

Quo vadis nanotechnology? Where is nanotechnology going?

Wojciech Łajkowski, Institute of High Pressure Physics,
PAS
Warsaw University of Technology, Faculty of
Management
Talk at NANOS PL conference, Kraków 15-17 October

Where is
nanotechnology?

NANO 3

NANO 2

NANO 1



1894-1964
http://pl.wikipedia.org/wiki/Norbert_Wiener

Norbert Wiener defined cybernetics as
"the scientific study of control and communication
in the animal and the machine"
"Cybernetics or Control and Communication in the
Animal and the Machine", New York 1948

Thermodynamics can be used to explain cybernetics.
Information that only few know is of big value (like
expressed gas)

Information has only positive value
if it is not known by all
The more you know the more
you can do

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Nanotechnology and role of
general nanotechnology in
digital analysis

Nanotechnology, industry, engineering...

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Włodzisław Jędrzejak, Institute of High Pressure Physics,
PAS
Dziwnów University of Technology, Faculty of
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Talk at NANO FL conference, Kraków 15-17 October

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Information for the future, the
information economy
The knowledge economy will
create a new paradigm

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Nanotechnology: the art and
science of manipulating matter
at the atomic scale

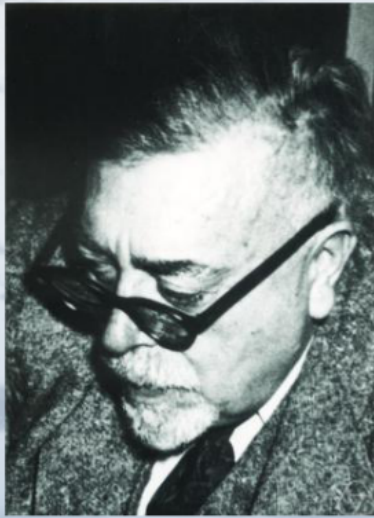
Nanotechnology: the art and
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Syllabus

