

עולמות של חדשנות וקיימות  
נדב גולדשטיין  
סמנכ"ל פיתוח עסקי וחדשנות, קבוצת כפרית





**Polymor OUT**

**in Natural fibers**

HIGH  
EMISSIONS



LOW  
EMISSIONS



**New generation**  
of natural fibers reinforcement  
**in polymer matrix**

# KENAF FIBER

Kenaf is a natural fiber.

Kenaf fiber is obtained from stems of plants.

Environmentally friendly.

It has two different kinds of fibers—long bark fibers and short core fibers.

Kenaf fiber characteristics:

- up taking humidity
- Biodegradability
- no allergic and harmful substance effects
- good air permeability



# WHY KENAF?

Kenaf based on natural fibers has **economic, environmental and social benefits!**

## Reducing Carbon Footprint significantly

Kenaf fiber has a strong interfacial adhesion with polymers.

making it perfect material for a variety of collection of extruded and molded products.

Reducing the cost of plastic applications and increasing the value of natural fiber.



# APPLICATIONS OF NATURAL FIBERS OF KENAF

Insulation



Electronics industries



Automotive industry

Textile industry

Animal bedding

Food storage containers

Medical applications



Packaging material



Engineered wood





# WE ALREADY HAVE SOME PRODUCTS TO OFFER YOU

## HDPE Compound

55%-75% polymer

15%-30% **Kenaf Fibers**

Melt Flow Rate (190°C\2.16Kg)-5-8 g\10min

## PP Compound

62%-77% polymer

15%-30% **Kenaf Fibers**

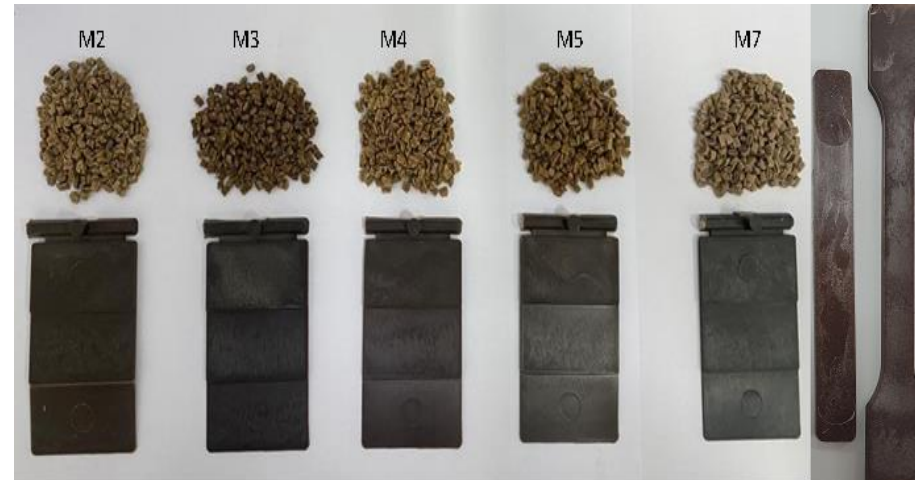
Melt Flow Rate (230°C\2.16Kg)-7-12 g\10min

