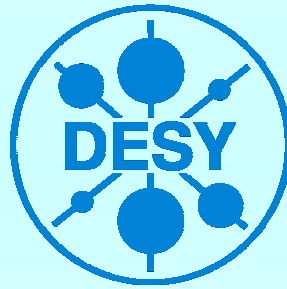


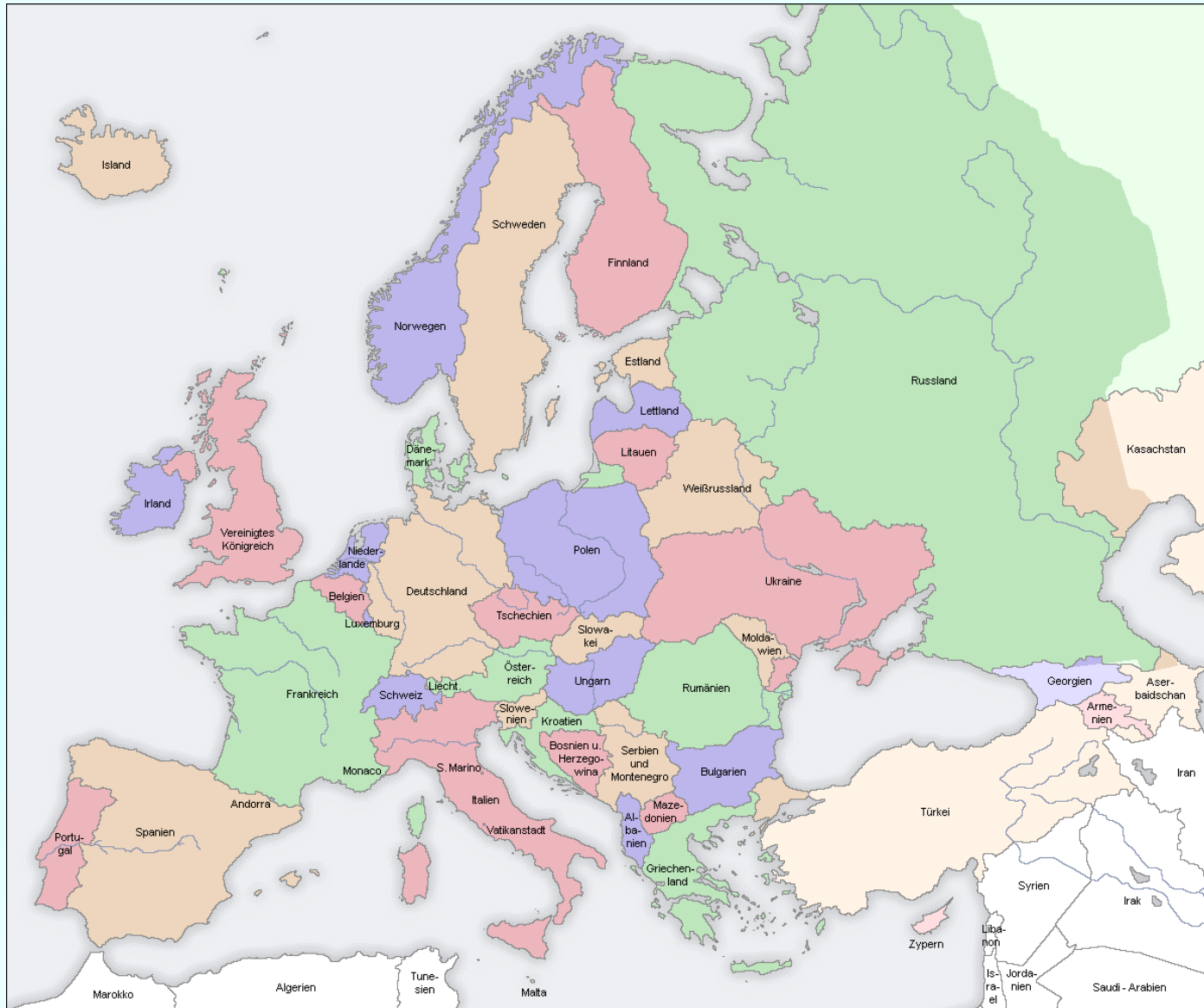
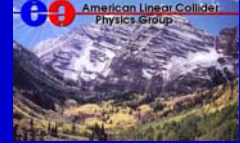
The ILC on a European Map

