

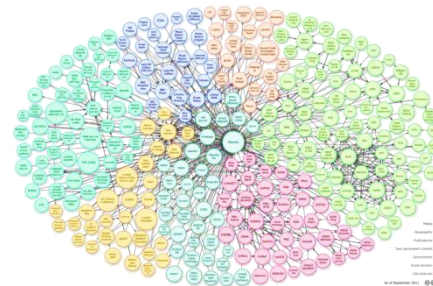
# LOD Russia – Enabling Russian National Knowledge with Scientific Open (Linked) Data @Brussels (PMOD) – 19/20 June 2012

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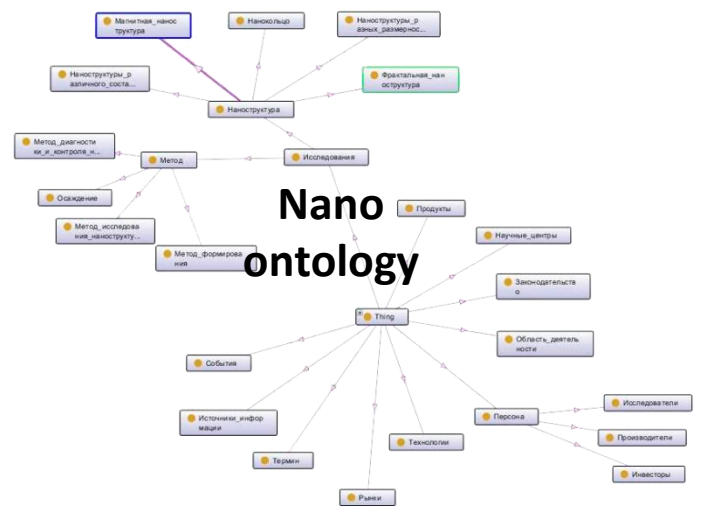
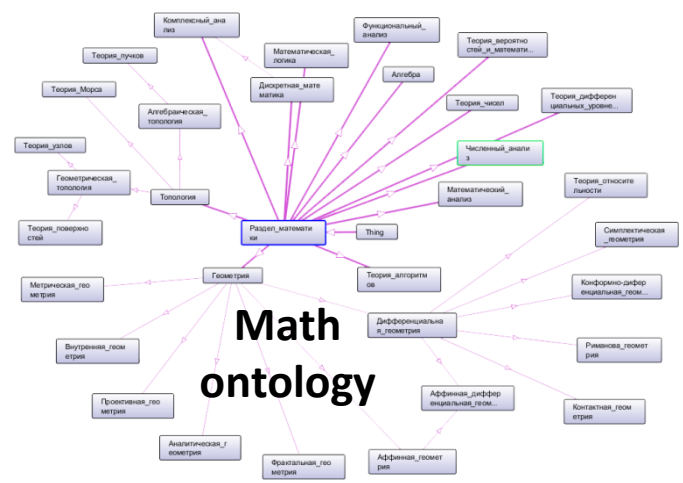
# Outline

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- LOD Russia
  - Background and Objectives
- Use Case
  - Nano
- Concluding remarks
  - Challenge

