



**A revolutionary fuel additive with potential to change
the fuel industry**

FuelGems: A revolutionary fuel additive is ready for mass production – with potential to create a shock wave across the \$3.5 trillion fuel market. And the biggest corporations in the world want in.

Diesel and gasoline will power 80% of all vehicles by 2050. Fuel has become more damaging to engines and is dangerous for the environment. The world needs a solution to make fuel clean today.

We believe we have created the only fuel additive for instant and continuous increase in mileage for gasoline and diesel engines, emissions reduction and engine protection.

We believe we have created the only fuel additive to give users positive up to 1000% ROI in the massive \$3.5 trillion market.

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



Product market readiness:
ready to be mass produced



Direct market opportunity: **\$30 billion+**



Fuel market:
3.5 TRILLION USD



Strong returns & environmental impact: users will achieve up **1000%+ ROI** and **reduce greenhouse gas emissions by up to 50%**



Key components of nanoparticle **80% to 95% cheaper** than comparable nanoparticles

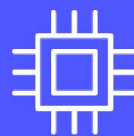


Traction: **Integrated \$20bn Oil&Gas company, farm company, \$20bn retail chain**, over **90%** of drivers want to use the additive.

Highlights



5 years in development and testing: over **1 million** miles driven with the additive



Technology: next-generation nanoparticle for fuel savings



Patents by top-tier IP firm Knobbe & Martens.



Nanoparticle: **highly proprietary, one of a kind**, cheap to manufacture in bulk, and safe



Nanoparticles can be sold and used in other **multi-billion dollar industries** competitors