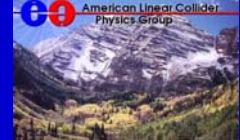
Karsten Büßer



Second ILC Workshop
Snowmass
16. August 2005

This is Europe





About 50 Independent European Countries

- Albania
- Andorra
- Armenia
- Austria
- Azerbaijan
- Belarus
- Belgium
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Georgia
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- (Israel)
- Italy
- Kazakhstan
- Latvia
- Liechtenstein
- Lithuania
- Luxemburg
- Former Yugoslavian Rep. of Macedonia
- Malta
- Moldova
- Monaco
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Russia
- San Marino
- Serbia and Montenegro
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- Ukraine
- United Kingdom of Great Britain and Northern Ireland
- Vatican City



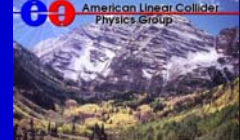
Big Problem

- I cannot possibly know what 50 independent governments think about the ILC
- There is probably little coherence in what the different governments think about the ILC
- So try a physicists approach: study sub-samples

First Sub-sample: The EU Member States

- Albania
- Andorra
- Armenia
- Austria
- Azerbaijan
- Belarus
- Belgium
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Georgia
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- (Israel)
- Italy
- Kazakhstan
- Latvia
- Liechtenstein
- Lithuania
- Luxemburg
- Former Yugoslavian Rep. of Macedonia
- Malta
- Moldova
- Monaco
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Russia
- San Marino
- Serbia and Montenegro
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- Ukraine
- United Kingdom of Great Britain and Northern Ireland
- Vatican City

The EU knows about the ILC



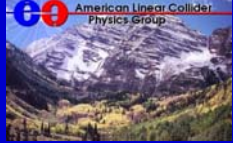
EU funded ILC Projects

- The 6th Framework Programme for Research and Technological Development and Demonstration (FP6) supports activities for “Structuring, Integrating and Strengthening the European Research Area”
- Support for research activities which generate European Added Value
- 17.8 G€ for total FP6 in the period of 2002-2006
- Most support goes into thematic priorities (e.g. Nanotechnology); HEP is not part of that
- But funding is foreseen for creating and improving Research Infrastructures (e.g. accelerators): ~650 M€
- CARE, EUROTev and EUDET are or will be supported by the European Commission under FP6
- CARE, EUROTev and EUDET are the results of a bottom-up selection process
 - Publication of a call
 - Write a proposal
 - Proposals are evaluated by external referees
 - Get money

FP7 comes

- Period 2007-2013
- Proposed budget: 72.7 G€, ~4 G€ for Research Infrastructures
- **BUT**: EU budget was not agreed upon at European Summit in June, most probably the FP7 budget will be reduced substantially, maybe down to FP6 level
- EU tries to develop a more coherent approach to Research Infrastructures:
 - Support for **existing infrastructures**
 - Support for **construction of new infrastructures**
 - Introduction of top-bottom support, i.e. targeted calls for specific projects

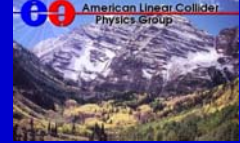
- European Strategy Forum for Research Infrastructures
 - Members:
 - senior science policy officials representing the science ministers of all EU member states and seven associated countries
 - a senior science policy official representing the European Commission
 - Support a coherent approach to policy-making on research infrastructures in Europe
 - Act as an incubator for international negotiations about concrete initiatives
- Prepare a roadmap for new research infrastructures of pan-European interest for the next 10 to 20 years
 - Roadmap will have influence on the targeted (top-bottom) calls
 - Roadmap will have impact on future EU science policy regarding research infrastructures



- New projects or major upgrades to existing projects:
 - Major research infrastructures
 - Multi-user facilities with own research programme
 - Pan-European interest
 - Covering all scientific areas
 - **Independent of possible location**
- Roadmap will not be static but is an on-going process
- Expert groups will be formed to assess potential infrastructure projects
- ESFRI has already come up with a “List of Opportunities” to assist the Commission in the preparations of FP7



