

# CENTRAL HUB OF OCSiAI IN THE GRAND DUCHY OF LUXEMBOURG



# CARBON NANOTUBES

Hexagonal structure of a single carbon layer, rolled to a tube

**Excellent  
Conductor**

5 times  
lighter  
than copper

**Stronger than  
steel**

100 times

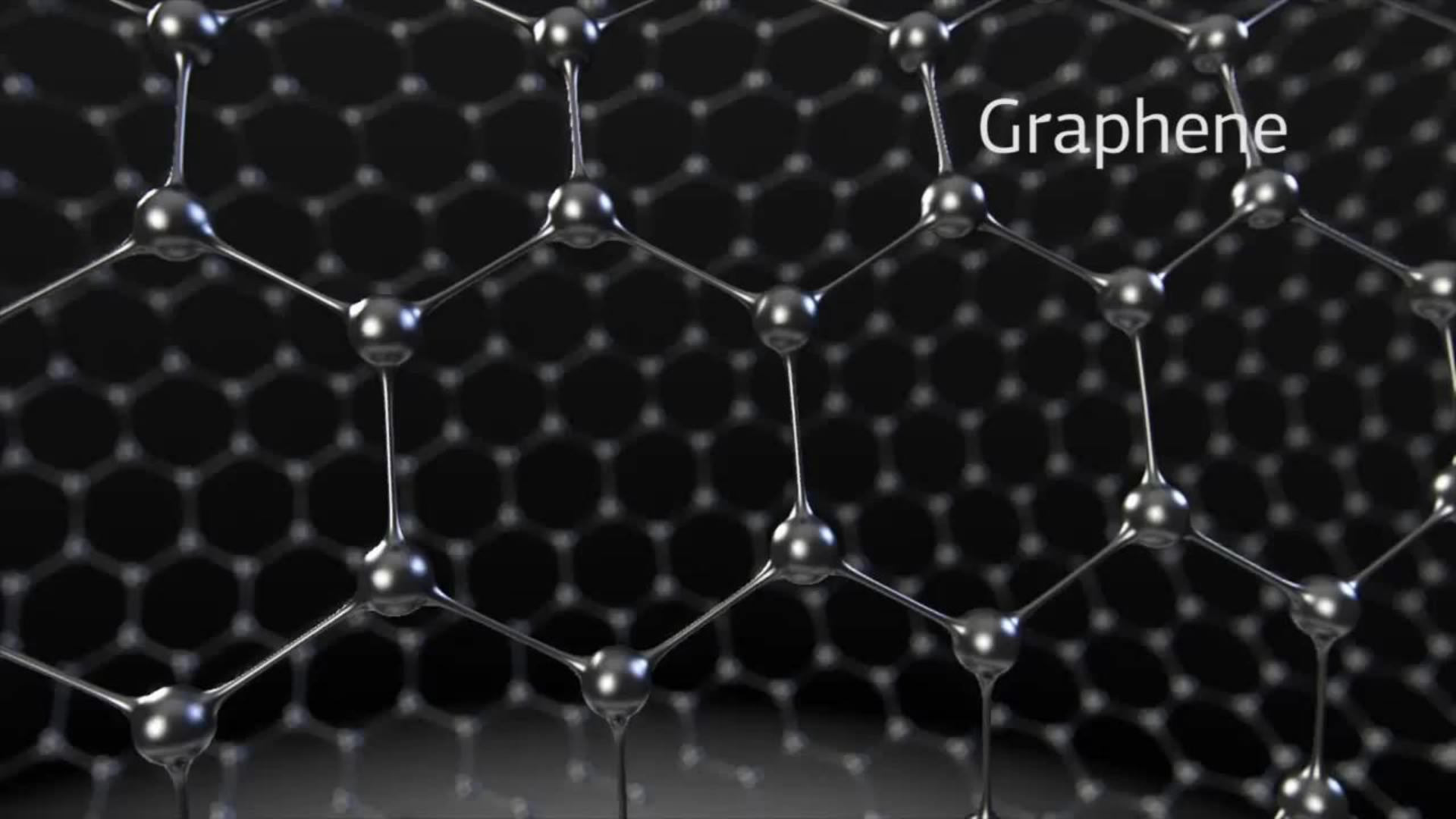
**Thermal  
stability**

up to  
1000°C

**The highest  
length to  
diameter ratio**

up to  
5 000 times

SWCNT enable to enhance electrical conductivity and mechanical properties of materials.