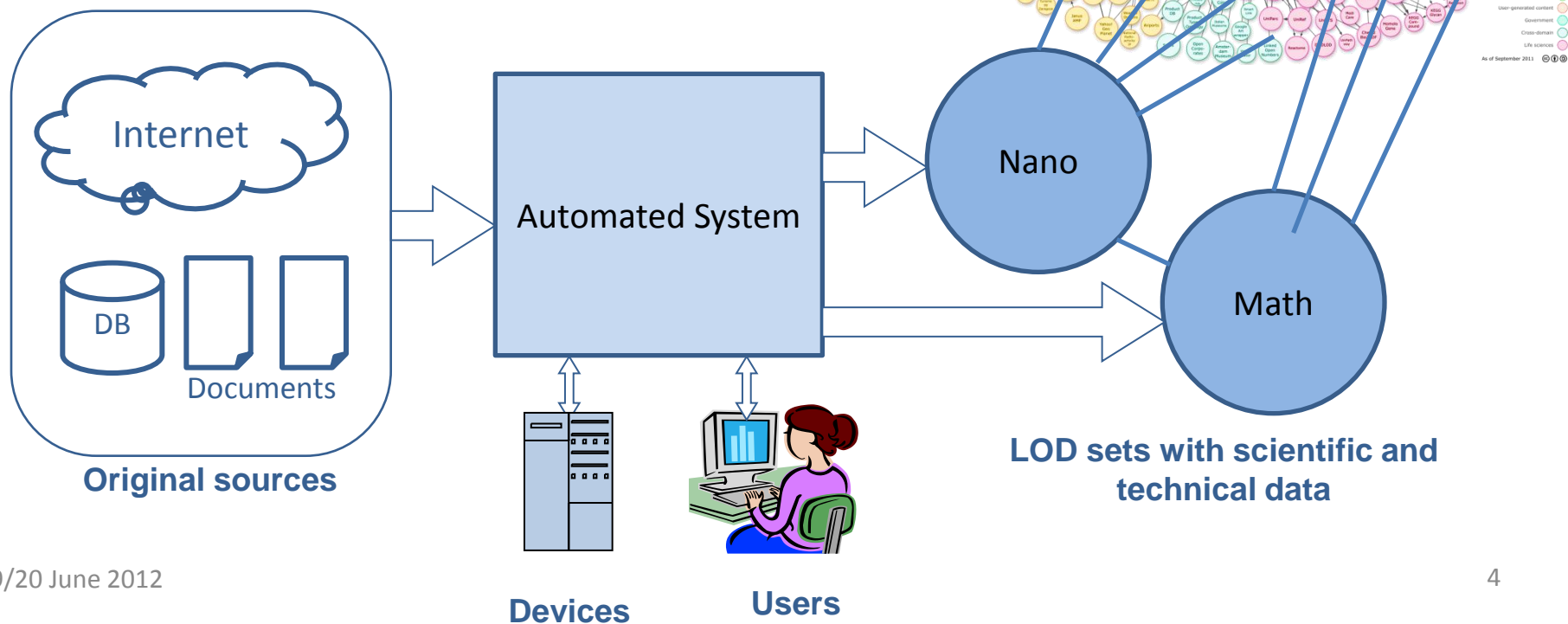
# Background

- Fund by Russian Ministry of Education
- Consortium: NRU HSE, Avicomp Services, University Leipzig, W3C
- Run time is 600 man days (4 stages)

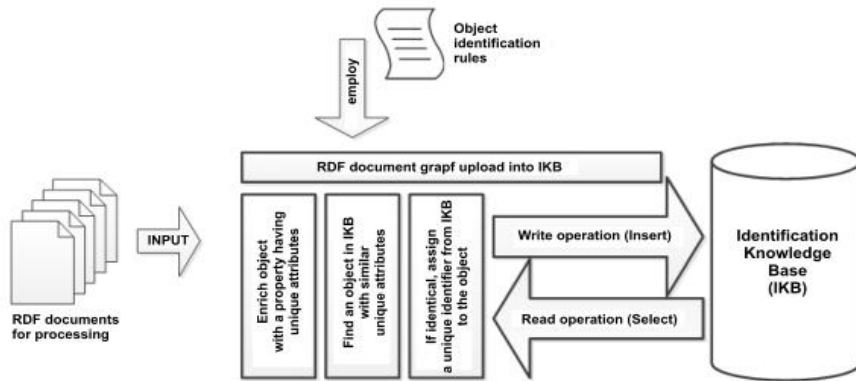


# Objectives

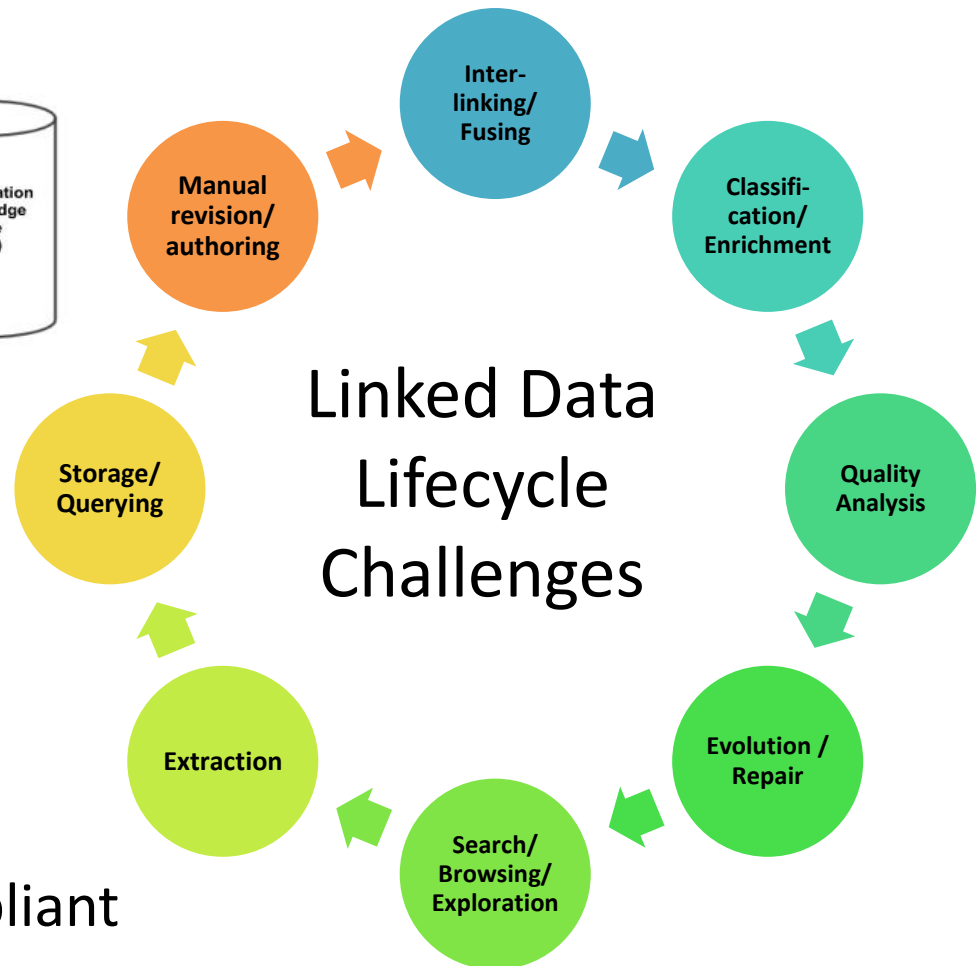
- Create LOD sets in science (nano, math), and integrate/link them into LOD
- Develop a technology for the generation and further replication of LOD sets
- Develop a use case