Comprehensive testing completed

Worldwide fuel market is \$3.5 trillion

Potential customers 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

Sales pipeline traction

Pilot stage



OMV

OIL&GAS **\$20bn+ revenue**

interest from BOARD OF DIRECTORS

Pilot stage



X5 Retail Group

RETAIL **\$25bn+ revenue**

interest from VENTURE DIVISION

Pilot stage



Ovostar Union

FARMING **\$100mln revenue**

interest from BOARD OF DIRECTORS

Pre-pilot stage



BP

OIL&GAS **\$300bn+ revenue**

interest from CHIEF SCIENTIST

Pre-pilot stage



Marubeni

TRADING **\$60bn+ Revenue**

interest from CEO

Pre-pilot stage



PKN Orlen

OIL&GAS **\$30bn+ revenue**

interest from BOARD OF DIRECTORS

Pre-pilot stage



Suncor Energy

OIL&GAS **\$30bn+ Revenue**

interest from CEO

Pre-pilot stage



Severstal

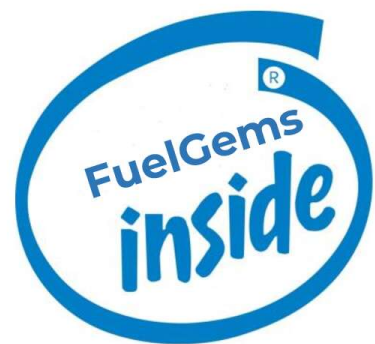
STEEL **\$6bn revenue**

interest from INVESTMENTS DIVISION

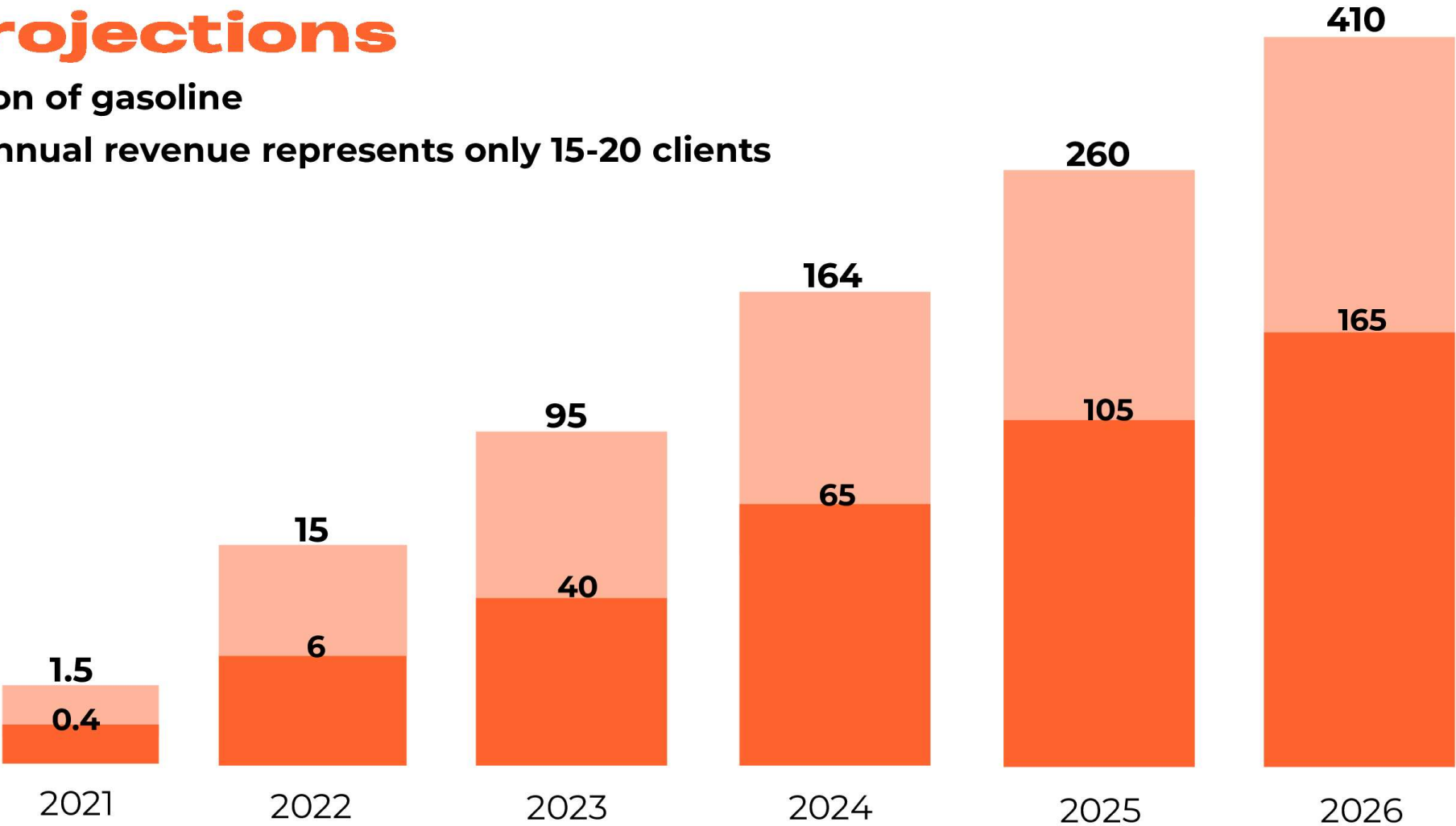
Financial projections

Only 2 cents to treat 1 gallon of gasoline

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



REVENUE \$ (million)
EBITDA \$ (million)



EBITDA 2026 \$165 (million)

