



Welcome to EGI Industry Day Vilnius, 2009

From Grids to Clouds - e-Infrastructure and Business



Industry Day, Vilnius, 17.12.2009



BalticGrid, LitGrid and Applications

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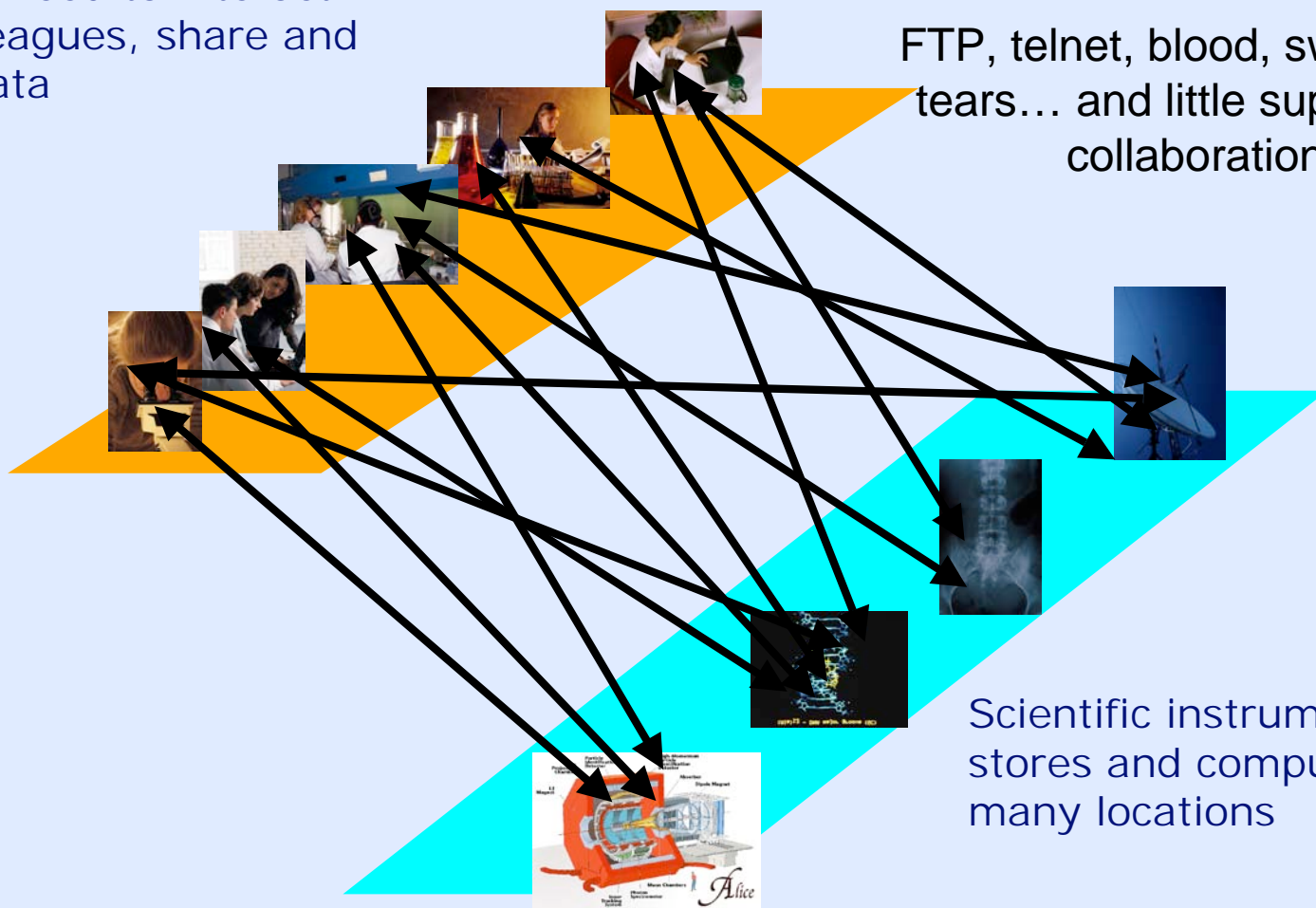


Before Grids



Researchers in many locations need to interact with colleagues, share and access data

FTP, telnet, blood, sweat and tears... and little support for collaboration



Scientific instruments, data stores and computers in many locations



The Grid Vision



Researchers in many locations need to interact with colleagues, share and access data