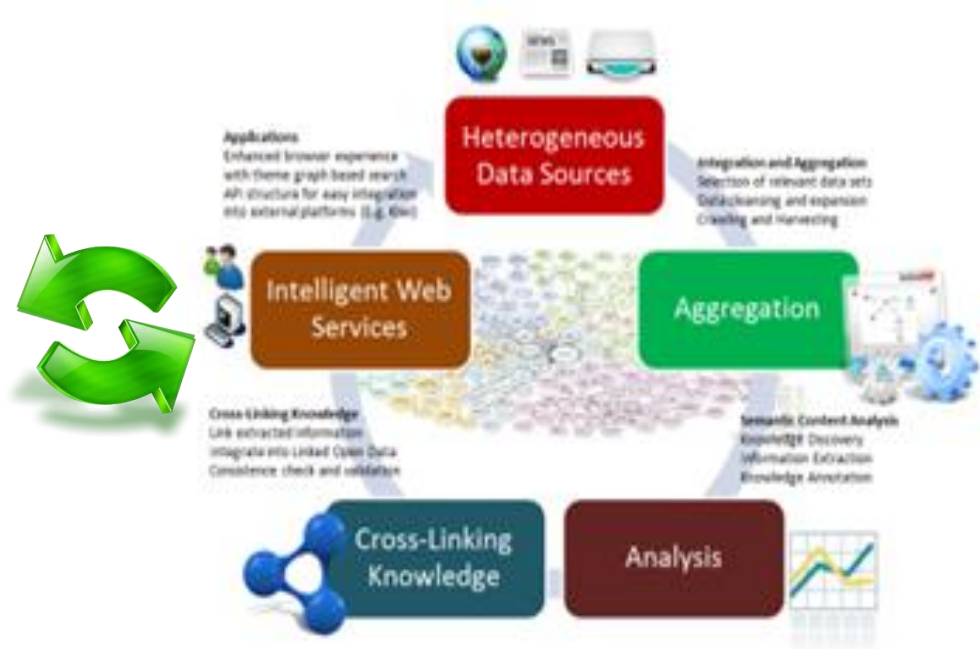
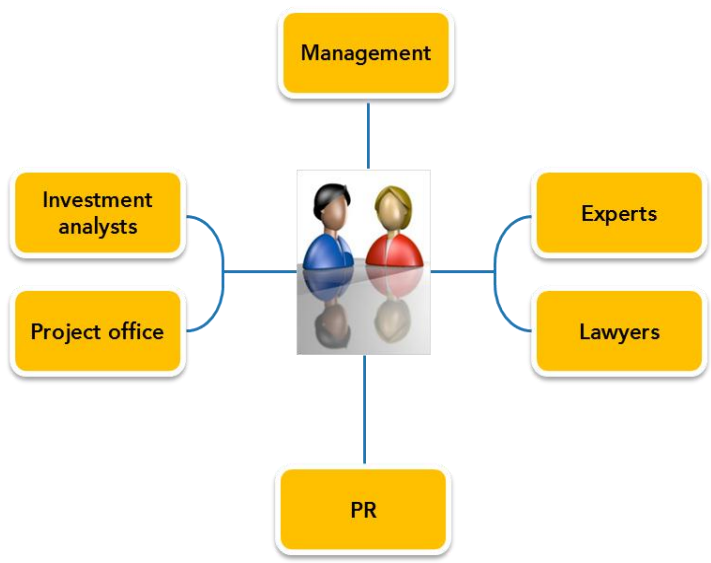
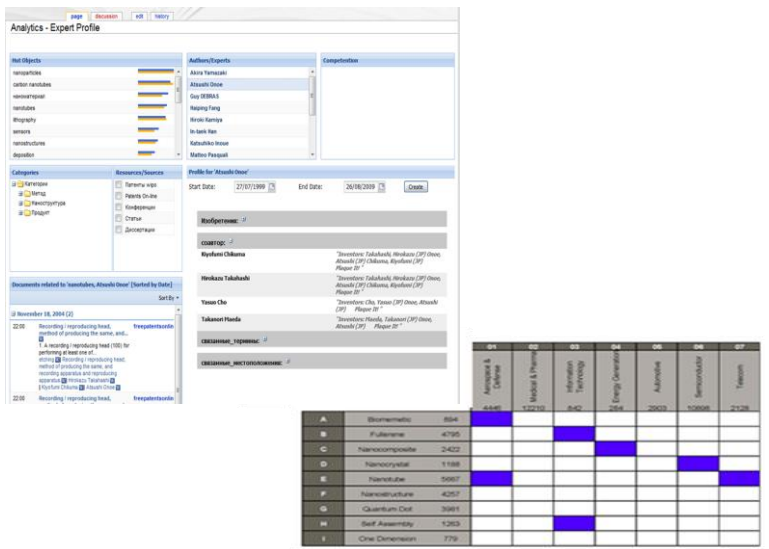
# Research Challenges



- Data triplification
  - RDBMS to RDF
  - Text to RDF (NLP)
- GUID
  - IKB Server
- RDF store
  - Scalable and W3C compliant



# Validation by Use Case



# Nano Browsing

News portal "NanoTech" - Mozilla Firefox

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News portal "NanoTech"

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## News portal "NanoTech"

### Hot Objects

Filter Sort By

- Albany
- College of Nanoscale Science and ...
- New York
- IBM
- SEMATECH
- nanoparticles
- AMD
- Toshiba
- Applied Materials

### Today hot articles

CNSE | Albany | Eva Joseph | City School | Ronald Lesko

College of Nanoscale Science and Engineering | Cornell University | Rensselaer Polytechnic Institute | University of ...