## ABS compound

62%-77% polymer

15%-30% **Kenaf Fibers**

Melt Flow Rate (220°C\10Kg)-11 g\10min




## WORKING WELL IN PLASTIC

Kenaf bast fiber has **considerably flexural strength**

Kenaf bast fiber has outstanding **tensile strength**

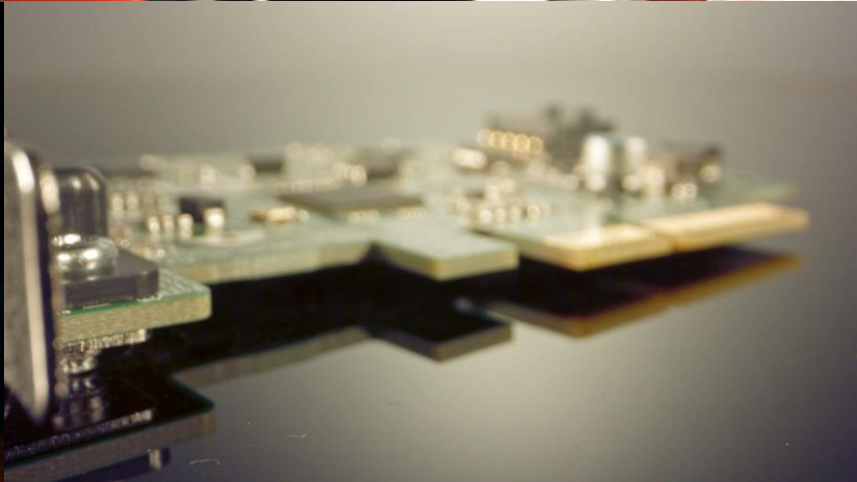
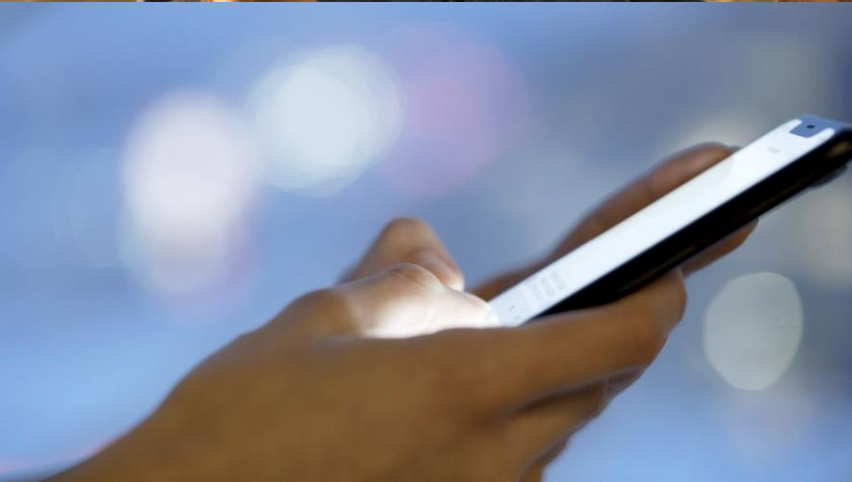
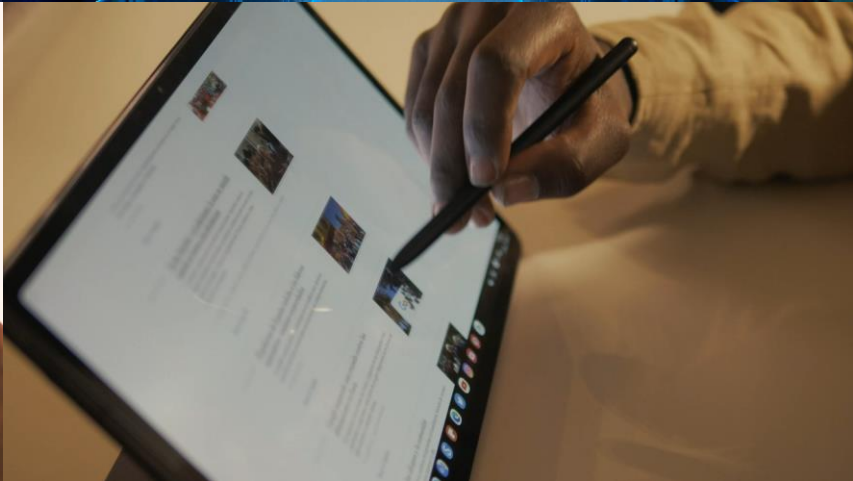
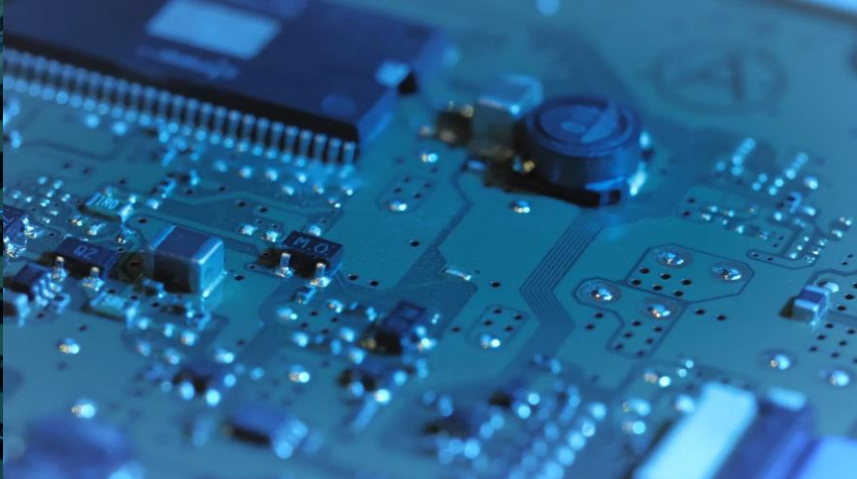
Provides greater thermal and acoustic insulation

