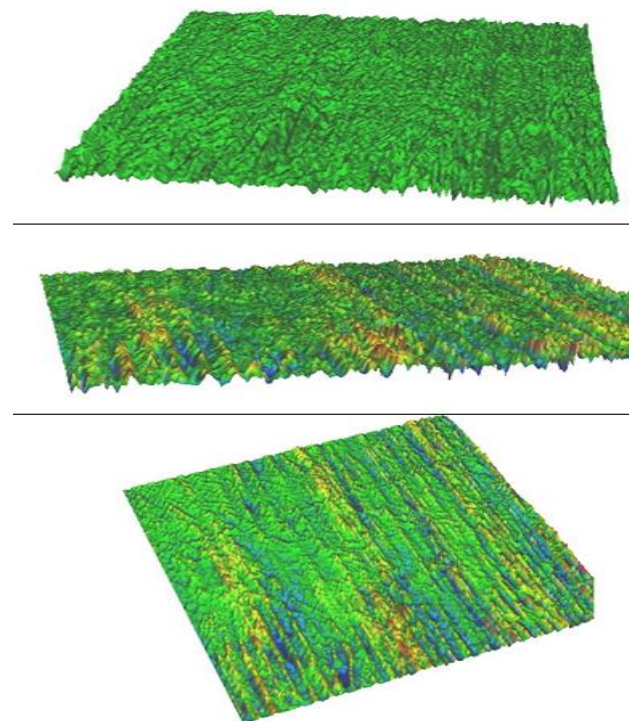
Testing at research centers and in real life

Liquid  
phase  
electron  
microspore

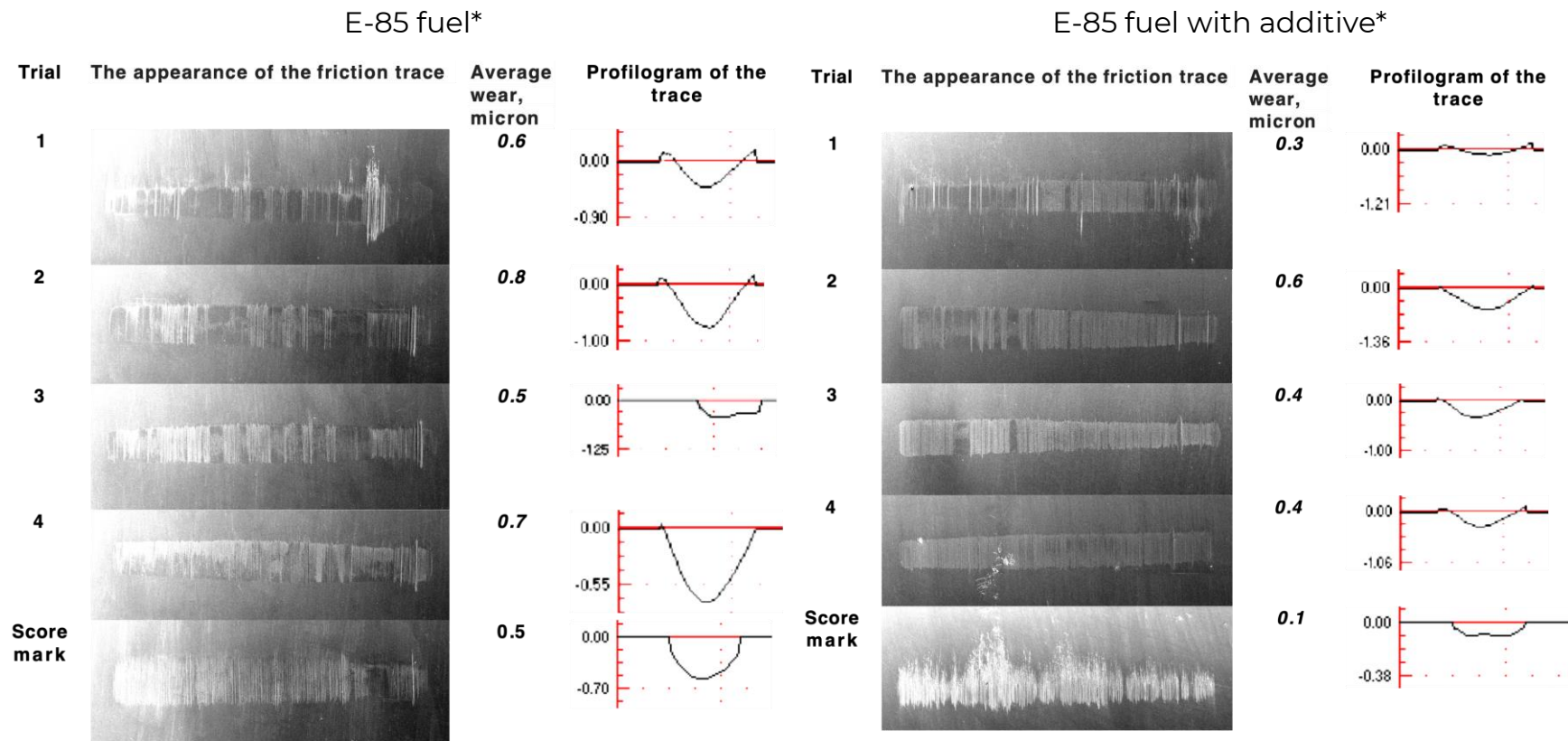
Surface friction of regular  
fuel – rough surface