IBM | College of Nanoscale Science and Engineering | Michael Loughran | Albany | Science

Rugar | John Marohn | IBM | Cornell University | IBM Almaden Research Center

### Categories

Категории

- Метод
- Наноструктура
- Продукт
- Кубит
  - Микроскопический кубит
    - Атомный кубит
    - Ионный кубит
    - Фотонный кубит
    - Ядерный спин
  - Твердотельный кубит
- Нанокomпьютер
- Наноматериал
- Светодиод
- Сенсор

### Resources/Sources

- cnse.albany.edu
- community.livejournal.com
- confusnanotech08.rosnano.avicomp.com
- cordis.rosnano.avicomp.com
- habrahabr.ru
- lux.rosnano.avicomp.com
- nano-info.ru
- nano-portal.ru
- nanodigest.ru

### August 25, 2009 (10)

Time	Article Title	Source
18:23	Nanoforum - News - Joint FAO/WHO Expert Meeting on the Application... FAO: Given the increased global interest in the use of nanotechnology and... Italy   Rome   <a href="http://www.fao.org/ag/agn/agns/index_en.asp">http://www.fao.org/ag/agn/agns/index_en.asp</a>	<a href="#">nanoforum.org</a>
18:23	Nanoforum - News - Brazil invests in Nanotechnology, cooperation... NanoforumEULA: This week, the Brazilian ministry for Science and Technology... Brazil   Oscar Malta   CCS   HP   Rio de Janeiro	<a href="#">nanoforum.org</a>
18:23	Nanoforum - News - CEA-LETI extends the transistor dimension... Alpha Galileo: CEA-LETI has successfully integrated on the same SOI wafer... STMicroelectronics   Grenoble   lithography   nanowires	<a href="#">nanoforum.org</a>
18:23	Nanoforum - News - IBM's Professor Jackie Y. Ying, Named One... Institute of Bioengineering and Nanotechnology: SINGAPORE, DECEMBER 1... Institute of Bioengineering and Nanotechnology   Ying   We should also create approaches that would enable the fixation of carbon dioxide, and better still, convert this greenhouse gas to a useful form of energy. Nanostructured materials have a role to play in these emerging platforms. To render solar cells cost-effective and highly efficient, we would need to design and process novel nanocomposite systems. To convert biomass and carbon dioxide into practical forms of energy and useful petrochemicals, we would require new advances in catalytic chemistry and processes, most likely based on nanocomposite catalysts.   MIT   Professor Jackie	<a href="#">nanoforum.org</a>
18:23	Nanoforum - News - 350 million euro for nanotechnology in France... EETimes: President Sarkozy announced new investment in nanotechnology research... Toulouse   Paris   Grenoble	<a href="#">nanoforum.org</a>
18:23	Nanoforum - News - Synthetic Biology covered by existing regulation... Ministry of Education, Culture and Sciences, Netherlands: The Dutch ministers... Rathenau Institute   Commission Genetic Modification   information. <a href="http://http://www.minocw.nl/documenten/60623_">http://http://www.minocw.nl/documenten/60623_</a>	<a href="#">nanoforum.org</a>
18:23	Nanoforum - News - Nanotechnology commercialisation at Russia's... Spinverse: Spinverse organized content for the thematic stream on nanotechnology... Bayer   Russian Corporation of Nanotechnologies   Finland   Moscow   Germany	<a href="#">nanoforum.org</a>



# Find Experts

Nano News   Wiki   Analytics   Ontosearch.ru

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## Analytics - Expert Profile

### Hot Objects

nanoparticles	<div style="width: 80%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>
carbon nanotubes	<div style="width: 75%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>
наноматериал	<div style="width: 60%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>
nanotubes	<div style="width: 55%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>
lithography	<div style="width: 50%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>
sensors	<div style="width: 40%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>
nanostructures	<div style="width: 35%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>
deposition	<div style="width: 30%; height: 10px; background: linear-gradient(to right, blue, yellow);"></div>

### Authors/Experts

- Akira Yamazaki
- Atsushi Onoe**
- Guy DEBRAS
- Haiping Fang
- Hiroki Kamiya
- In-taek Han
- Katsuhiko Inoue
- Matteo Pasquali

### Competention

### Categories

- Категории
- Метод
- Наноструктура
- Продукт

### Resources/Sources

- Патенты wipo
- Patents On-line
- Конференции
- Статьи
- Диссертации

### Profile for 'Atsushi Onoe'

Start Date:    End Date:

### Documents related to 'nanotubes, Atsushi Onoe' [Sorted by Date]

Sort By ▾

Date	Title	Source
November 18, 2004 (2)		
22:00	Recording / reproducing head, method of producing the same, and...	freepatentsonlin
22:00	Recording / reproducing head, method of producing the same, and...	freepatentsonlin