An abstract 3D graphic featuring several overlapping, semi-transparent spheres in shades of gray. A small, solid gray sphere is positioned on a thin, curved track that loops around one of the larger spheres. The background is a uniform light gray.

Working together  
for the future of plastics.



MATERIALIZING THE FUTURE



# NEMO IS TURNING THE PROMISE OF **HIGH-END NANOMATERIALS** INTO REALITY



Proprietary nano-dispersion technology & patent pending formulations

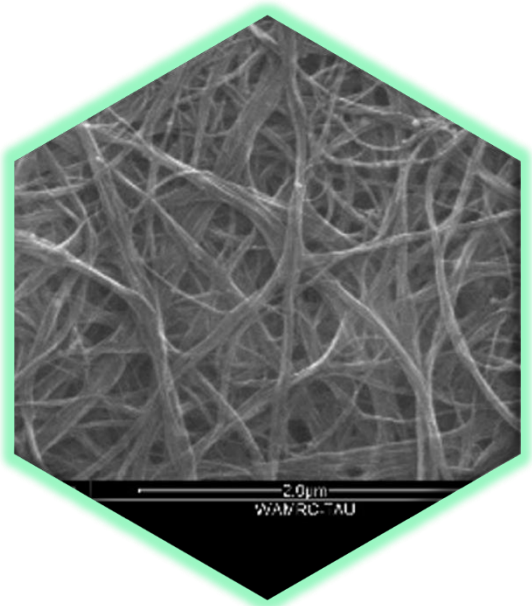


Nano-based additives

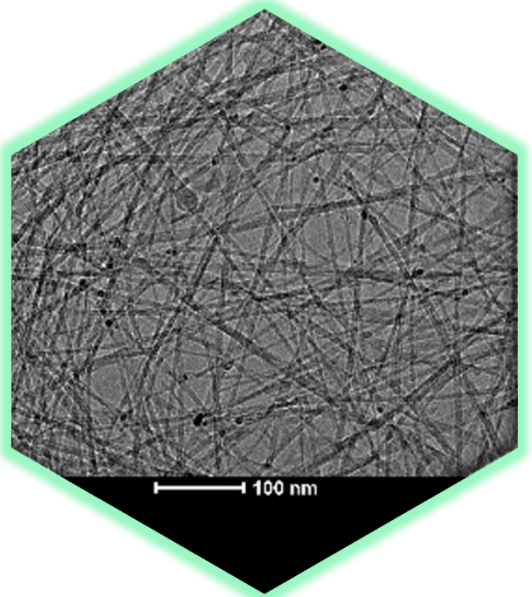


Significantly improved product performances

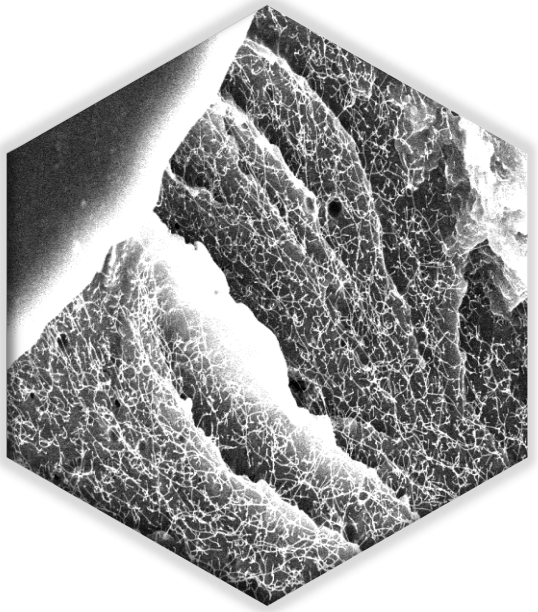
# HIGH-END NANO MATERIALS – AN INDUSTRIAL REALITY



Nano carbons as raw material – bundled\*



Nano-carbon web built by NEMO\*\*

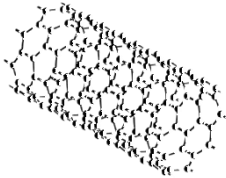