Graphene

# TUBALL™

1<sup>st</sup>

MASS-  
PRODUCED  
SWCNT



90%  
OF GLOBAL  
PRODUCTION

# CARBON NANOTUBES: APPLICATIONS

SWCNT (0.01-0.2%) enable to enhance the properties of 70% of all materials

# 6



Electrochemical  
Power sources



Ceramics



Concrete



Glass



Copper



Sensors  
Semiconductors



Rubber materials



Plastics



Aluminium



Composites



Paints



Adhesives

# C



# LEADING GLOBAL MANUFACTURER 90% OF SWCNT MARKET SHARE IN 2016

**4 200**  
SQM

**150+**  
EQUIPMENT  
ITEMS

**300**  
PEOPLE

**27**  
PhD  
SCIENTISTS

# TUBALL™ PROTOTYPING CENTRE: 6 INNOVATIVE TECHNOLOGIES



TRANSPARENT  
ELECTRODES



THERMOPLASTICS



THERMOSET  
COMPOSITES



SWCNT PROPERTIES

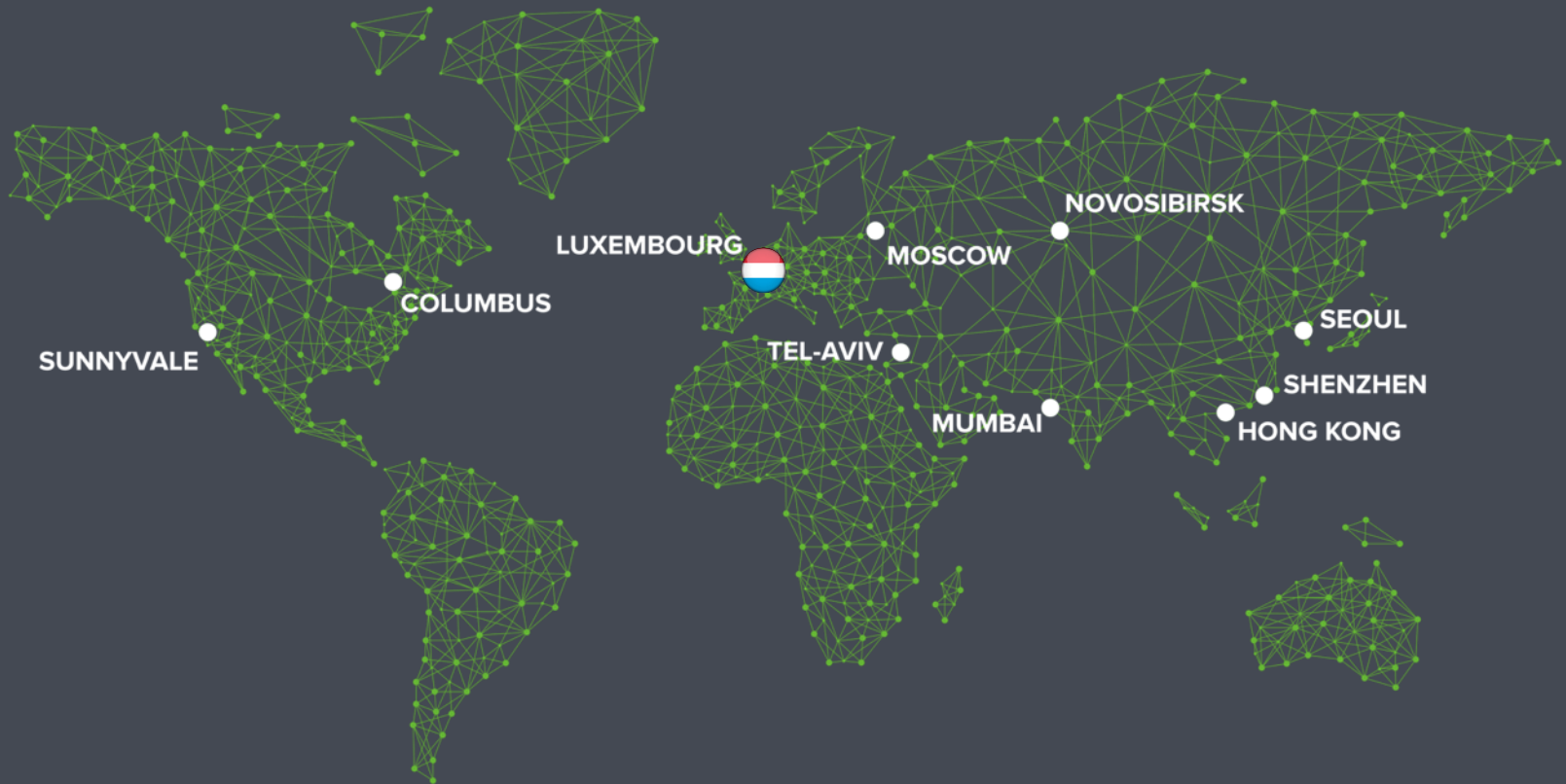


ENERGY SOURCES



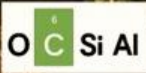
ELASTOMERS

# OCSiAI LOCATIONS





# OCSIAL NEW FACILITY DIFFERDANGE



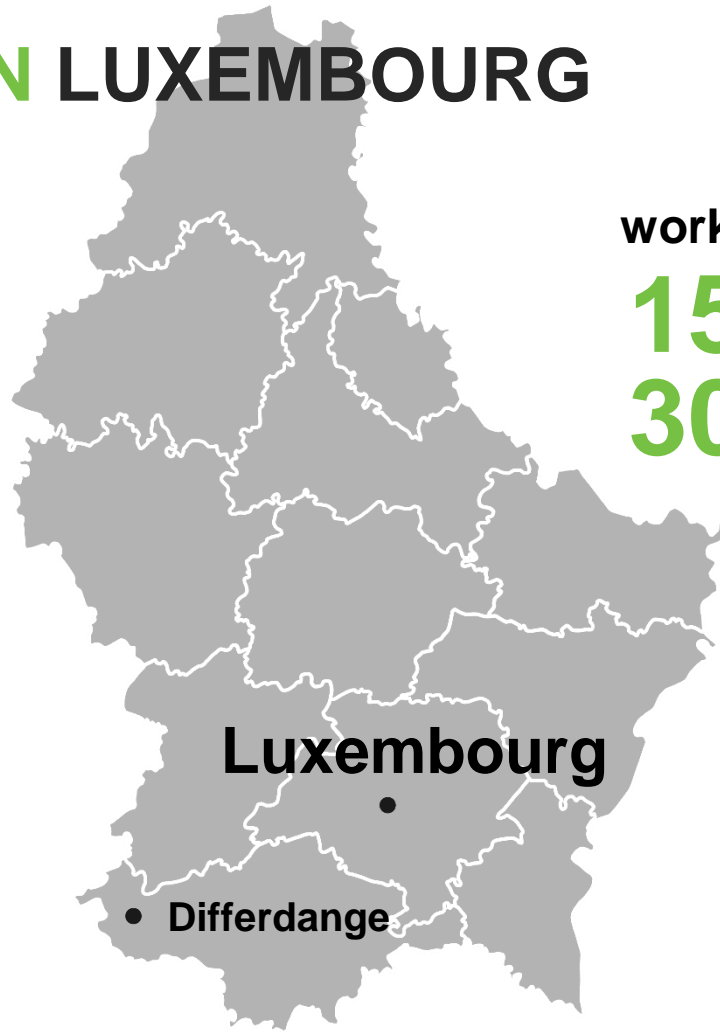
# PROJECT IN LUXEMBOURG

**250**

ton/year  
capacity

**R&D  
Center**

TOP level



working places:

**150-200** total

**30-50** at R&D center

**80-100M** EUR

# PROJECT EXECUTION STAGES

**STAGE 3:**  
**2x50 TONS/YEAR**  
2022 Q1

**STAGE 2:**  
**2x50 TONS/YEAR**  
2021 Q2

**STAGE 1:**  
**50 TONS/YEAR**  
**AND R&D CENTER**  
2020 Q1

**THANK YOU!**