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



Prospective clients and go to market strategy

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

Refineries



Corporate fleets



Auto Retail



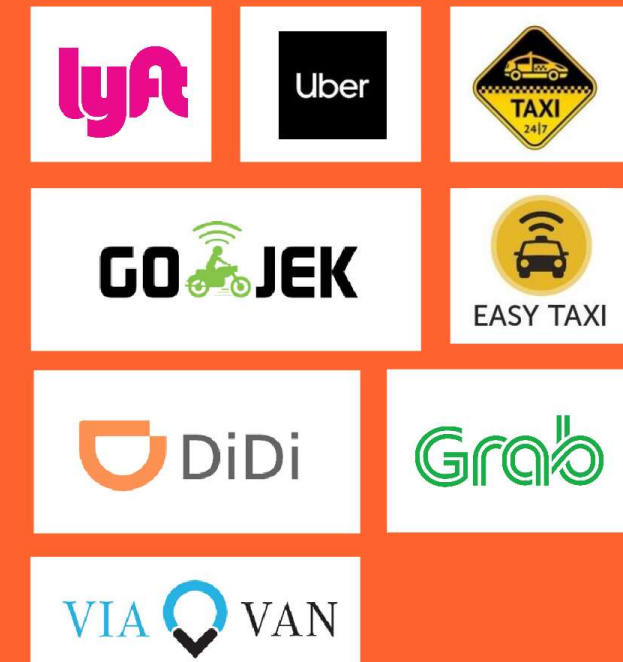
Gas Station Operators



Logistics



Used Car Market



Chemicals for Fuel



FuelGems market potential is \$30 billion



Revenue from fleets

Fleet fuel consumption in top 20 countries

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

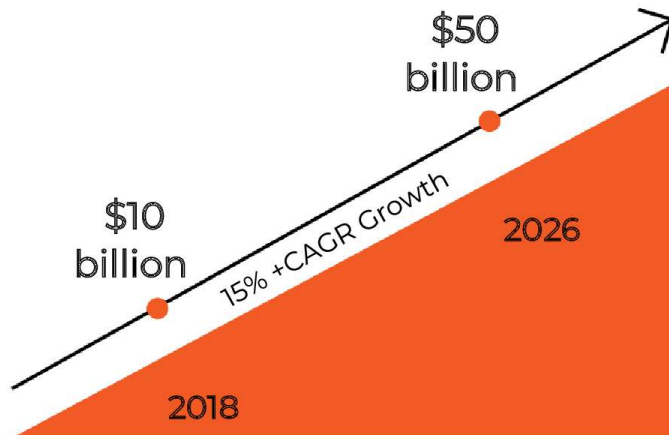


Revenue from drivers

Top 20 countries

\$1.6 Trillion X 8% Savings X 20% of Savings = \$26 Billion

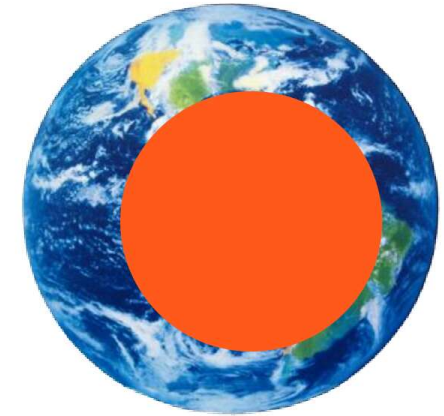
Fuel market is enormous while nanotechnology is one of the fastest growth technology sectors



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



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



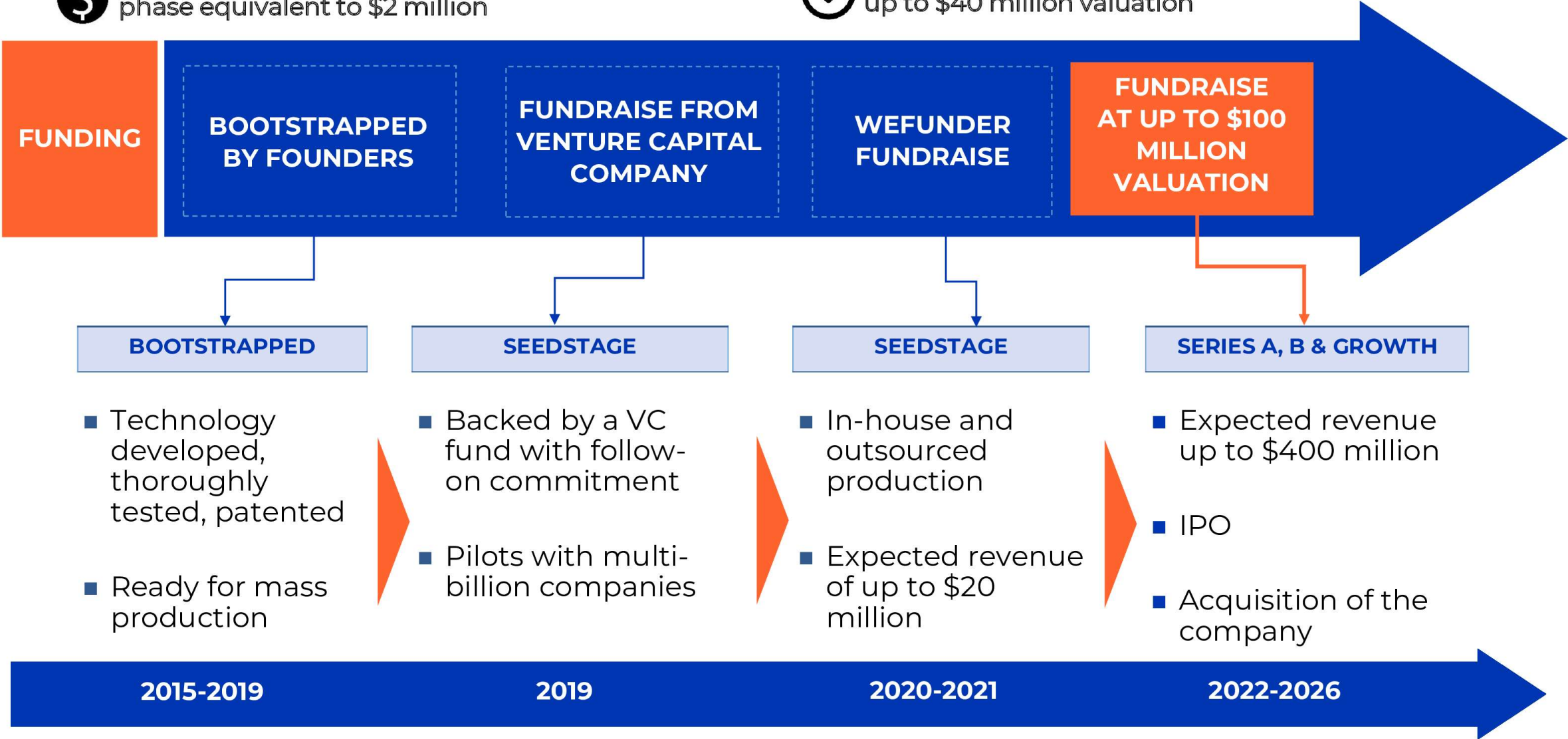
● Fuel market is **\$3.5 trillion**.

