CODATA vision in the future. What do we need and what can we achieve?

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○ CODATA needs

○ Our prospects in the short run

○ Goals in the long run

CODATA. State of the art

CODATA is an efficient international organization. It has 40 years of successful history that includes 20 international conferences organized in different parts of the world. CODATA brings together 23 countries, 15 scientific unions and 20 supporting organizations. Being part of ICSU family, CODATA plays an important role in the major activities of international scientific and technological communities, including WSIS in Geneva and Tunis, creation of ICSU regional committees, etc.

○ CODATA is well known by its dessimination activities. Our conference seems to be the most important among multidisciplinary gatherings.
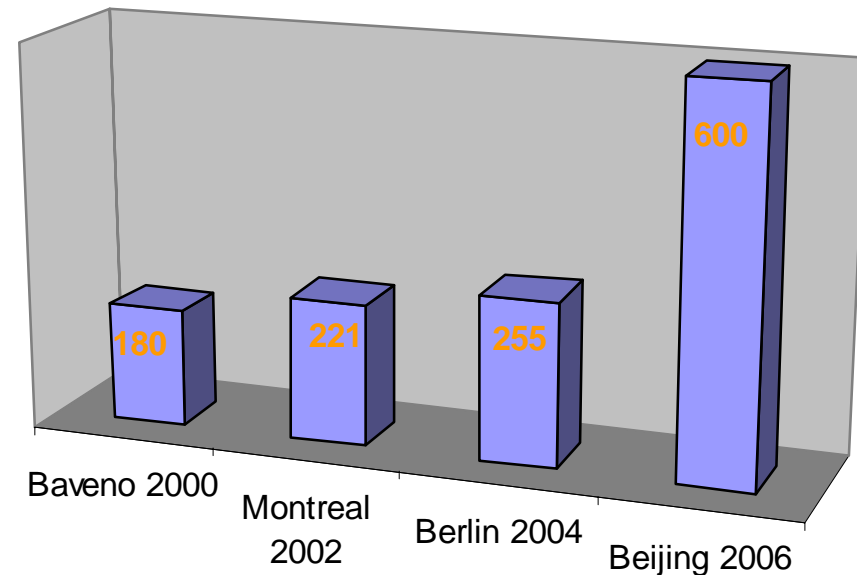
CODATA. State of the art

- CODATA is flexible in its policies. Amendments, recently introduced to CODATA constitution, encourage new countries to join CODATA as members and associated members. The Czeck Republic, the Ukraine, Georgia and Republic of Ireland joined CODATA in recent years. Germany is an incoming associated member state. Australia, Azerbaijan, Armenia and Belarus as well as IUGG are showing their interest to apply for CODATA membership.

- CODATA is widely recognized by its expertise in different aspects of S&T data handling and studies. We are invited to evaluate data activities at national and international level.

CODATA. State of the art

The main CODATA events – bi-annual international conferences – are getting more and more popular. The number of participants increases with every conference.

The major award of the organization – bi-annual CODATA prize – is getting more and more significant as well. This year, we had 14 outstanding nominees among which the prize winner was to be chosen.

Baveno 2000 — 180
Montreal 2002 — 221
Berlin 2004 — 255
Beijing 2006 — 600

CODATA. State of the art

○ CODATA «Data Science Journal» becomes better known and more influencial in the world of electronic publications as well as in S&T data communities. Thanks to the new Japaneese publishers, DSJ is designed in accordance with the requirements of modern Information Society.

○ Under agreement with Springer-Verlag, CODATA successfully continues its book series «Data and Knowledge in a Changing World». More than 10 books are published in this series and 2 new monographs are forthcoming.

CODATA Task Groups

Nowadays CODATA TGs:

- cover more and more disciplines
- provide stronger linkage to important international projects and initiatives (IPY, eGY, regional ICSU committees, UNESCO, UNIDO, UNDRO, UNEP)
- link people from a wider range of countries
- introduce more technological innovations in S&T data handling
- produce more scientific publications including the ones in CODATA electronic journal
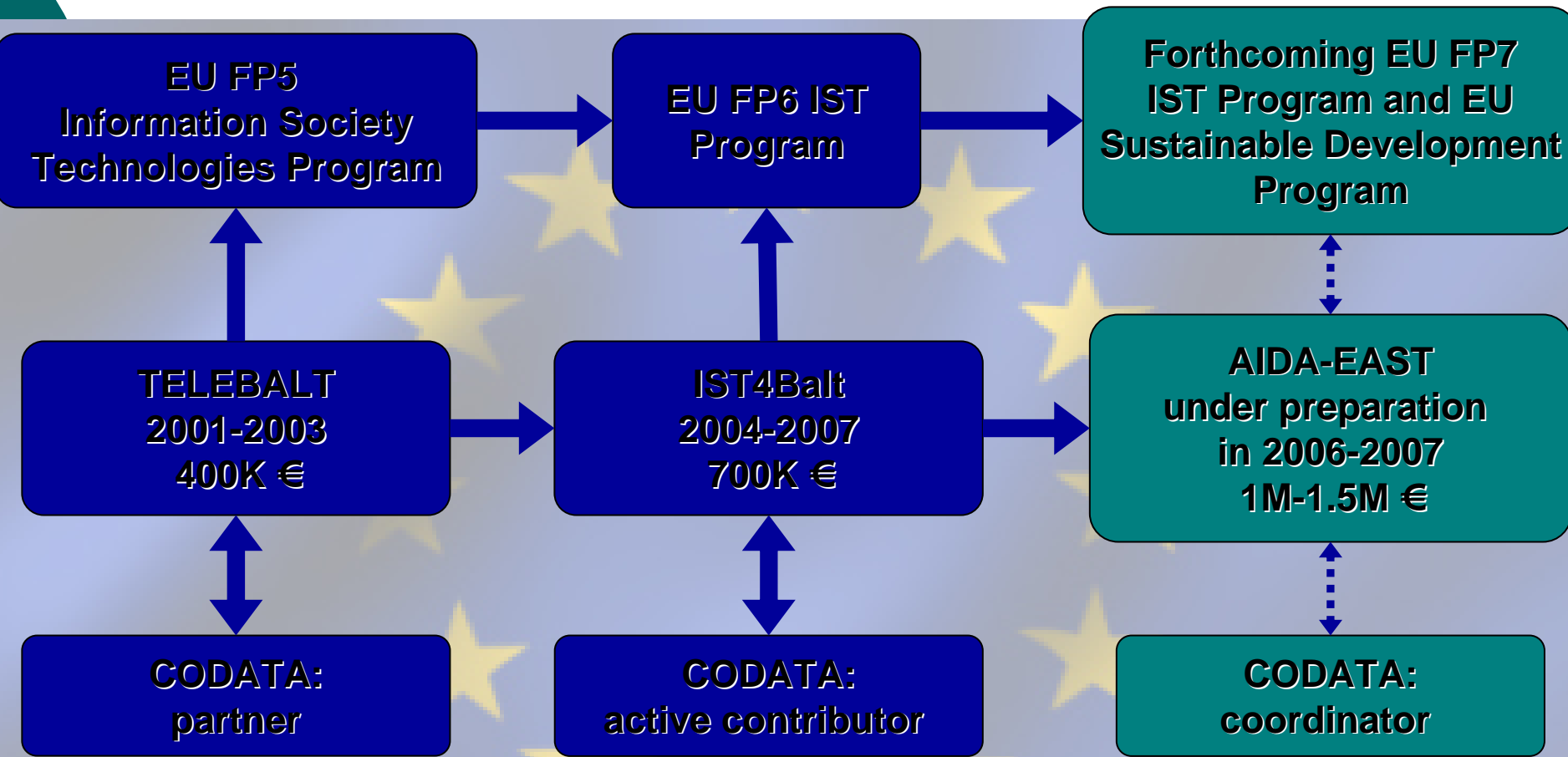
CODATA projects

CODATA main initiatives:
- ○ *The Global Information Commons for Science Initiative (GICSI)*
- ○ *The Scientific Data for Sustainable Development (SD*2) Program*
- ○ *Artificial Intelligence Development Assistance (AIDA-EAST) Project*

CODATA active participation in:
- ○ *IPY*
- ○ *GEOSS*
- ○ *eGY*
- ○ *WDCs system*
- ○ *etc.*

CODATA strategy in EU IST

EU FP5 Information Society Technologies Program → EU FP6 IST Program → Forthcoming EU FP7 IST Program and EU Sustainable Development Program

TELEBALT 2001-2003 400K € → IST4Balt 2004-2007 700K € → AIDA-EAST under preparation in 2006-2007 1M-1.5M €

CODATA: partner

CODATA: active contributor

CODATA: coordinator

NCs: USA, France, Russia, Poland, Germany, Georgia, Ukraine
Other countries: Latvia, Estonia, Azerbaijan