ESFRI List of Opportunities



TOWARDS NEW RESEARCH INFRASTRUCTURES FOR EUROPE:

The ESFRI “List of Opportunities”

March 2005

EUR 21622 EN

Among others:

Physics and Astronomy

Nuclear Physics

- **Facility for Antiproton and Ion Research (FAIR)**
- **Facility for intense secondary beams of unstable isotopes (SPIRAL II)**

Astroparticle Physics

- **European deep-sea neutrino telescope (KM3NeT)**

Astronomy

- **Extremely Large Telescope (ELT) – for optical astronomy**

Multidisciplinary facilities - Analysis of matter

- **European Spallation Source (ESS) – neutron source**
- **European XFEL – for hard X rays**
- **IRUVX FELs Network – from infrared to soft X rays**
- **ESRF upgrade – synchrotron**

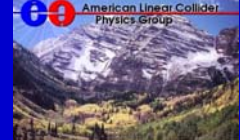
“Global projects”

- **ITER**
- **International Space Station (ISS)**
- **International Linear Collider (ILC)**
- **Square Kilometer Array (SKA) – radio telescope**
- **International Fusion Materials Irradiation Facility (IFMIF)**



Another Sub-sample: CERN Member States

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- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Georgia
- Germany
- Greece
- Hungary
- Iceland
- Ireland
- (Israel)
- Italy
- Kazakhstan
- Latvia
- Liechtenstein
- Lithuania
- Luxemburg
- Former Yugoslavian Rep. of Macedonia
- Malta
- Moldova
- Monaco
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- Norway
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- Portugal
- Romania
- Russia
- San Marino
- Serbia and Montenegro
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- Ukraine
- United Kingdom of Great Britain and Northern Ireland
- Vatican City



European Strategy

- 2001: ECFA-Report on the Future of Accelerator Based Particle Physics in Europe
 - CERN central for the long-term particle physics in Europe
 - Through CERN Europe should play a key role in the exploration of the multi-TeV horizon post LHC
- Recently:
 - Question: “Which body represent Europe in a world wide collaboration?” raised the issue of CERN’s role as European coordinator
 - Has been pointed out that CERN’s convention mandates the organization to this role
 - CERN Council could therefore pick up the traditional role of an International Organization: Provide a forum to arrive at agreements between European governments on issues where international consistency would be desirable



CERN Convention

“ARTICLE II : Purposes “

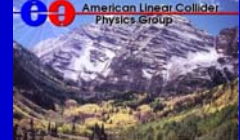
“1. ... provide for **collaboration among European States** in nuclear research of a pure scientific and fundamental character, and in research essentially related thereto. ...”

“2. ... confine its activities to ...”

(a) ...

(b) the **organization and sponsoring of international co-operation in nuclear research, including co-operation outside the Laboratories**; this co-operation may include in particular:

- (i) work in the field of theoretical nuclear physics;
- (ii) the promotion of contacts between, and the interchange of, scientists, the dissemination of information, and the provision of advanced training for research workers;
- (iii) **collaborating with and advising other research institutions**;
- (iv) work in the field of cosmic rays.



CERN Council Decision

- CERN Council decision 16th of June 2005
 - Set up an ad hoc scientific advisory group, **Strategy Group**
 - One scientist proposed by each delegation
 - Co-chaired by the ECFA and the SPC chairpersons
 - Some ECFA and SPC members which also form a Preparatory Group
 - The CERN DG & CSO, and directors of DESY, RAL, Orsay, DAPNIA, PSI, Frascati and Grand Sasso
 - Group will hold a one-week workshop in Berlin late spring 2006 to produce a Draft Strategy Document to be presented to the CERN Council at a dedicated Council meeting (probably not in Geneva)
 - A letter should be sent to the **EU Commissioner** informing him about the Strategy Group



My Conclusion

- Europe is a very **colourful** continent
- The preparation of a truly international collaboration like the ILC is challenging if one wants to deal with all ~50 governments independently
- Using existing European structures is essential:
 - The **European Commission** is aware of the ILC and has set up structures to deal with pan-European and global projects
 - **CERN council** initiates first step to **provide a forum to arrive at agreements between European governments on issues where international consistency would be desirable**
- European funding is a step in the right direction
- **Don't forget that in the end funding comes from the governments**