NemoBLEND nano-carbon web in a polymer\*

# HIGH-END CARBON-NANOMATERIALS CARRY EXCEPTIONAL PROPERTIES

Adding just a little bit of this

## Advanced carbon nano-materials

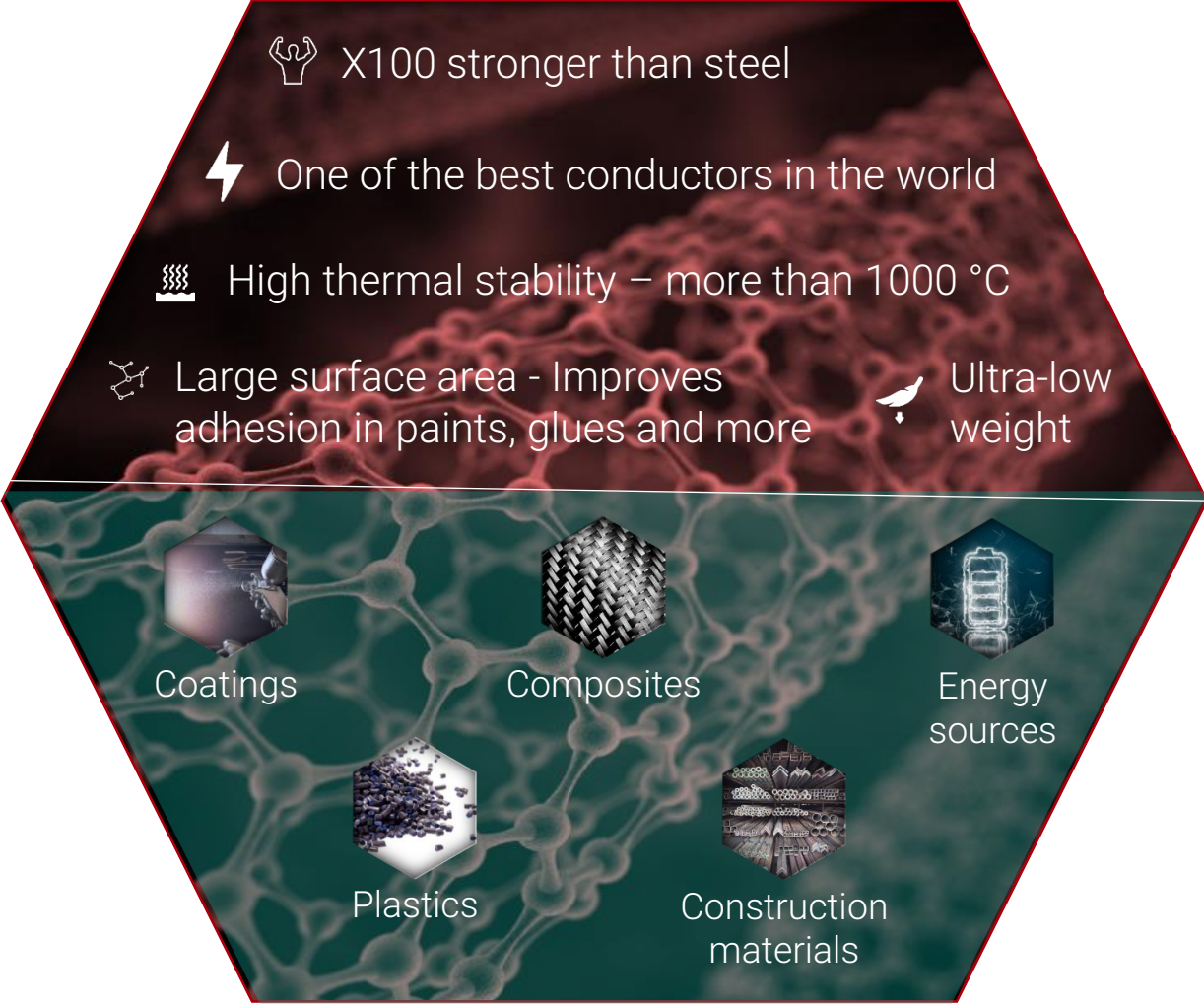


e.g. Single-walled carbon nanotubes (SWCNT)\*

Can **DRAMATICALLY UPGRADE** broad range of industrial materials

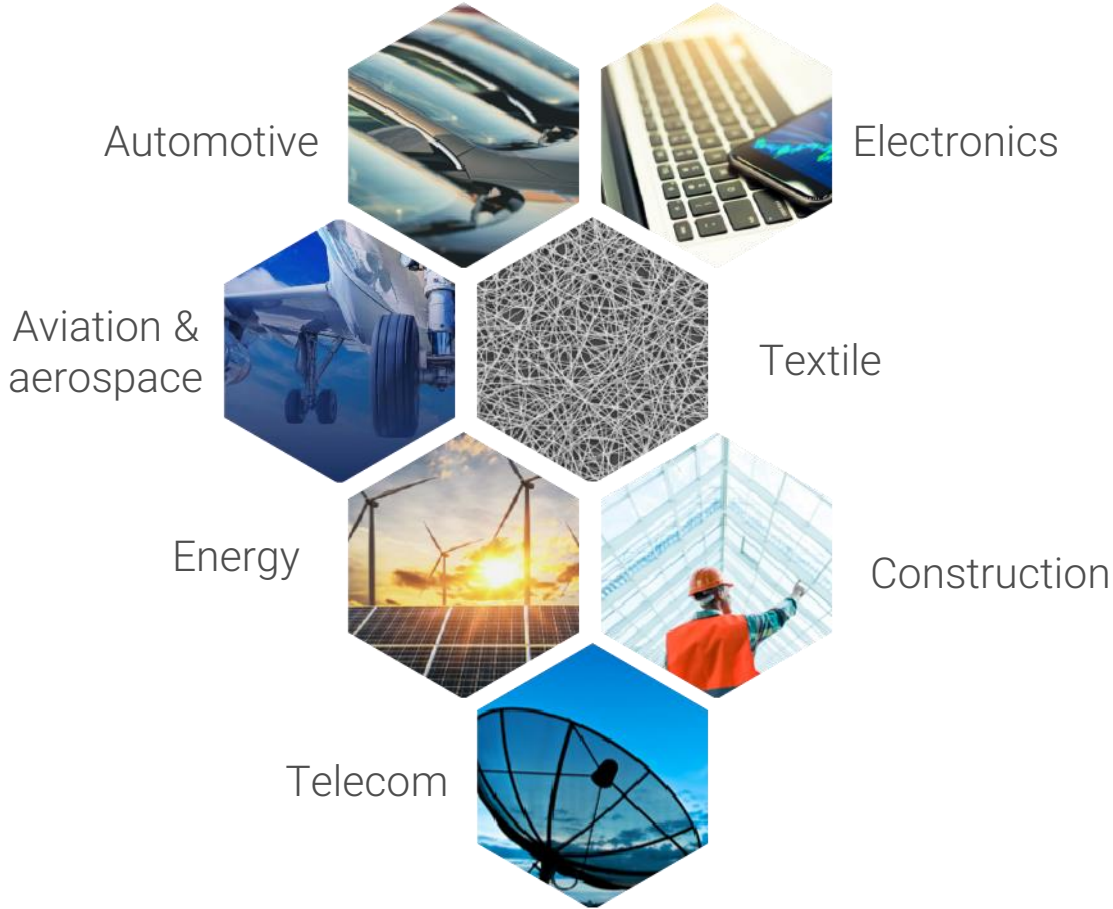
↑↑↑ Unmatched combination of desired properties