CODATA, Beijing, 23 - 25 October 2006

Consortium of the IST4Balt project. 2004-2007

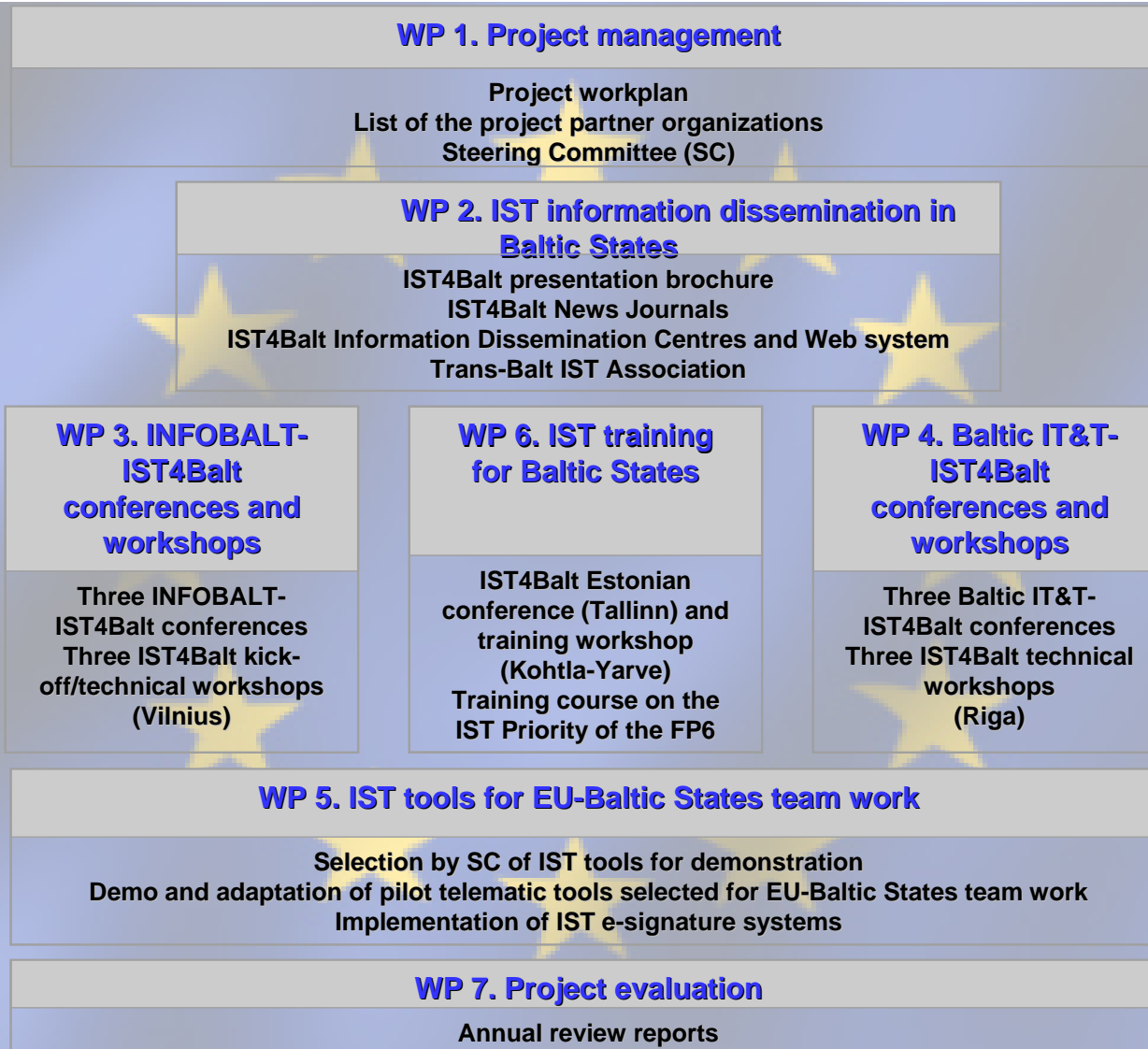**Coordinator:** Earth Data Network for Education and Scientific Exchange (EDNES) – Strasbourg, France

Six project participants:
- Riga Technical University (RTU) – Riga, Latvia
- Latvian Information Technology and Telecommunications Association (LITTA) – Riga, Latvia
- Association "INFOBALT" – Vilnius, Lithuania
- Visoriai Information Technology Park (VITP) – Vilnius, Lithuania
- Company "INFORING AS" – Johvi, Estonia
- Company "Bi-Info AS" – Tallinn, Estonia

Active project contributor in scientific and technological data handling
CODATA, international