Surface friction of fuel with  
**FuelGems** – smooth surface



# Surface scan of friction of fuel with additive



\*8 kg axial load, the rotation speed of the contra-sample 300 rpm.

Nanoparticles reduce friction wear by up to 80%



# Our nanoparticles can be used in multiple large markets

We believe FuelGems can sell its nanoparticles 90% cheaper than competition

**\$3.5 trillion**

petroleum fuel **increases mileage by reducing consumption of gasoline and diesel**

**\$24 billion (2023)**

capacitors **improves performance**

**\$50 billion (2023)**

industrial catalyst **increases production of styrene**

**\$140 billion (2026)**

lithium ion batteries **improves performance**

**\$165 billion (2021)**

lubricants **improves lubricating effect**



# Team



**Kirill Gichunts**

CEO

Microsoft  
EastOne (venture capital)  
Semi-finalist Cleantech  
Open  
KBC Securities  
Raiffeisen/Lazard  
Deloitte  
Hilspen Capital  
Management  
Global Asset Capital

**UC Berkeley**



**Jacek Jasinski, Ph.D.**

Nanotech Scientist

Conn Center for  
Renewable Energy  
UC Merced  
Lawrence Berkeley  
National Laboratory

**UC Berkeley, Warsaw  
University**



**Dmitry Vinnichenko, Ph.D.**

Scientist

National Academy of  
Sciences of Ukraine

**National University of  
Shipbuilding**



**Tim Rose, Ph.D.**

Automotive Scientist

Cranfield  
University British  
Gas

**Cranfield University**

# Team



**Irina Nazarova, Ph.D.**

Scientist

National University of  
Shipbuilding

**Kyiv Polytechnic Institute**



**Yaroslav Bereznitskiy,  
Ph.D. candidate**

Chemical Engineer

National Academy of  
Sciences of Ukraine

**National Aviation  
University**



**Roman Tarasov,  
Ph.D. candidate**

Chemical Engineer

National Academy of  
Sciences of Ukraine

**National University of  
Food Technologies**

# Successful venture track record and startup exits

## Kirill Gichunts has successful venture experience and startup exits

**eastone**

Managing Partner at EastOne's VC accelerator;  
Invested and mentored over 15 companies.  
Selected investments:



Kabanchik **acquired by Prom.ua**



Preply, growth stage, **raised 15 million USD**

**Active growth**



PromoRepublic, growth stage,  
**raised 4.3+ million USD**

**Active growth**



Poptop, Series A stage, **raised 1 million USD**

**Active growth**



Founding team member of Silicon Valley  
start-up InFreeDA **acquired by AT&T (NYSE:T)**



Advised Microsoft on launching technology  
accelerator **Cloud Business City**



Semifinalist of **Cleantech Open**

During his career, Kirill has developed relationships with  
corporations and governments