### Изобретения:

**соавтор:**

**Kiyofumi Chikuma**     *"Inventors: Takahashi, Hirokazu (JP) Onoe, Atsushi (JP) Chikuma, Kiyofumi (JP) Plaque It"*

**Hirokazu Takahashi**     *"Inventors: Takahashi, Hirokazu (JP) Onoe, Atsushi (JP) Chikuma, Kiyofumi (JP) Plaque It"*

**Yasuo Cho**     *"Inventors: Cho, Yasuo (JP) Onoe, Atsushi (JP) Plaque It"*

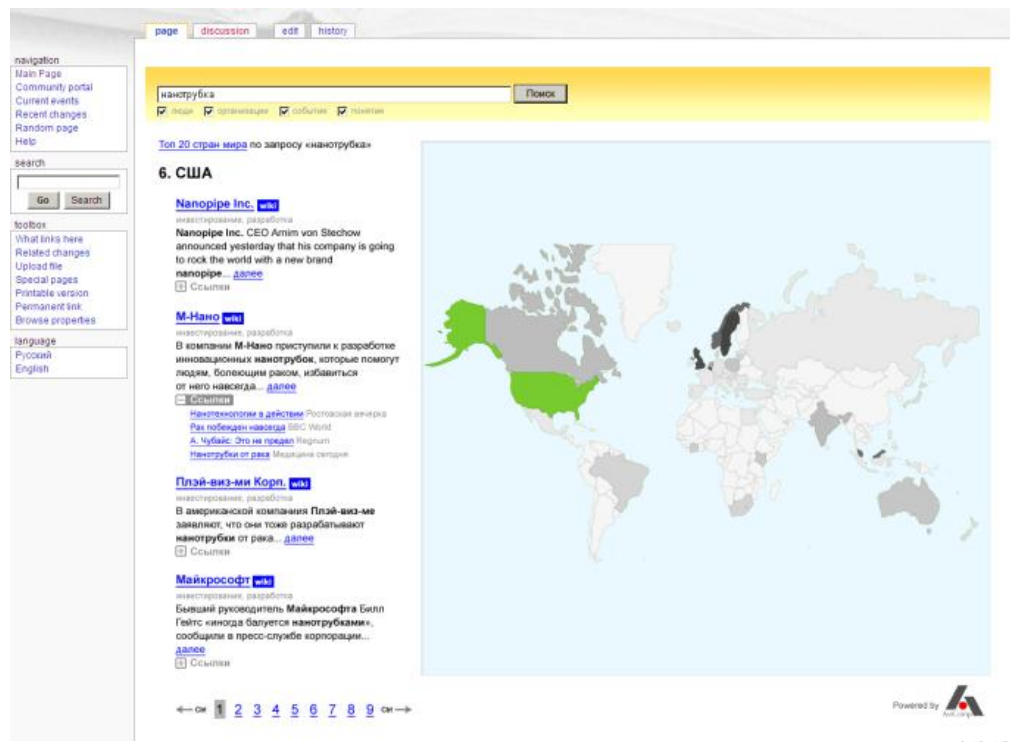
**Takanori Maeda**     *"Inventors: Maeda, Takanori (JP) Onoe, Atsushi (JP) Plaque It"*

**связанные\_термины:**

**связанные\_местоположения:**



# Analytics about Who and Where



page discussion edit history

нанотрубка Поиск

Топ 20 стран мира по запросу «нанотрубка»

## 6. США


**Nanopipe Inc.** [wiki](#)  
инвестирование, разработка  
Nanopipe Inc. CEO Amin von Stechow announced yesterday that his company is going to rock the world with a new brand nanopipe... [далее](#)  
[Ссылка](#)

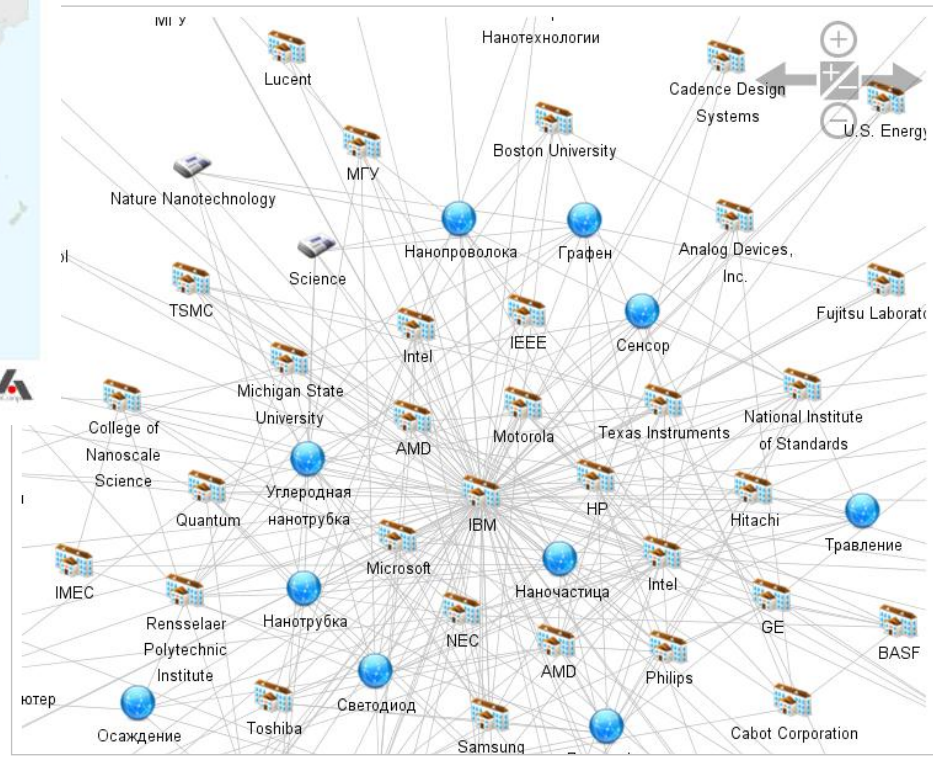
**M-Нано** [wiki](#)  
инвестирование, разработка  
В компании M-Нано приступили к разработке инновационных нанотрубок, которые помогут людям, болеющим раком, избавиться от него навсегда... [далее](#)  
[Ссылка](#)