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

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




Development timeline

-  Development costs of bootstrapped phase equivalent to \$2 million
-  Planned Series A raise of \$10 million at up to \$40 million valuation



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

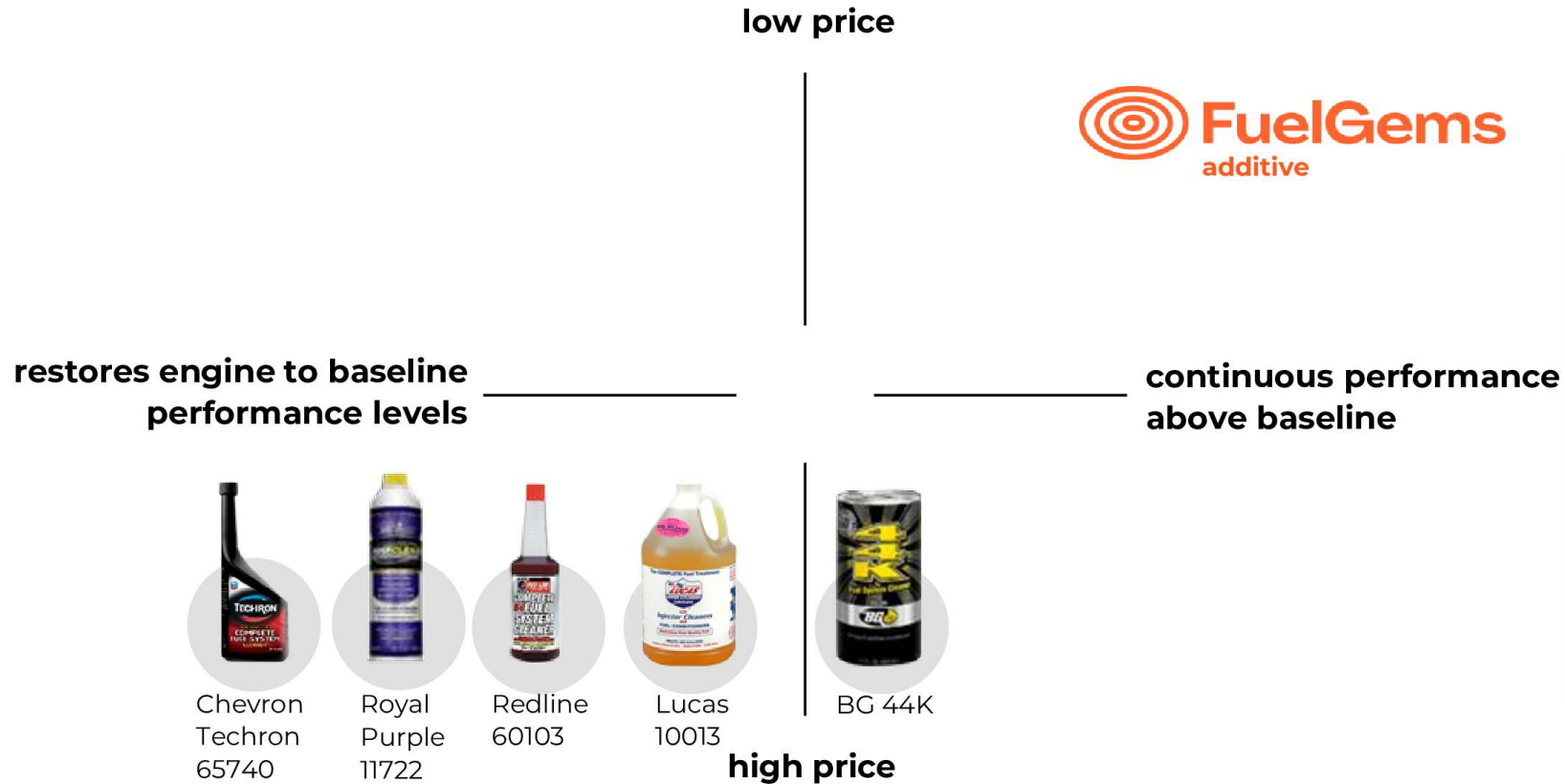
		
		
		