Workpackages of the IST4Balt project

WP 1. Project management

Project workplan
List of the project partner organizations
Steering Committee (SC)

WP 2. IST information dissemination in Baltic States

IST4Balt presentation brochure
IST4Balt News Journals
IST4Balt Information Dissemination Centres and Web system
Trans-Balt IST Association

WP 3. INFOBALT-IST4Balt conferences and workshops

Three INFOBALT-IST4Balt conferences
Three IST4Balt kick-off/technical workshops
(Vilnius)

WP 6. IST training for Baltic States

IST4Balt Estonian conference (Tallinn) and training workshop
(Kohtla-Yarve)
Training course on the IST Priority of the FP6

WP 4. Baltic IT&T-IST4Balt conferences and workshops

Three Baltic IT&T-IST4Balt conferences
Three IST4Balt technical workshops
(Riga)

WP 5. IST tools for EU-Baltic States team work

Selection by SC of IST tools for demonstration
Demo and adaptation of pilot telematic tools selected for EU-Baltic States team work
Implementation of IST e-signature systems

WP 7. Project evaluation

Annual review reports

Science to Science Knowledge Transfer

- CODATA opportunities are in its interdisciplinary nature. We can discover a piece of knowledge by data mining in one discipline and then verify whether we can adopt and transfer this piece of information to other scientific disciplines s
- Artificial Intelligence (AI) is a tool to do the data mining and the knowledge transfer
- Implementing AI algorithms at the AIDA-EAST workshops the project will make an attempt to realize such knowledge transfer
- S&T data research institutions in different countries will be involved

AIDA –EAST project

○ **Possible sources of funding:**

EU Information Society Technologies Program FP7, Brussels

EU Sustainable Development program, Brussels

European Science Foundation, Strasbourg

Projects-oriented voluntary contributions from CODATA member states

CODATA needs

- **New participants.** Active young researchers, software developers and data analysts willing to contribute to CODATA goals, objectives and projects. They should start to play important roles in the CODATA structure including EB, key activities and TGs.

- **New insights and strategies.** New multidisciplinary ideas can be linked with ongoing or forthcoming CODATA projects ensuring continuity of our progress. By integrating both, we can build CODATA long term strategy and policy in S&T data handling and research programs.

CODATA needs

- CODATA needs new member states. Using new membership opportunities, CODATA can start active actions to bring new members from those parts of the world, where we are not widely represented yet.

- CODATA needs new scientific union members. A TG in a field can start to work closely with the corresponding scientific union. The union can decide to join CODATA following this contact.

CODATA needs

- **CODATA needs more data.** We need close cooperation with ICSU Panel on World Data Centers, as well as with existing and emerging WDCs in the USA, EU, China, Japan and CIS to supply our major initiatives, projects and TGs with relevant pilot data sets.

- **CODATA needs scientific innovations and a technological breakthrough to a multidisciplinary approach to S&T data handling.** Our projects, TGs and the DSJ can actively incorporate cutting-edge Information Society Technology advancements in their operations.

CODATA needs

○ CODATA needs extension of the existing range of covered scientific disciplines

at the same time

○ CODATA needs further progress in multidisciplinary projects including the sciences already actively explored in the organization

○ **CODATA should more actively share its expertize with developing nations realizing these projects.** Special attention is to be paid to Africa and South America

CODATA needs

CODATA needs funds:

- to launch new S&T data projects and ensure sustainability of ongoing ones
- to increase participation in important international and regional initiatives
- to support and further develop Data Science Journal
- to support CODATA projects and TGs at a significantly higher level
- to involve young scientists in CODATA activities
- for many other needs

What can we do to meet our needs? New members.

Reinforce contacts with Eastern European and NIS countries that express their interest in joining CODATA as members and/or associated members

Reinforce contacts with ICSU scientific unions attracting them to join CODATA

Build international projects focusing on African, Asian and South American developing countries and incorporate them into CODATA family. Further collaboration with UNESCO, UNIDO, UNDRO, UNEP, World Bank etc. will be important

What can we do to meet our needs? ICSU and CODATA

CODATA can provide active participation in establishing ICSU regional committees and work plans

CODATA can be involved in close collaboration with ICSU Panel on World Data Centers as the principal Earth and planetary data source for CODATA S&T data handling and research activities

What can we do to meet our needs? ICSU and CODATA

CODATA can ensure close coordination with ICSU strategic activities where science data management is important:

○ The Global Earth Observation System of Systems (GEOSS);

○ The International Polar Year (IPY);

○ Natural and human-induced environmental hazards and disasters;

○ Follow-up to the Millennium Ecosystem Assessment;

○ International Science Panel on Renewable Energy;

○ Human Health;

○ Emerging scientific areas such as nanosciences and nanotechnology, molecular biosciences, and transgenic crops and animals.