**Плэй-виз-ми Корп.** [wiki](#)  
инвестирование, разработка  
В американской компании Плэй-виз-ми заявляют, что они тоже разрабатывают нанотрубки от рака... [далее](#)  
[Ссылка](#)

**Майкрософт** [wiki](#)  
инвестирование, разработка  
Бывший руководитель Майкрософта Билл Гейтс «наконец» берется за нанотрубки... [далее](#)  
[Ссылка](#)

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## Patent Analytics

IPC Category	Method	Nanostructure	Product	Total
Fixed Constructions				96
Mechanical Engineering; Lighting; Heating; Weapons; Blasting				754
Human Necessities				3277
Physics				6661
Chemistry; Metallurgy				7691
Textiles; Paper				630
Electricity				5295
Performing Operations; Transporting				5293
<b>Total</b>	<b>8400</b>	<b>7432</b>	<b>7248</b>	<b>19673</b>

## LATEST DOCUMENTS [SORTED BY DATE]

Date	Count	Document Title
December 24, 2009	10	
22:26		Nanoforum - News - Nanotube Tech Transforms CO2 Into Fuel ... (nanoforum.org) Eric Bland, Discovery News: Powered by sunlight, titanium oxide nanotubes, nanotubes   Craig Grimes   Pennsylvania State University   Penn State   Purdue University
22:28		Nanoforum - News - observatoryNANO second newsletter available... (nanoforum.org) observatoryNANO: The second newsletter from the observatoryNANO project... Lena Perenius
22:26		Nanoforum - News - Can carbon nanotubes help 'silence' lung... (nanoforum.org) London School of Pharmacy: New research conducted at The London School... carbon nanotubes   London School of Pharmacy   Centre for Drug Delivery Research   Kostas Kostarelis   European Commission
22:25		Nanoforum - News - Cobalt Nanoparticles Boost Imaging Sensitivity... (nanoforum.org) Physorg.com: Magnetic resonance imaging (MRI) can serve as a very sensitive... nanoparticles   National Academy of Sciences   nanomaterials   United States of America   nanorods

7 most rapidly growing "nano-markets"

		01	02	03	04	05	06	07
		Aerospace & Defense	Medical & Pharma	Information Technology	Energy Generation	Automotive	Semiconductors	Telecom
A	Biometrics	854						
B	Fullerene	4795						
C	Nanocomposite	2422						
D	Nanocrystal	1188						
E	Nanotube	5067						
F	Nanostructure	4257						
G	Quantum Dot	3981						
H	Self Assembly	1263						
I	One Dimension	779						

# Concluding remarks

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- Get more Russian governments and organizations to participate
- Move from Open Data to Linked OD
  - W3C Russia started round table workshops
- Horizon 2020
  - Russia and EU coordinated call(s)
- Guidelines in Russian language
  - Best practice, Use cases