Nanotechnology for energy conservation: selected financings

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

Source: Capital IQ, Crunchbase

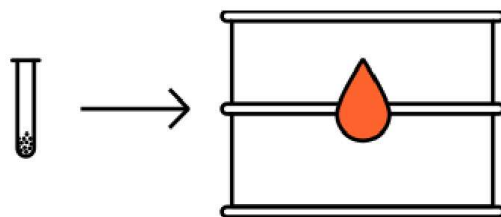
Current fuel additives are expensive and lack performance



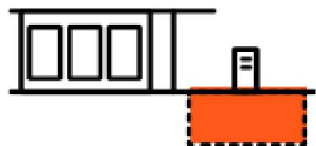
For customers FuelGems is an easy solution with high performance and low price.

FuelGems can price its additive 5 to 20 times cheaper than competitors and as a result we believe we will win a large market share very quickly.

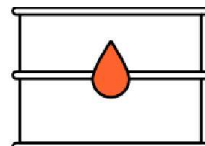
How it works



A tiny amount: 1-5 grams of nanoparticle "FuelGems" is needed per 1 ton (1000 liters) of fuel



Easy for commercial users: just add to large fuel storage tanks



Easy for refineries: just add to large fuel storage tanks



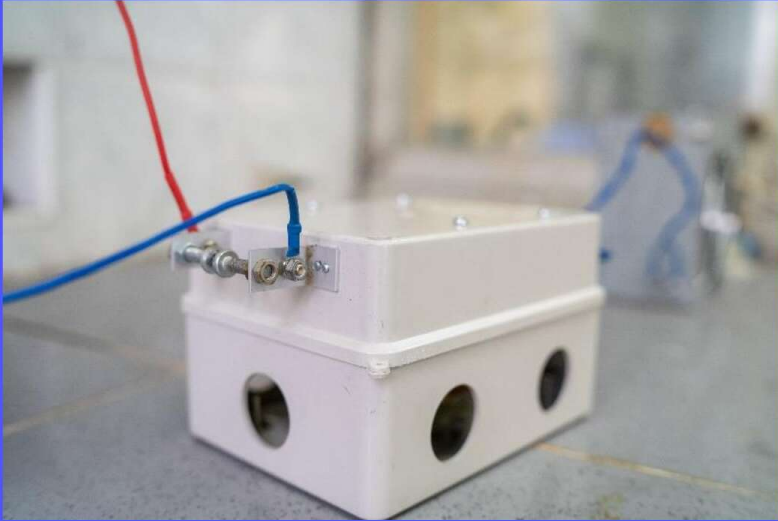
Easy for drivers: just add to fuel tank when filling up

\$10 purchase saves up to \$80 = 700% ROI

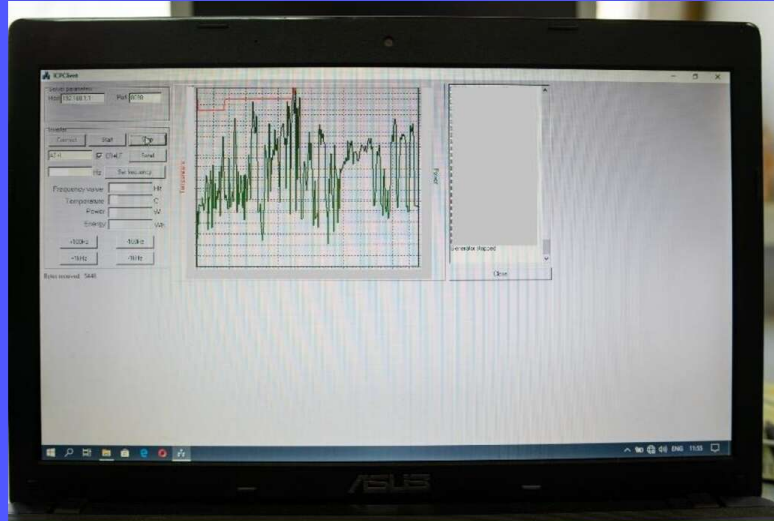


Our nanoparticles are made mostly from carbon. EPA allows registration and usage of fuel additives which are made from Carbon, Hydrogen, Nitrogen, Oxygen and Sulfur

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 conglomeration for long life of nanoparticle in fuel