Witold Łojkowski, Institute of High Pressure Physics,
PAS

Białystok University of Technology, Faculty of
Management

Talk at NANO-PL conference, Kielce 15-17 October

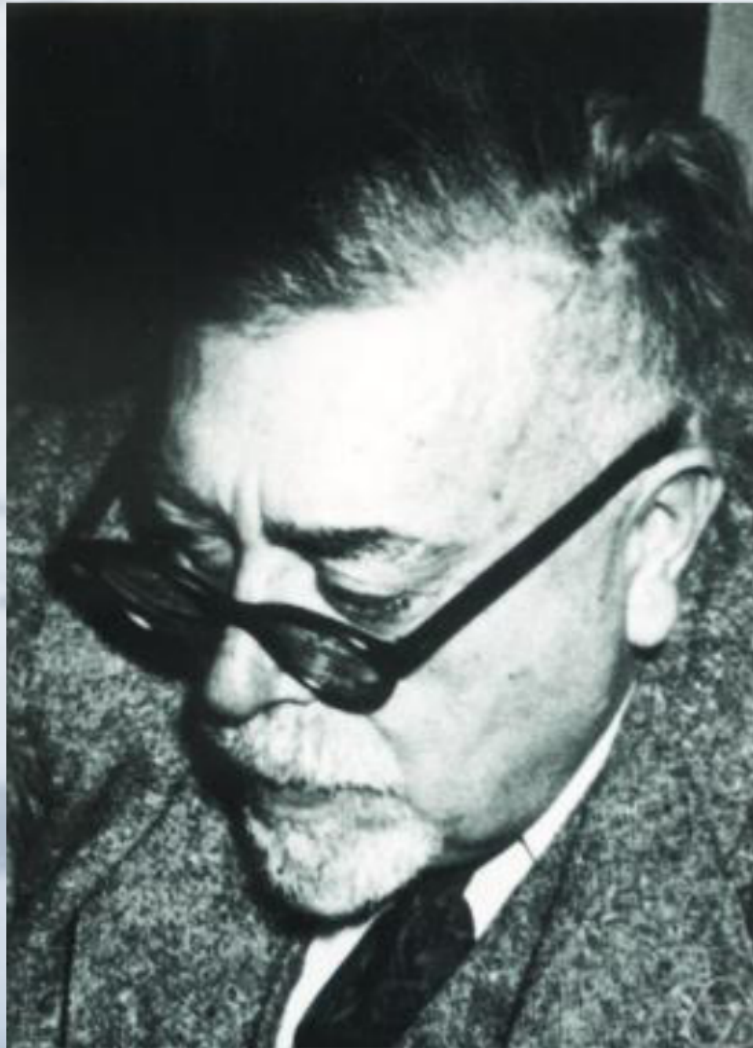


1984 - 1964

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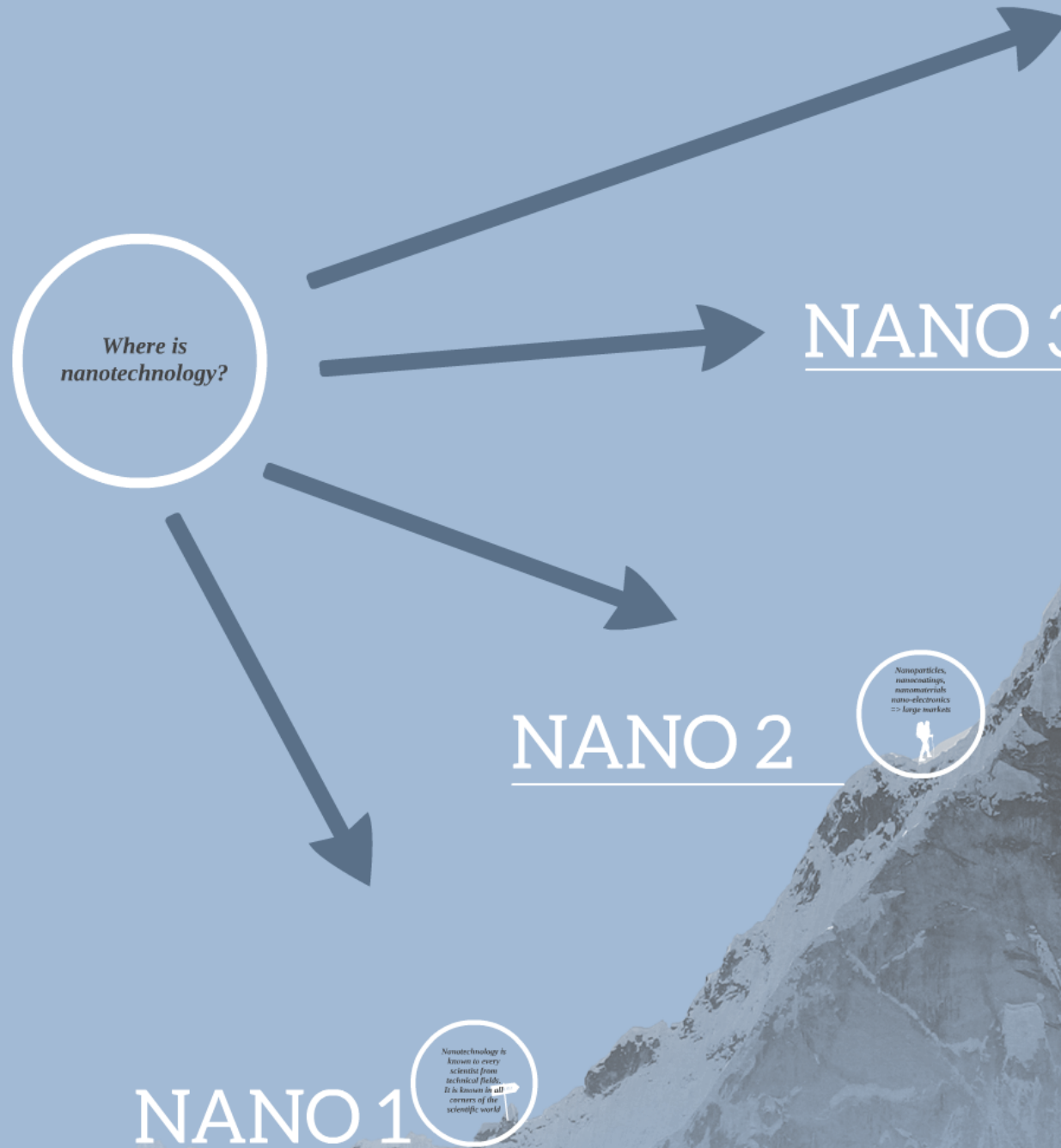
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"the sci
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*Where is
nanotechnology?*



Nanotechnology is known to every scientist from technical fields. It is known in all corners of the scientific world.