# The Russian Challenge

## The Why Stack

Economic Benefit

Government obligation

RF President's Decree No. 601 as of May 7, 2012

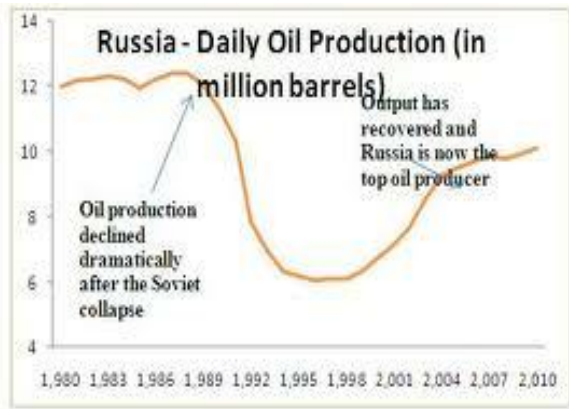
Ryde the Wave



## Demand vs Supply



# Thank You



Source: U.S. Energy Information Administration

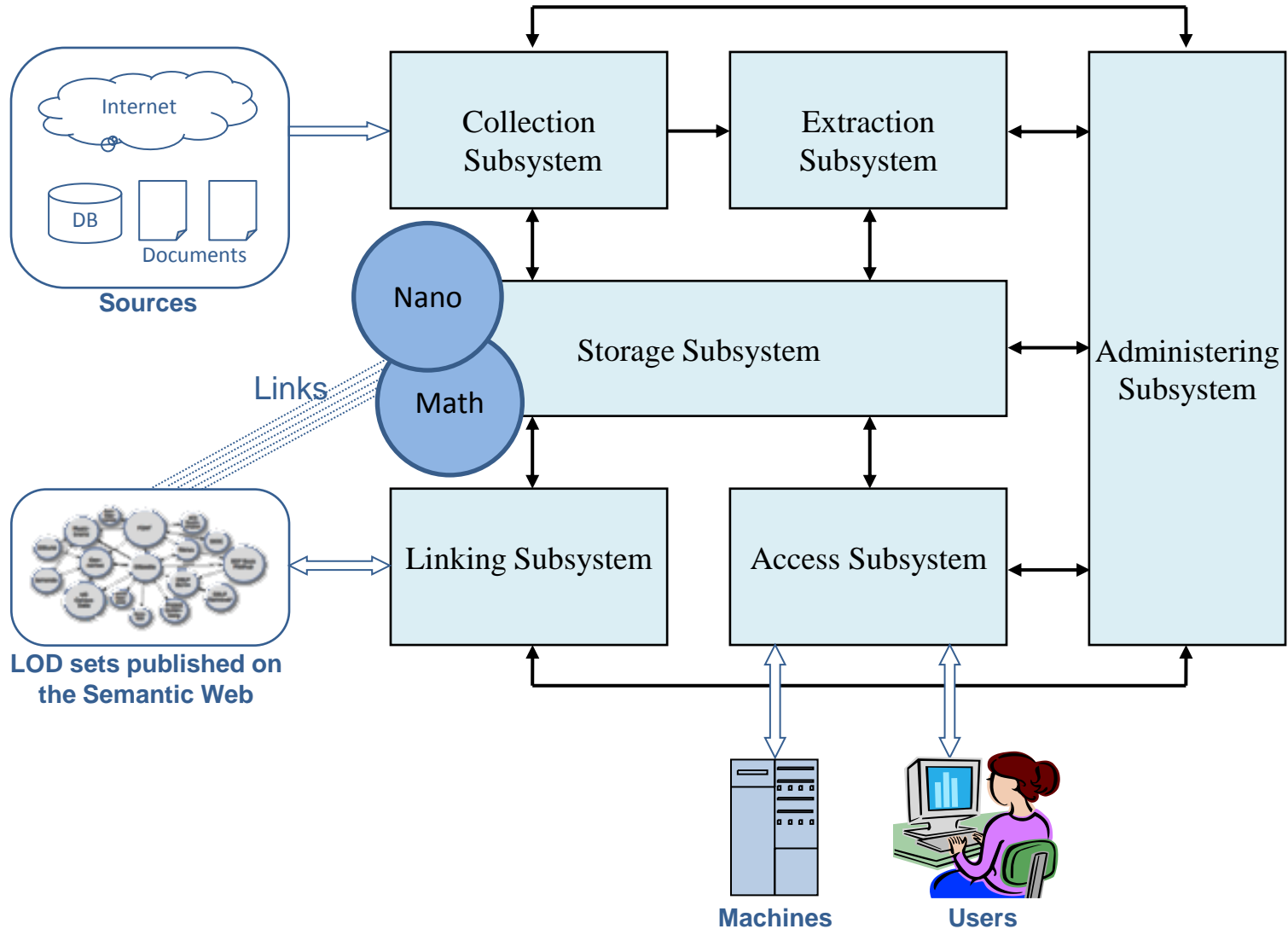


Smart City based on O(L)D

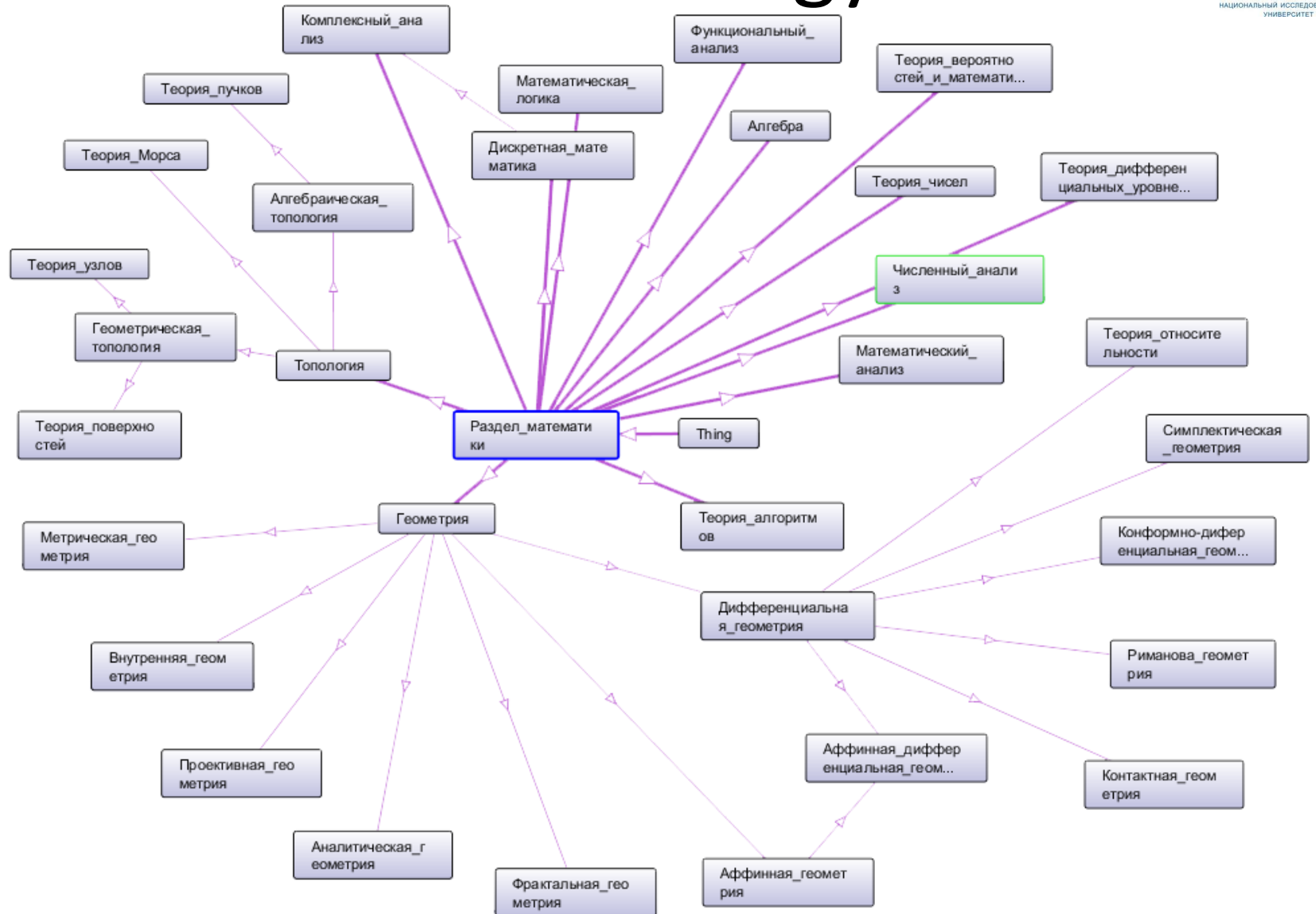




# Architecture

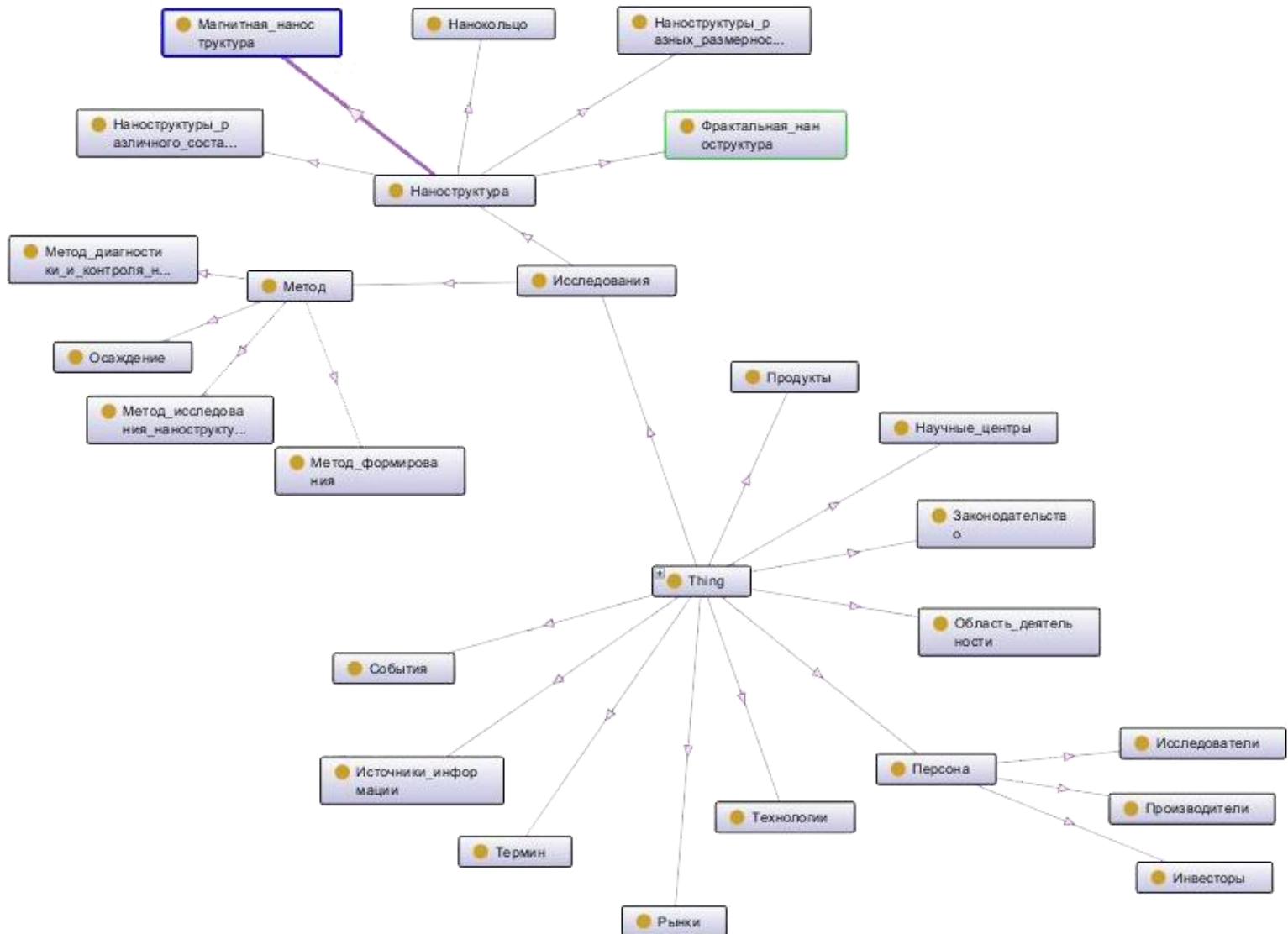


# Math ontology





# Nano ontology



# Hardware Infrastructure