**ALSTOM**



**htdc**



**TOKYO GAS**



**Nishikawa**

**Sumitomo Corporation**

**Microsoft**



**Argonne**  
NATIONAL LABORATORY

**jcpenny**

**htdc**

**LACLEANTECH**  
INCUBATOR





# Use of funds and next steps



## Done

- ✓ Designed a unique nanoparticle
- ✓ Secured patent
- ✓ Designed cost-effective technology to manufacture the nanoparticles
- ✓ Treated and stabilized the nanoparticle to effectively dissolve and disperse in fuel
- ✓ Modeled mass production of nanoparticles
- ✓ Verified the technology via numerous tests at multiple universities
- ✓ Built core management and scientific team
- ✓ Built business model and proved high customer demand
- ✓ Pilot projects with multi-billion corporations around the world
- ✓ Set-up mass production of the additive



## Next Steps

- Grow revenue
- Secure further patents
- Build sales and marketing to increase revenue growth
- Design industrial scale mass production facility
- Complete high-end trials

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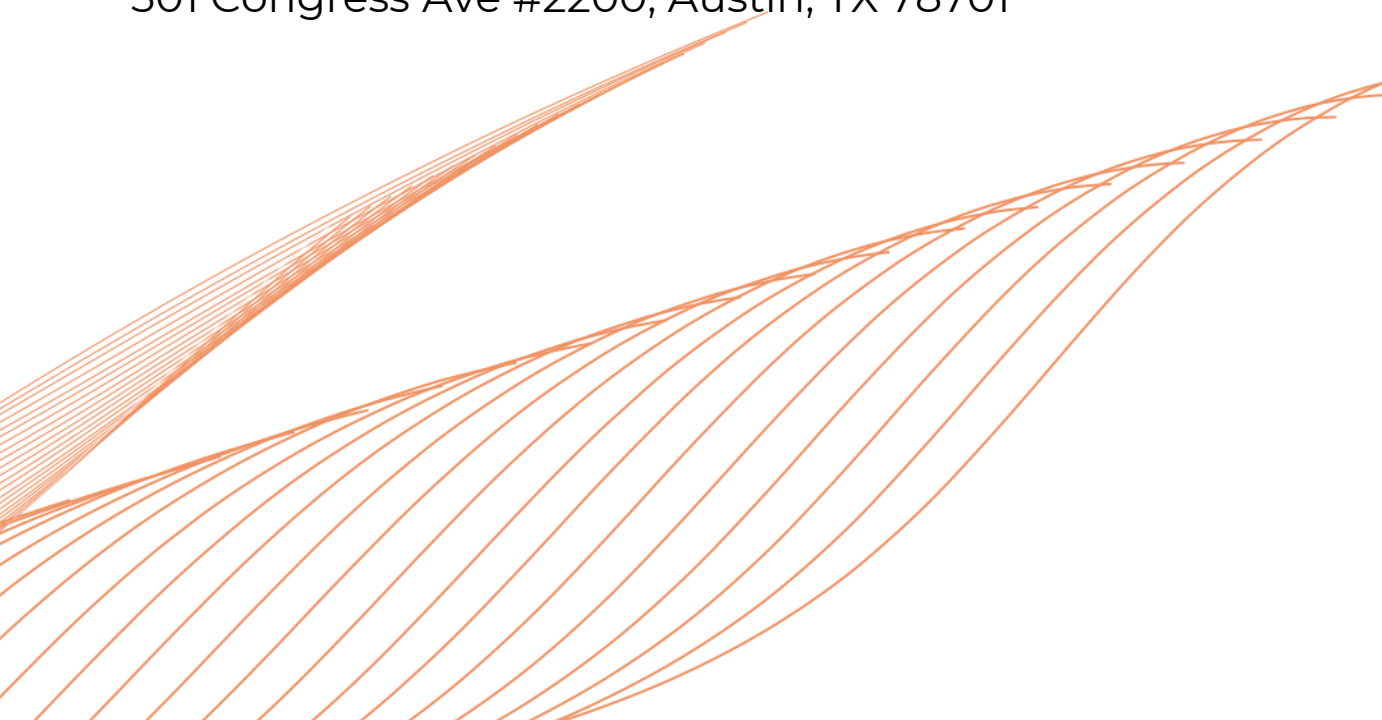
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# Contact

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A decorative graphic consisting of numerous thin, parallel orange lines that curve upwards and to the right, starting from the bottom left and extending towards the center of the page.