The Grid: enables sharing of resources and collaboration



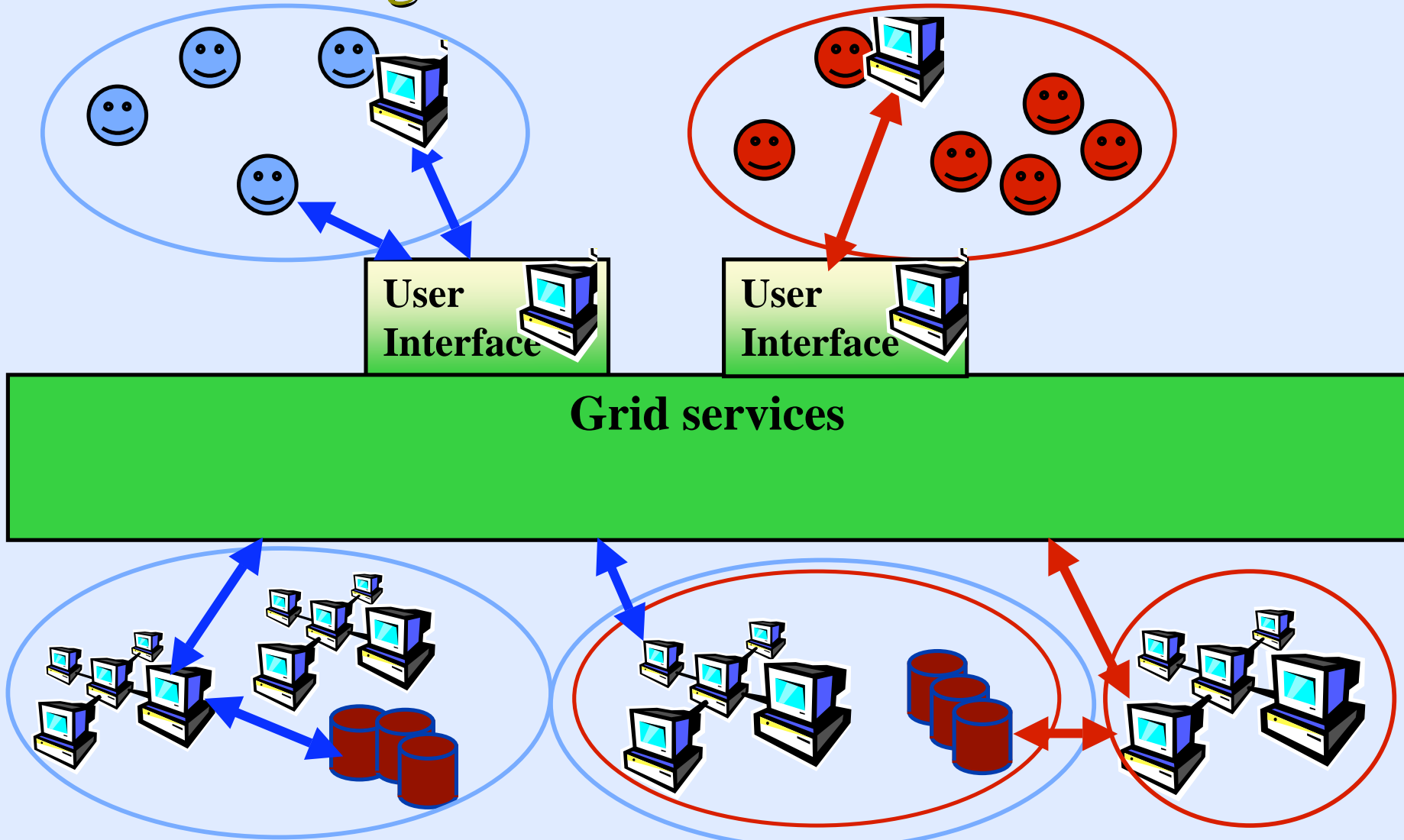
Scientific instruments, data stores and computers in many locations

Industry D:

Slide derived from EDG / LCG tutorials



Virtual Organizations





BalticGrid-II - proposal summary



BalticGrid first phase:

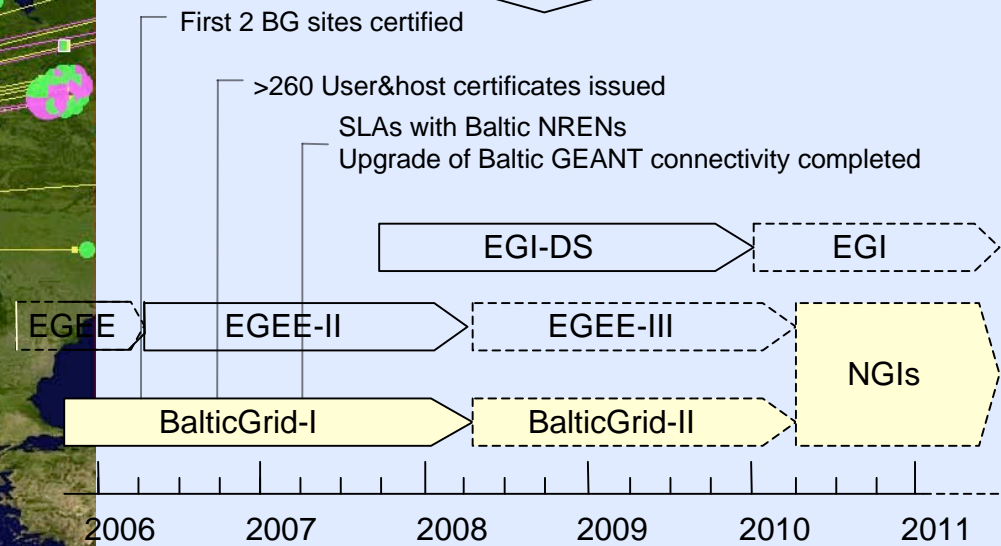
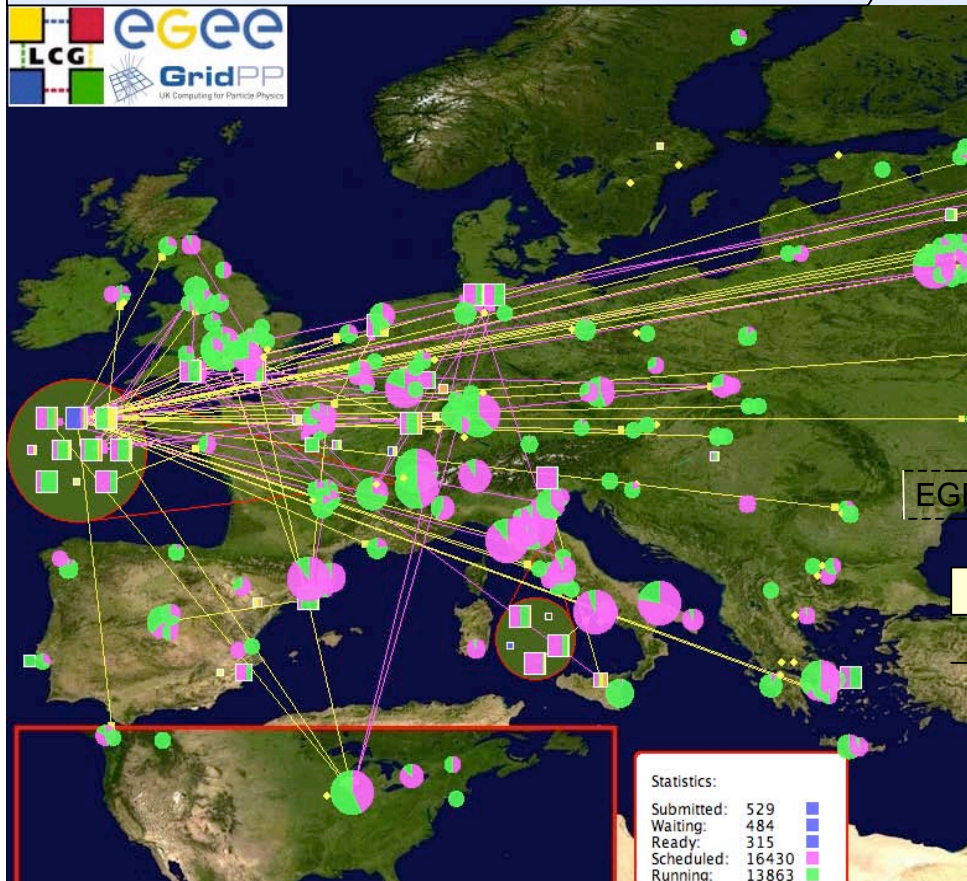
- **The BalticGrid is an extension of EGEE into the Baltic States; Estonia, Latvia and Lithuania**
- **The infrastructure is based on the gLite middleware**
- **The BalticGrid infrastructure is today 26 clusters of which**
- 12 are EGEE certified **and**
- contributing the EGEE production infrastructure

BalticGrid second phase:

- Increase the reach of the **BalticGrid infrastructure:**
- Promote **extension/leverage of ERA to Baltic States**
 - Extension **towards Belarus, with an increase of the number of partners from 10 to 13**
 - Adding more sites, and more EGEE certified sites
 - Increased support of **users and services - new activity specifically aiming at this**