Nanoparticles, nanowires, nanomaterials, nano-electronics
=> large markets

Nano-structures
Nano-robotics
Nano-materials for applied intelligence
Pico-technology (beyond 1 nm)
Hierarchical nano-structure

NANO 2



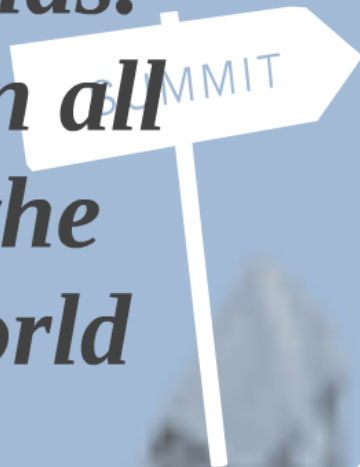
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SMAT

1

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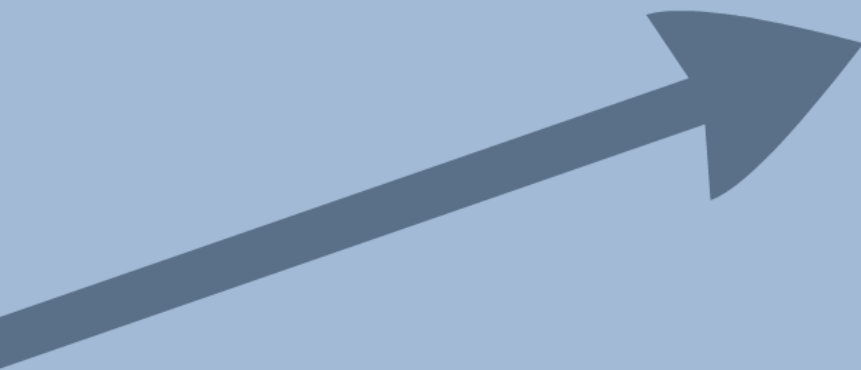
*Nanoparticles,
nanocoatings,
nanomaterials
nano-electronics
=> large markets*



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Who knows what discoveries
bring the next few years



- *Nano-bio structures*
- *Nano-architectures*
- *Nano-networks for artificial intelligence*
- *Pico-technology (beyond 1 nm)*
- *Hierarchical nano-micro structures*



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Information has a big value, when only few have access to it.

Who knows what discoveries will bring the next few years?