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

Knobbe **Martens**

INTELLECTUAL PROPERTY LAW



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

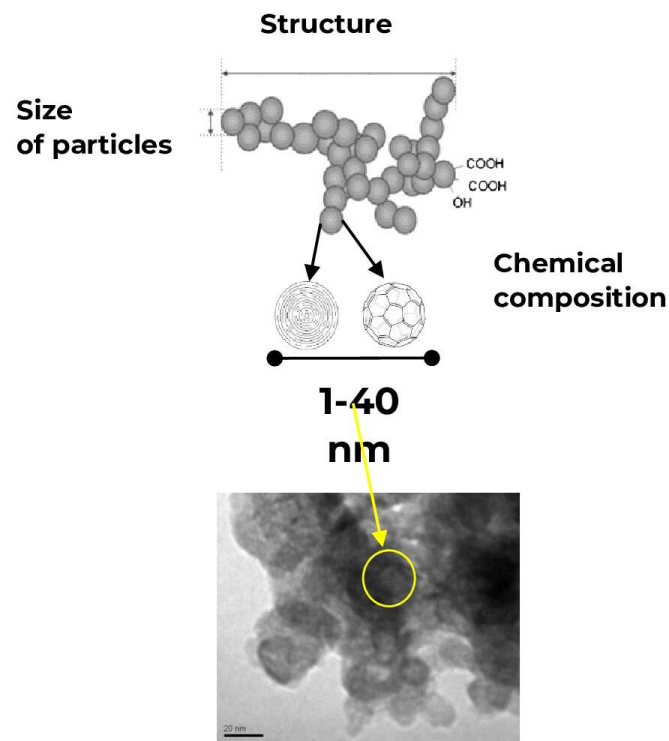
Internal combustion engine testing

- 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

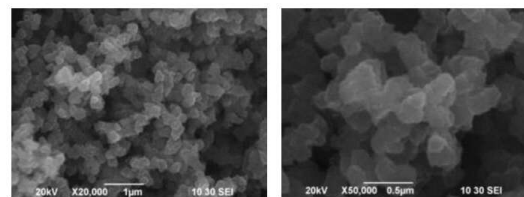
Comprehensive testing to fully examine the nanoparticles, their mechanism of action and effects: anti-friction and anti-oxidation

Technical validation

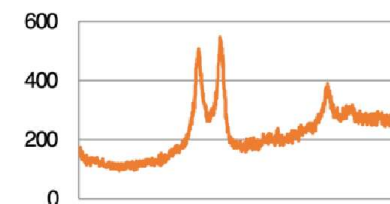
Nanotechnology testing



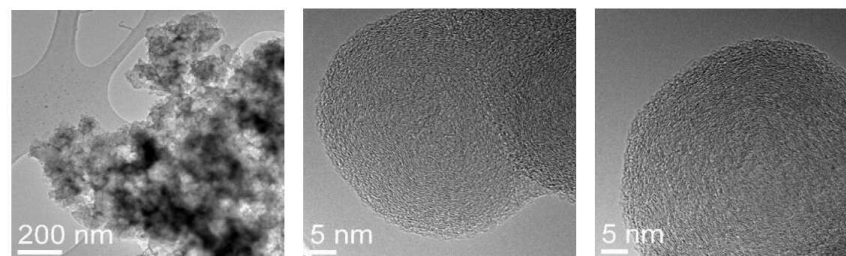
Scanning Electron Microscope



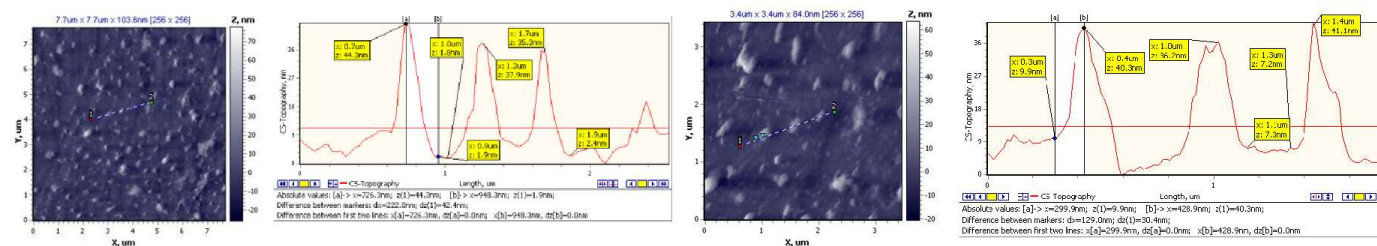
RAMAN Spectroscopy



Transmission Electron Microscope: Average size of domain in ethanol is 400 nm with average size of a separate nanoparticle of 6 nm