Going towards a sustained e-Infrastructure,

with support from the EGEE and EGI

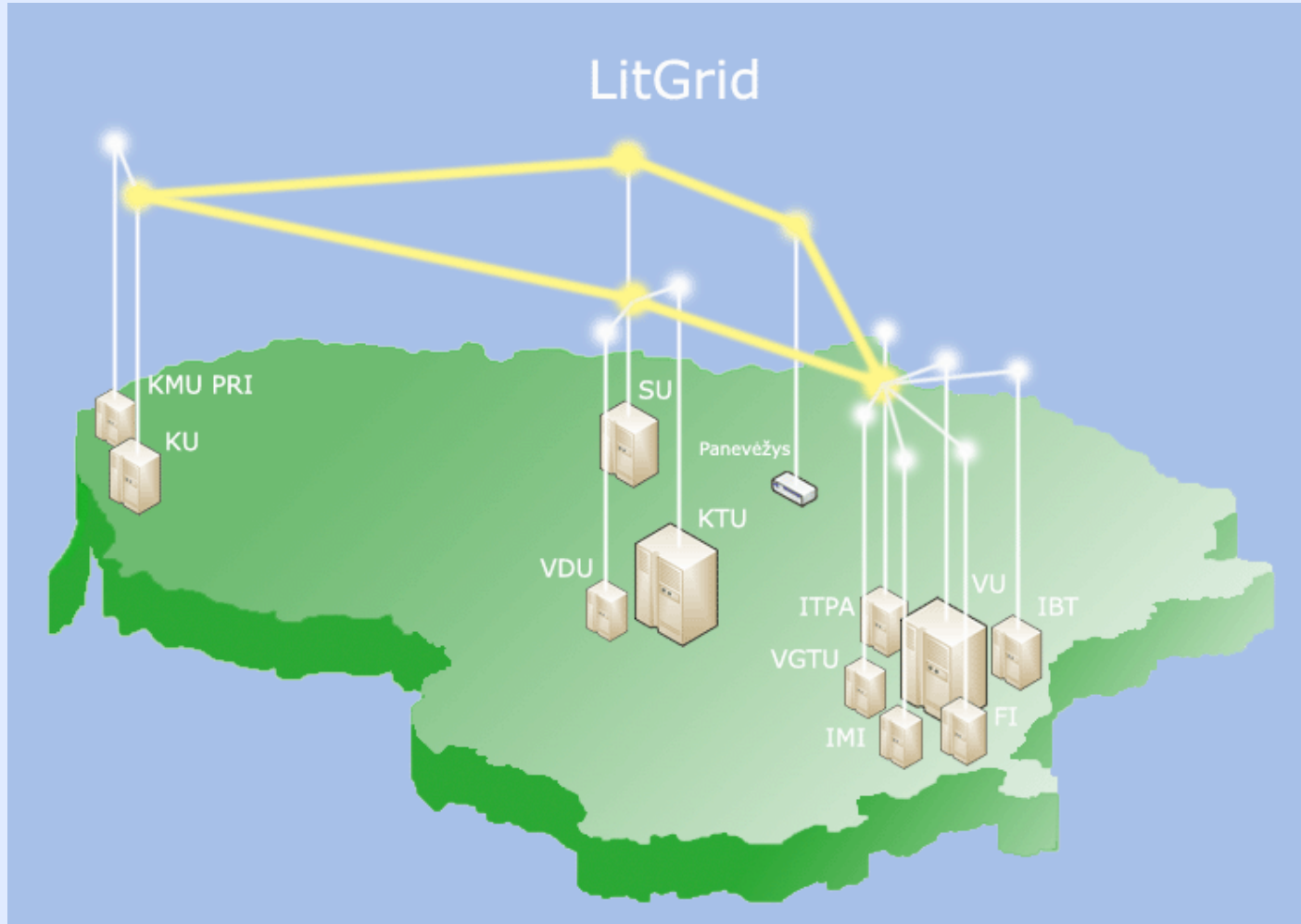




Applications in BG



- **Task 1: Pilot applications**
 - high energy physics
 - material sciences
 - bioinformatics
- **Task 2: Special Interest Group**
 - Baltic Sea Eco-System Modeling
 - Text-to-Speech
 - Text Annotation
 - Language Technologies: Corpus Laboratory
 - Stellar Spectra
 - Atomic and Nuclear
 - Computer Modeling
 - Multidimensional Scaling
 - Games
 - Telecommunication Modeling and Simulation
 - Biosensors
- **Task 3: Application support**