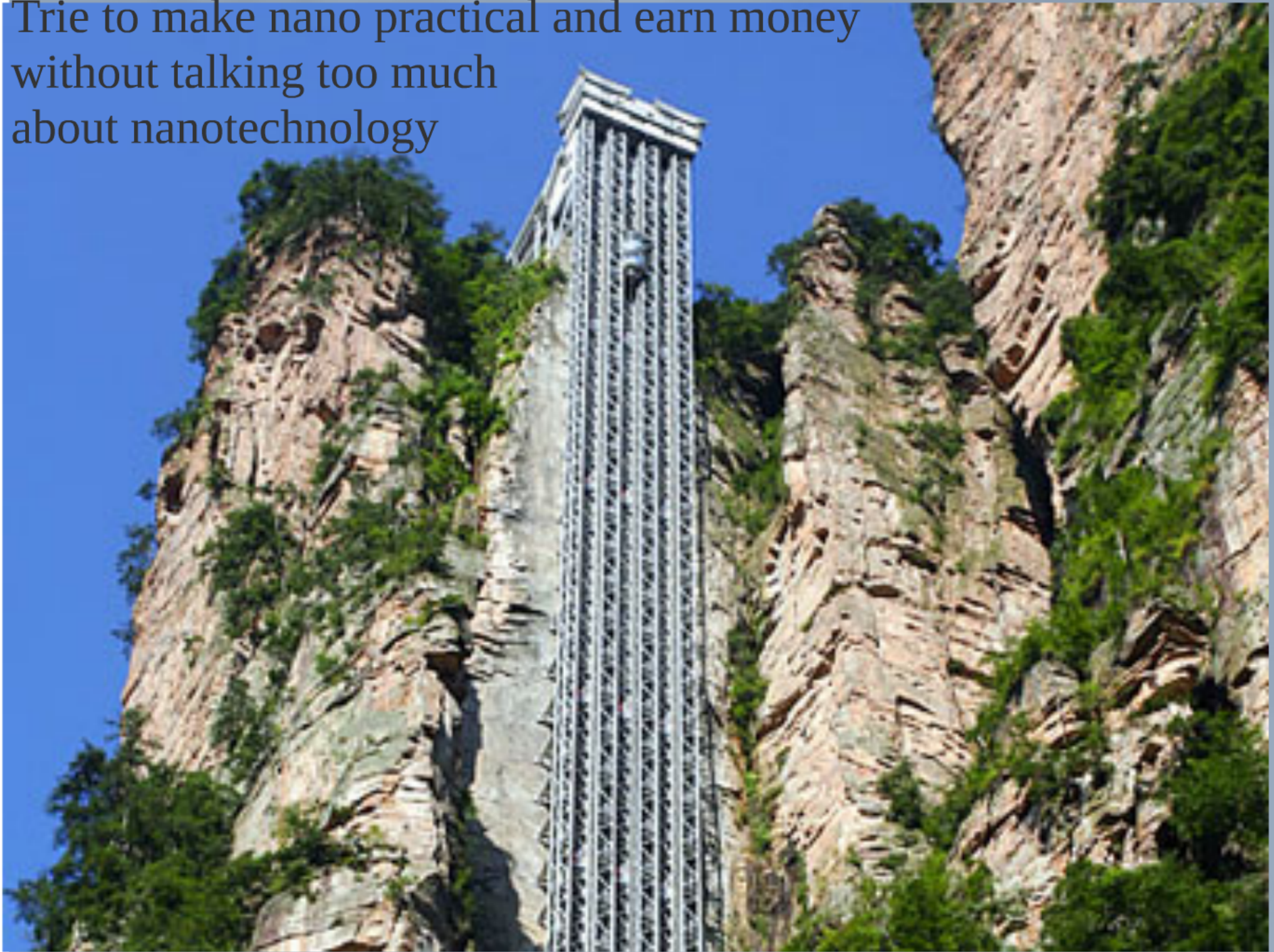
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Meanwhile, Industry, engineers.....