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



Technical validation

Testing at universities and in real life

University snapshot testing using diesel engine (reduction of fuel use/increase in mileage)

Fuel no additive	0
Fuel with FuelGems	8%

University snapshot testing using gasoline engine (reduction of fuel use/increase in mileage)

Fuel no additive	0
Fuel with FuelGems	7.5%

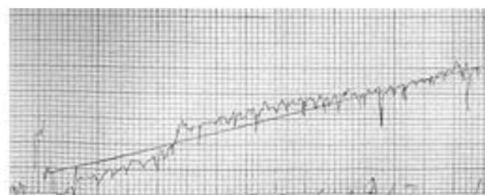
Fuel pump shaft

Fuel no additive



Wear profilogram

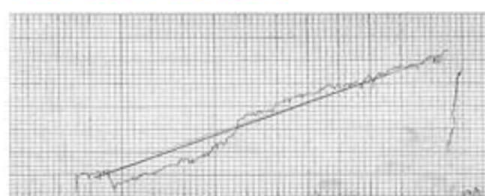
Fuel no additive



Fuel with FuelGems

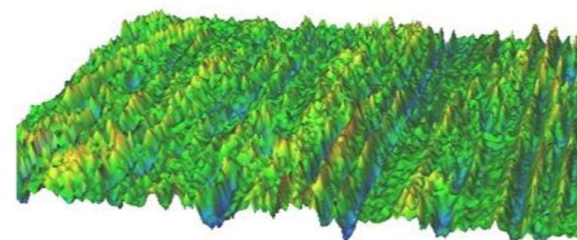
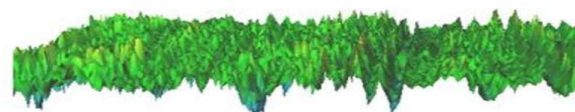
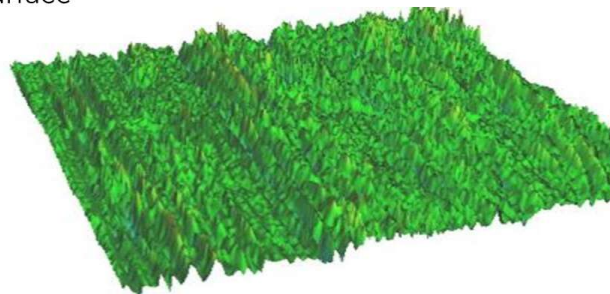


Fuel with FuelGems

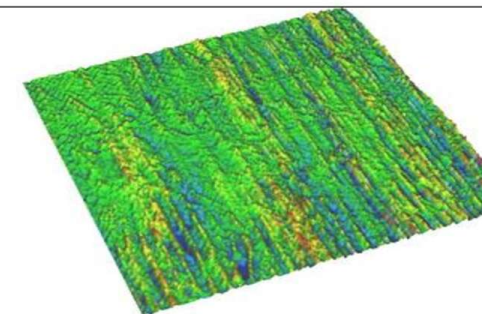
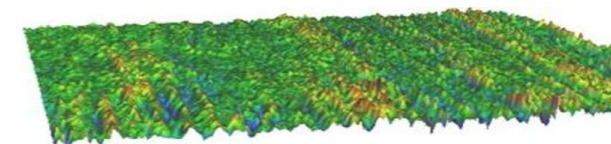
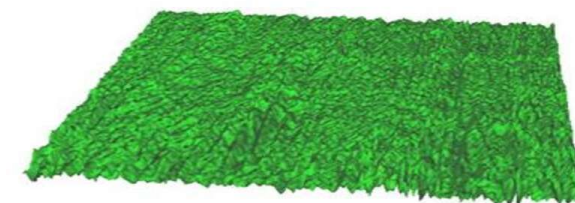