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Applications

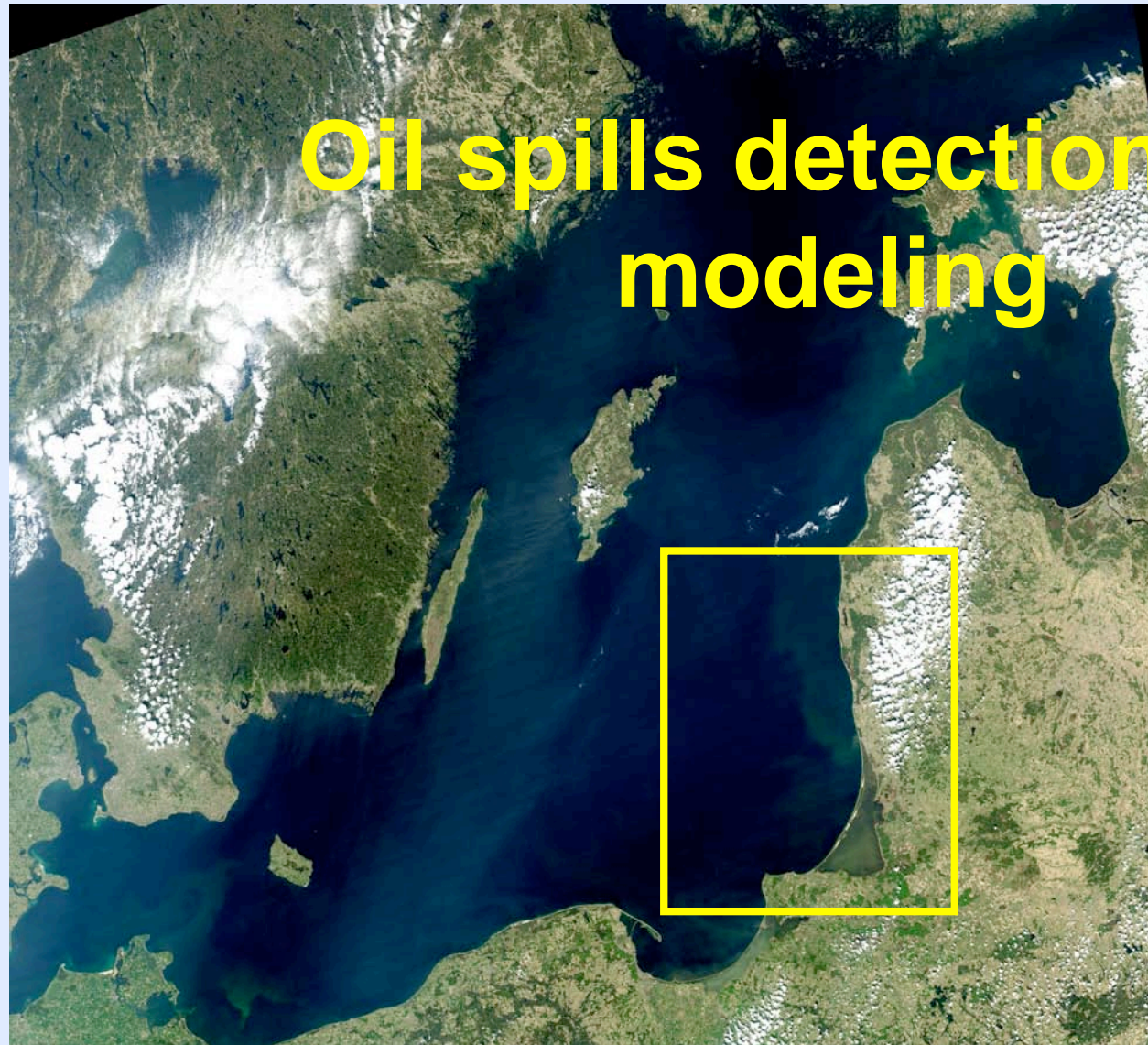


- **Applications are in 7 areas:**
 - **High-energy physics**
 - **Experimental and Astrophysical
Thermonuclear Fusion**
 - **Material sciences and quantum chemistry**
 - **Framework for Engineering Modelling Tasks**
 - **Operational Modelling of Baltic Sea Ecosystem**
 - **Linguistics**
 - **Bioinformatics and Biomedical Imaging**





Success story



Oil spills detection and modeling

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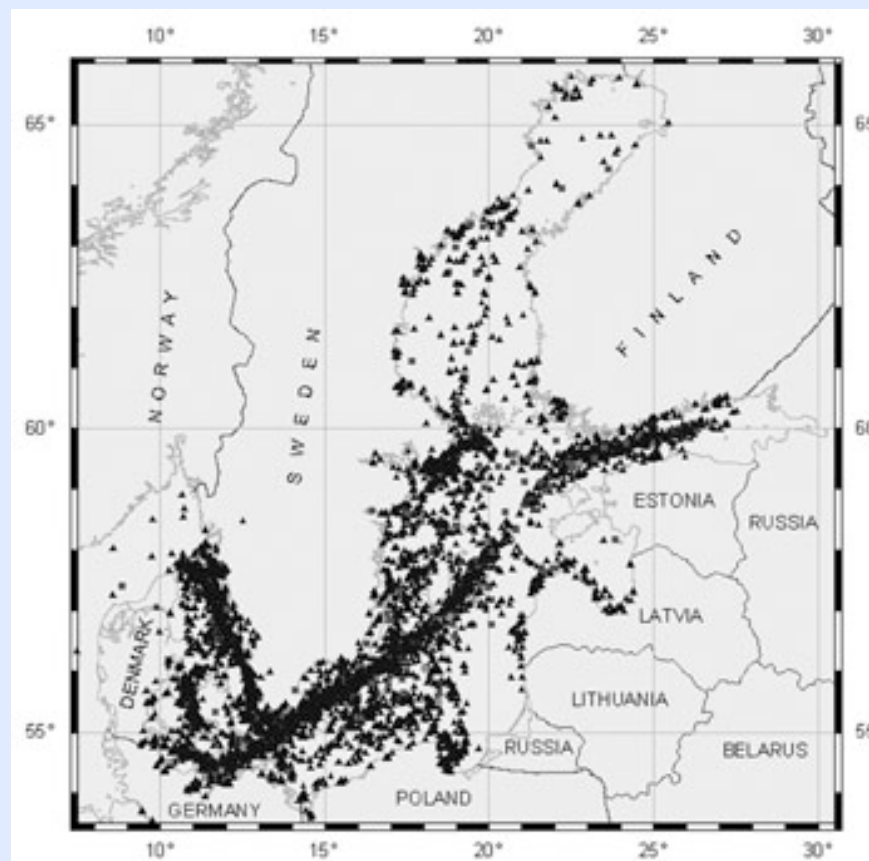
Success story



One of the most urgent and main ecological problems in the Baltic Sea is more frequent spillage of oil products