↻ No material performance tradeoffs





# TARGET MARKETS



These markets are on a verge of a change that requires **Lighter, Greener, Smarter** solutions

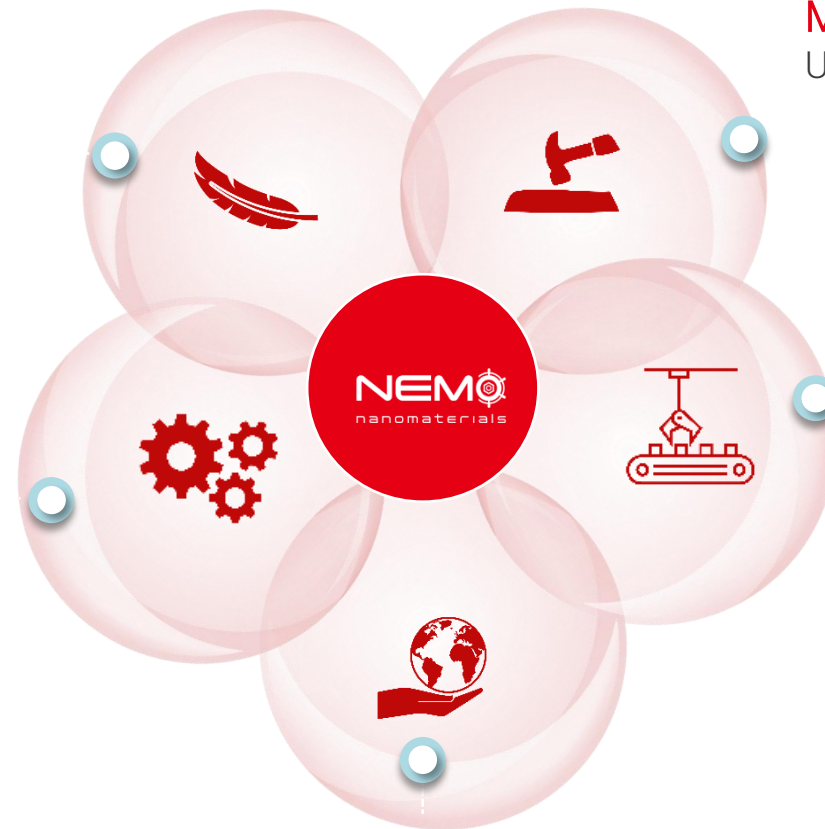
# VALUE PROPOSITION

## ULTRA-LIGHT

Reducing weight & volume

## ADVANCED FUNCTIONALITIES

Electrical conductivity  
Electromagnetic shielding



## MECHANICAL PROPERTIES

Upgraded materials durability

## INDUSTRY READY

100% compatible with existing processes and machinery  
Dosing  
Processing conditions

## SUSTAINABILITY

that allow for recyclability and lower carbon footprint



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