Liquid phase electron microspore

Surface friction of regular fuel – rough surface



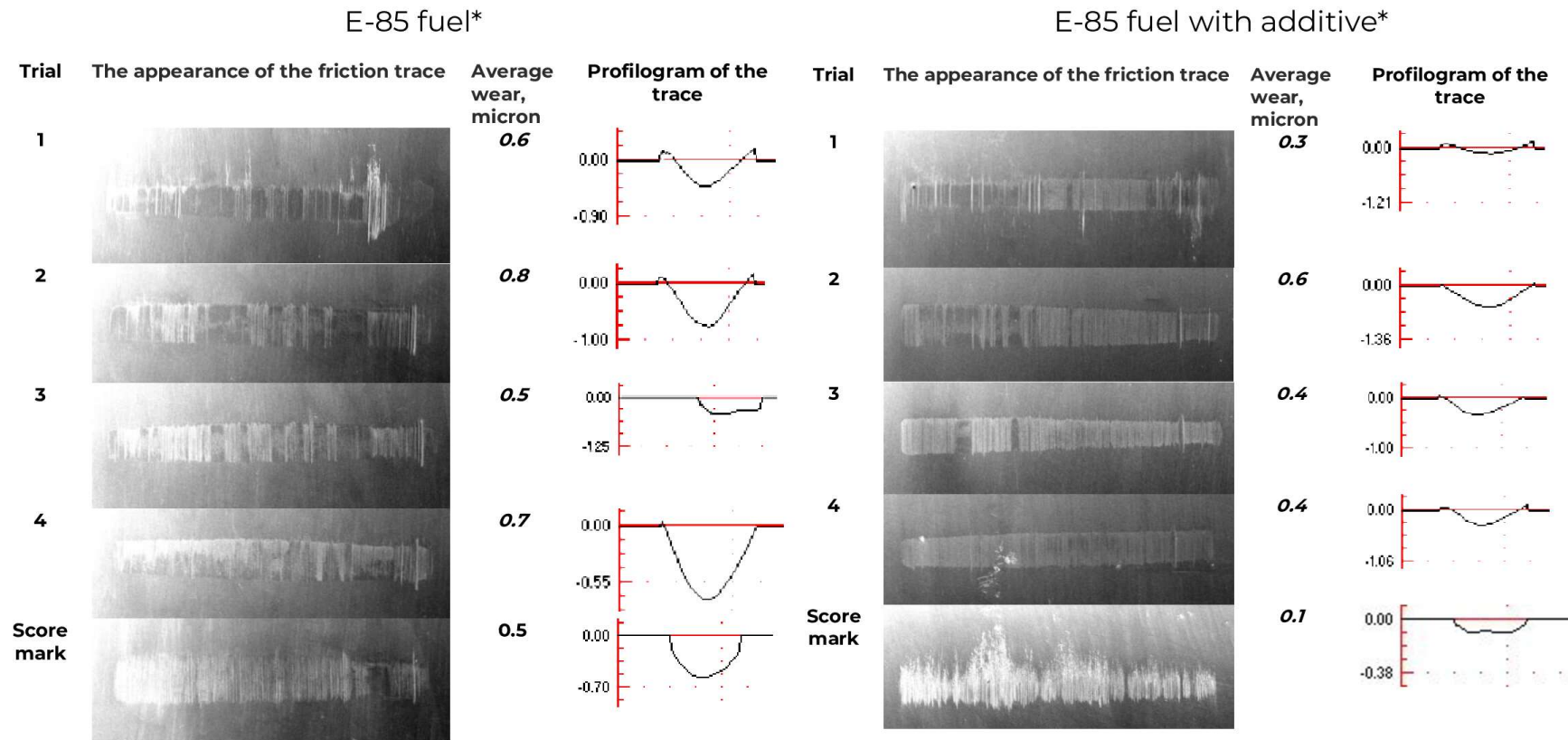
Surface friction of fuel with **FuelGems** – smooth surface



Real life testing

Cars drove over **1 million miles** with the **additive**

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%

Technical validation

Engine cell testing 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

Our nanoparticles can be used in multiple large markets

FuelGems believes it can sell its nanoparticles 90% cheaper than competition

\$3.5 trillion

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

\$140 billion (2026)

lithium ion batteries
improves performance

\$24 billion (2023)

capacitors **improves**
performance

\$165 billion (2021)

lubricants **improves**
lubricating effect

\$50 billion (2023)

industrial catalyst
increases production of
styrene

Team



Kirill Gichunts

CEO

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

UC Berkeley



Jacek Jasinski, PhD

Nanotech Scientist

Conn Center for Renewable
Energy
UC Merced
Lawrence Berkeley National
Laboratory

**UC Berkeley, Warsaw
University**



Dmitry Vinnichenko, PhD

Scientist

National Academy of Sciences of
Ukraine

**National University of
Shipbuilding**



**Yaroslav Bereznitskiy,
PhD candidate**

Chemical Engineer

National Academy of Sciences
of Ukraine

National Aviation University



**Roman Tarasov,
PhD candidate**

Chemical Engineer

National Academy of Sciences
of Ukraine

**National University of Food
Technologies**



Dr. Tim Rose, advisor, automotive engineering,
Cranfield University

Successful venture track record and startup exits



Kirill Gichunts has successful venture experience and startup exits

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

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**

Use of funds and next steps

- ✓ 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
- Set-up mass production of the additive
- Grow revenue
- Secure further patents
- Build sales and marketing to increase revenue growth

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