D6





Success story



Institutions responsible for reaction to sea pollution

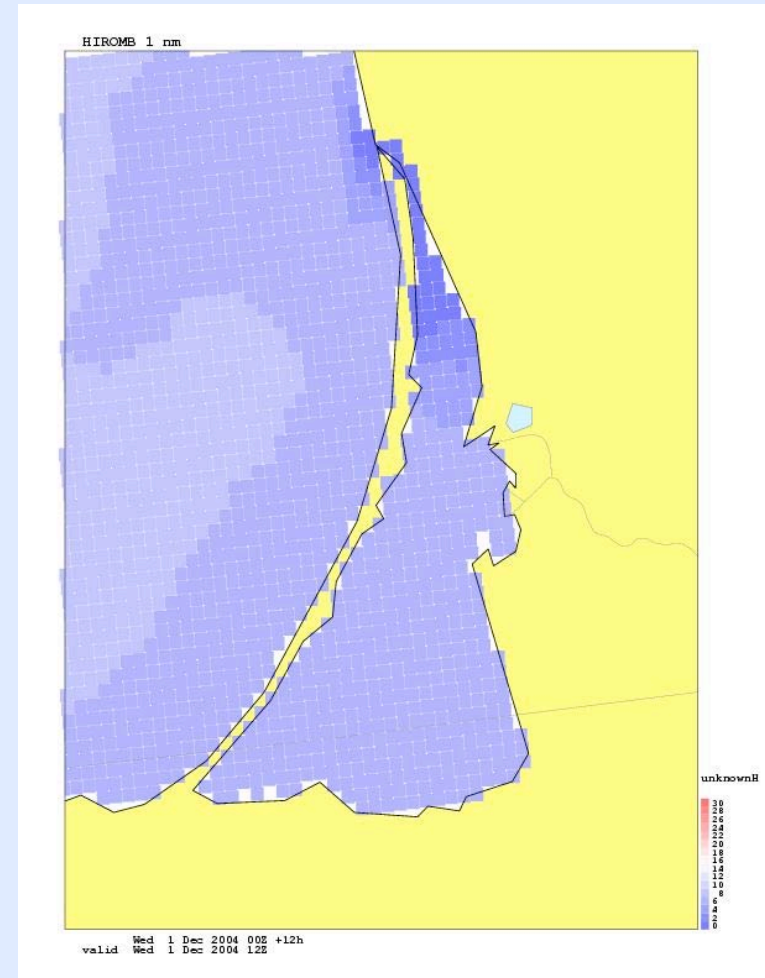
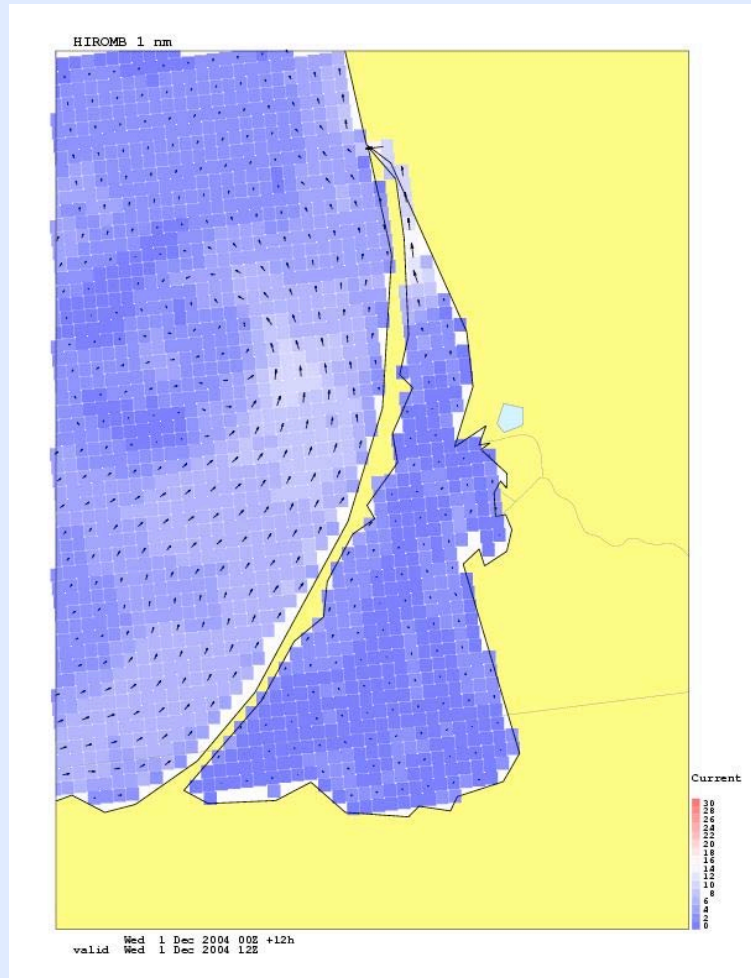
Krašto apsaugos ministerija	Aplinkos ministerija	Susisiekimo ministerija	Vidaus reikalų ministerija
Karinės jūrų pajėgos	AM Vandenu skyrius	Vandens transporto departamentas	VSAT pakrančių apsaugos rinktinė
Civilinės saugos departamentas Savivaldybės: Klaipėdos Neringos Palangos	Klaipėdos regiono aplinkos apsaugos departamentas Jūrinių tyrimų centras	Lietuvos saugios laivybos administracija Jūrų uostų ir terminalų administracijos	Viešosios įstaigos Mokslo institucijos Visuomenė