Vision in the future

In the short run CODATA can:

○ finalize its strategic plan along with its active implementation

○ take the leading role in its main international initiatives, such as GICSI, SD², the AIDA-EAST

○ assume a key role in international programs and projects, such as GEOSS, IPY, eGY, etc

○ launch pilot activities with major WDCs and other relevant thematic national and international data centers

○ develop a funds raising plan and proceed with an active fund raising campaign by approaching national and international funding agencies

Vision in the future

In the short run CODATA can :

○ start an active campaign of attracting young scientists to CODATA. An important step in this campaign will be organization of 21 CODATA International Conference "*Information Society for Human Beings from the Present to Future Generations*" in Kiev in 2008 to be held in a new environment of the Kiev Technical University campus

○ reinforce and activate its contacts with CODATA National Committees in the member states and beyond

○ further develop the Data Science Journal to make it one of the most prominent editions in S&T data world

Vision in the future

In the short run CODATA can :

○ extend the existing range of scientific disciplines and, at the same time, focus on multidisciplinary nature of S&T data. Implement this new strategy in CODATA TGs development

○ implement the latest cutting-edge Information Communication technologies in CODATA projects and TGs operations
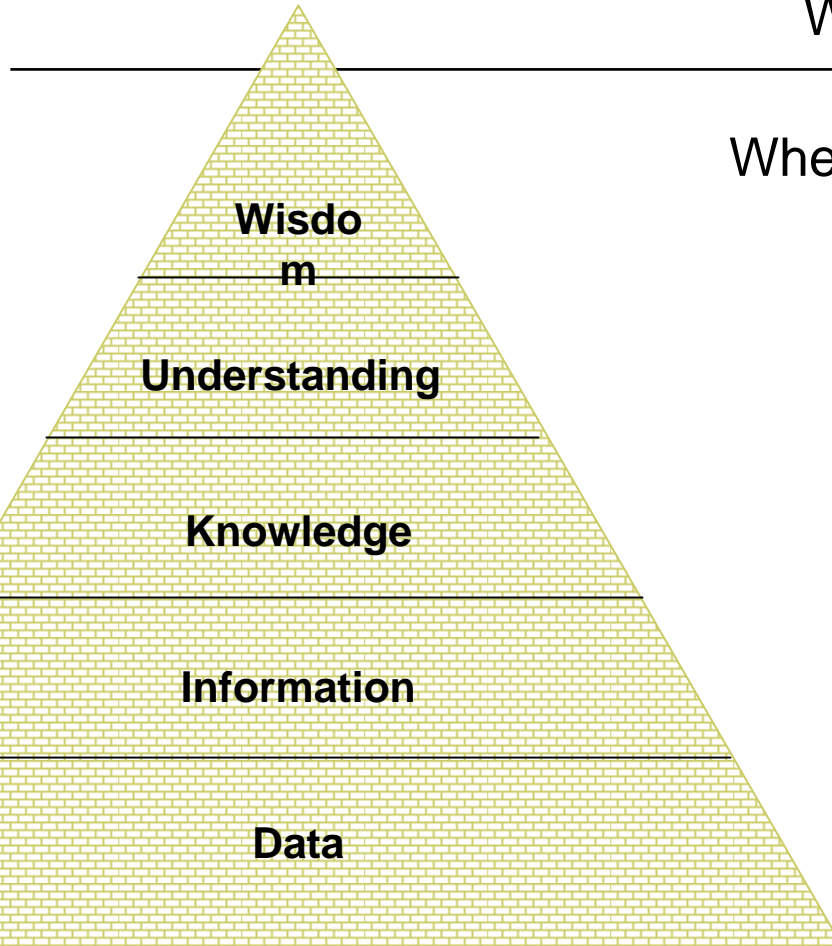
Vision in the future

In the long run,

CODATA can step by step create a pyramid consisting of several layers,

which will progress from data to information, knowledge, understanding, and ultimately, wisdom.

Trying to reach the summit

Wisdom

Understanding

Knowledge

Information

Data

Where is the wisdom we have lost in knowledge?

Where is the knowledge we have lost in information?

– T. S. Eliot

Portrait by Cristina Ioana Vianu

Vision in the future

To reinforce this pyramid construction is our challenge for the future