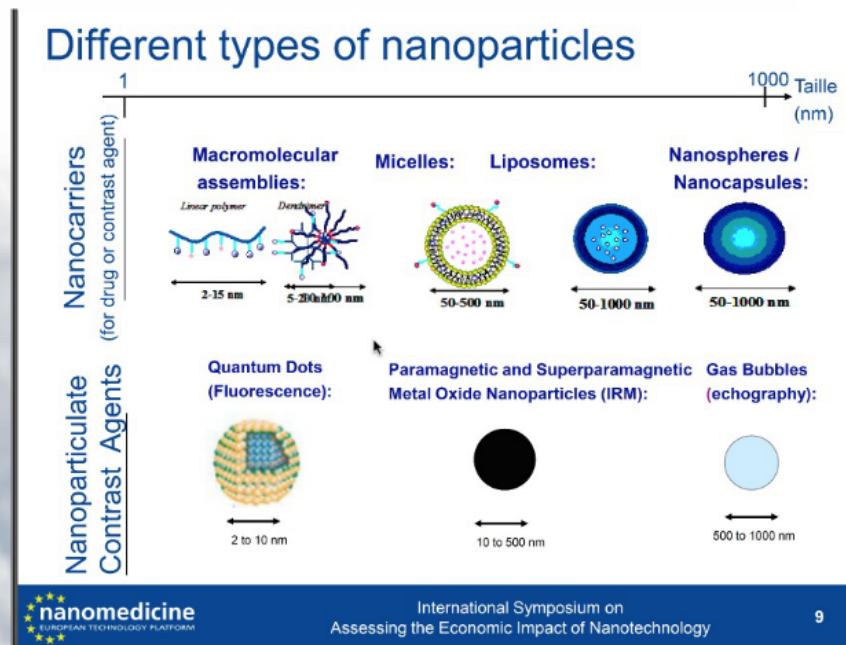


Trie to make nano practical and earn money
without talking too much
about nanotechnology



Nanomedicine, and other advanced nanotechnologies are large markets

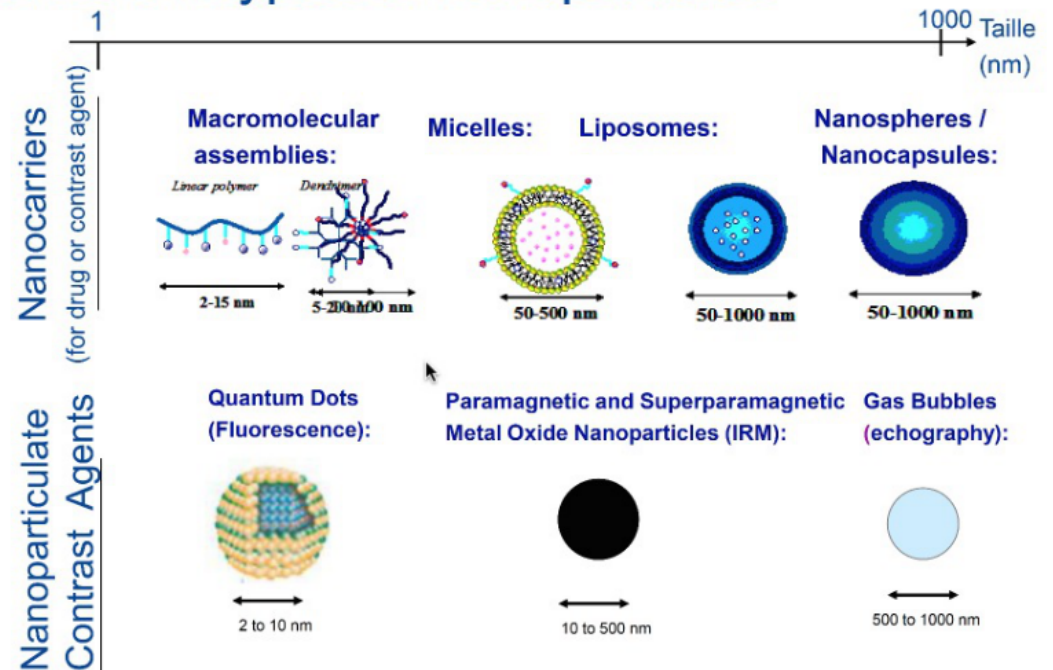
Courtesy
Patric
Loubaton
OECD symposium.
Washington 2012



ge markets

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OECD symposium.
Washington 2012

Different types of nanoparticles



The space elevator made from nano- fibers, may come true sooner than we expect....



Thank you very much:



All of you, for coming there - the conference is for you, and made by you



Krzysztof Kurzydłowski - for inspiration & encouragement



Prof. Jerzy Kącki, Chairman of the Board, National Centre for Research and Development, Honorary Patron of NANO PL



My team, students & coworkers - for them nanotechnology is their life.
Administration of the Institute of High Pressure Physics, PAS

Many sponsors, media partners and great thanks to:

Świętokrzyskie Regional Centre for Innovation and Technology Transfer !



And the Targi Kielce Ltd team



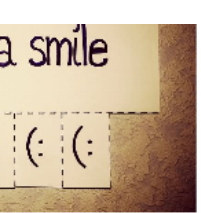
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ŚWIĘTOKRZYSKIE CENTRUM
INNOWACJI I TRANSFERU
TECHNOLOGII SP. Z O.O.

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And come again next
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