Success story



Temperature and salinity, 1 n.m. lattice



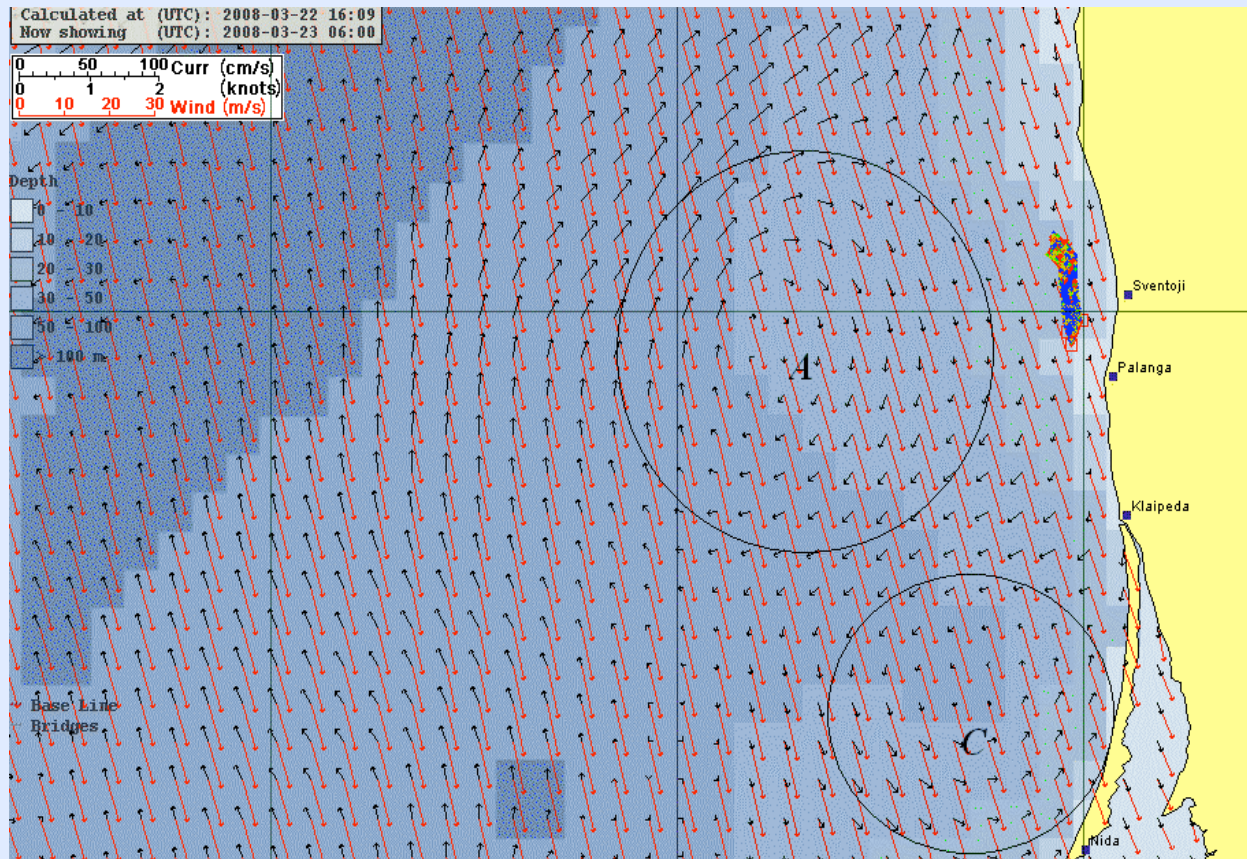
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Success story



Vector fields of water currents and wind roses



HIRLAM atmospheric model, 11 km and HIROMB - 1 nautical mile

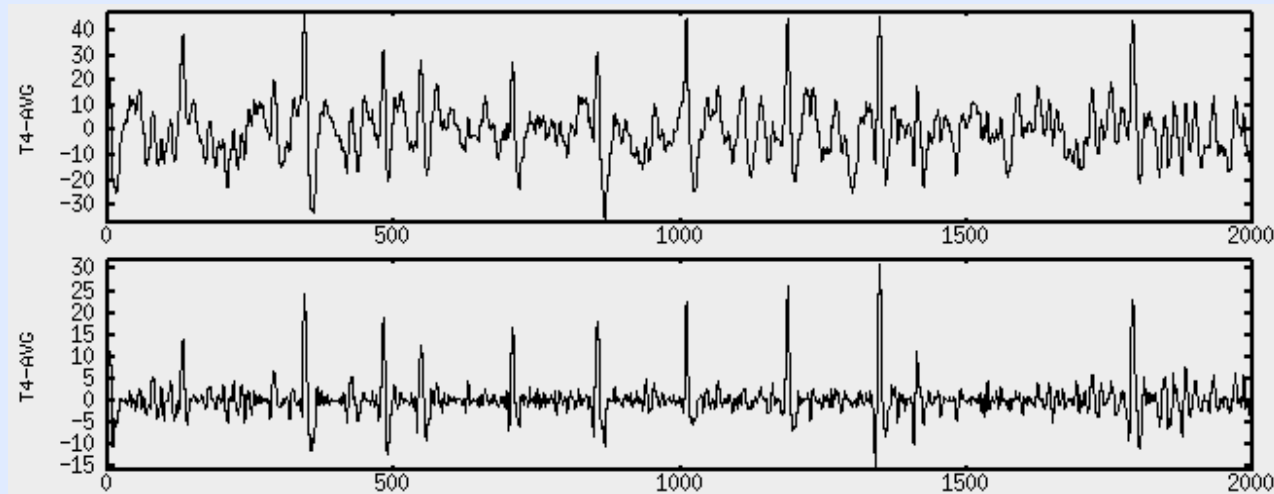
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EEG



The goal - diagnosis of epilepsy:



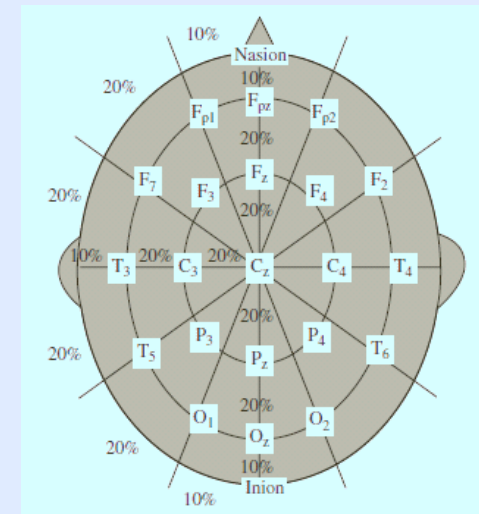
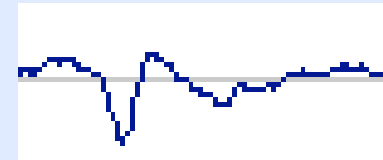
- an automatic EEG spike detection algorithm is developed

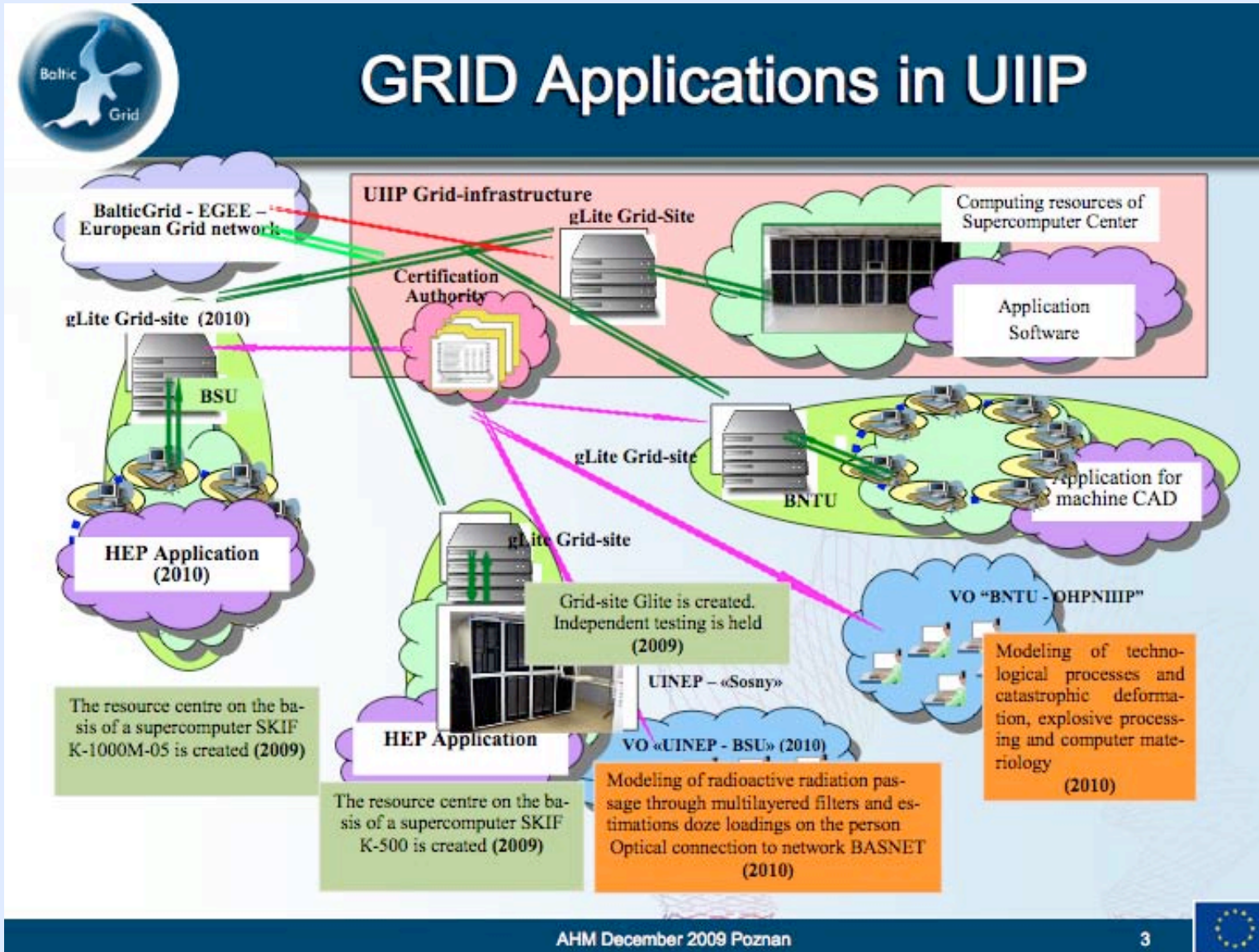


EEG



- the distributed database is designed and developed, whose objects are the segments of EEG signal, together with a set of measured and precomputed attributes
- database is formulated and used for data warehousing and data mining procedures, in order to search efficiently for epilepsy symptoms
- multidimensional methods of data mining are being used to find the signal areas correlated with brain areas, the influence of waves and spikes to the nature of epilepsy
- the grid environment is used for calculations







thank you



- - is this infrastructure too complicated?
- - put it into clouds



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