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FEASIBILITY STUDY : SYNCHRONOUS
INTERCONNECTION OF THE POWER
SYSTEMS OF IPS / UPS WITH UCTE

In 2002, UCTE received a request from RAO UES Russia acting on behalf of EPC CIS and Baltics for a synchronous interconnection of the IPS/UPS power systems with UCTE. After completion of a pre-feasibility study in 2003, dealing with steady state system analysis, UCTE decided to launch a broad feasibility study in order to answer the three main questions:

- Is a synchronous interconnection of IPS/UPS and UCTE possible?
- What measures have to be taken on both sides?
- What are the associated costs?

The results of the three-year project will be used as a basis for further decisions on system extension on both sides.



The feasibility study is another milestone in the history of UCTE: the interconnection would lead to synchronously interconnected power systems spanning 13 time zones and serving about 700 million customers. Presently, there is no example in the world of synchronous operation to this extent. (see figure 6, next page)

On 25 March 2004, Dr. Matthias Luther (E.ON Netz, Germany) was appointed Project Manager by the Steering Committee of UCTE. After nomination, he had to set up the Consortium, form the project management team and working groups of experts on the UCTE-side and finalize the Terms of References. (see figure 5) <<<



Responsible for the UCTE-IPS/UPS Study:
Dr. Matthias Luther (E.ON Netz, Germany)

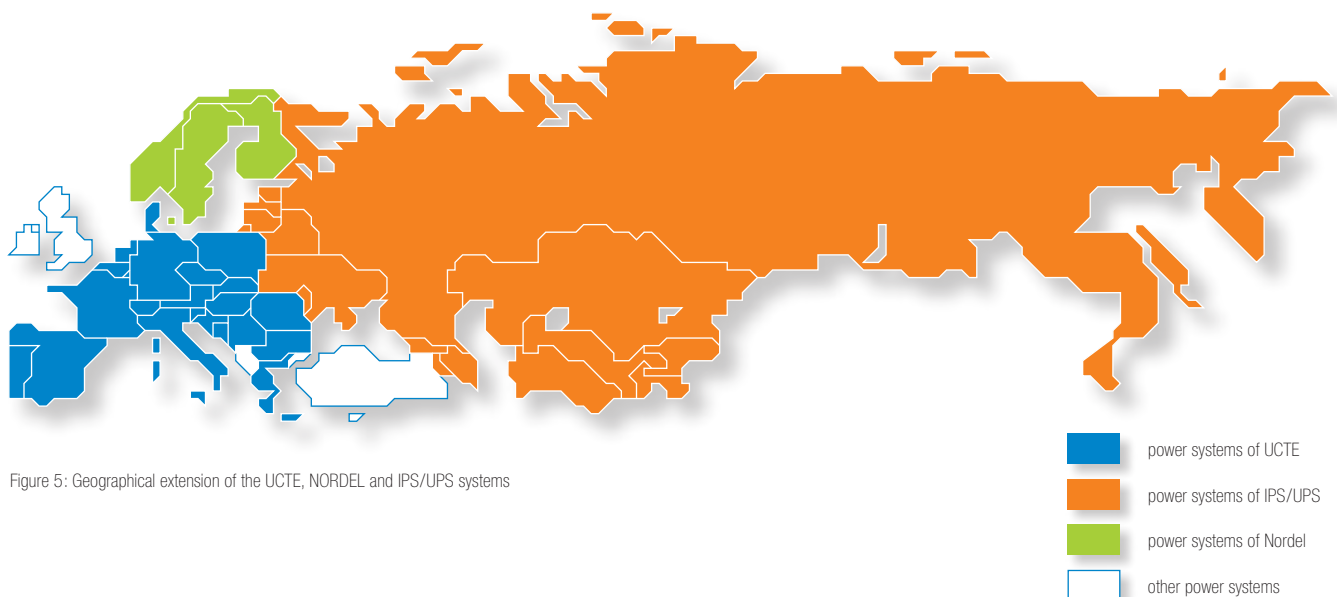


Figure 5: Geographical extension of the UCTE, NORDEL and IPS/UPS systems

The project

The project itself is an important part in the context of the EU-Russia Energy dialogue. On 23 April 2004, the Project Management filed an application for funding under the Trans-European Network (TEN-Energy) Program of the European Commission (EC). <<<

The responsible UCTE-Consortium

The UCTE-Consortium responsible for the project consists of 11 TSOs from 9 countries, namely:

- E.ON Netz GmbH (Germany)
- ELIA System Operator S.A. (Belgium)
- MAVIR Hungarian Power System Operator Company (Hungary)
- Natsionalna Elektricheska Kompania EAD (Bulgaria)
- PSE-Operator S.A. (Poland)
- Red Eléctrica de España S.A. (Spain)
- Réseau de Transport d'Electricité (France)
- RWE Transportnetz Strom GmbH (Germany)
- Slovenská *elektrizačná* prenosová sústava, a. s. (Slovak Republic)
- National Power Grid Company »Transelectrica« (Romania)
- Vattenfall Europe Transmission GmbH (Germany) >>>

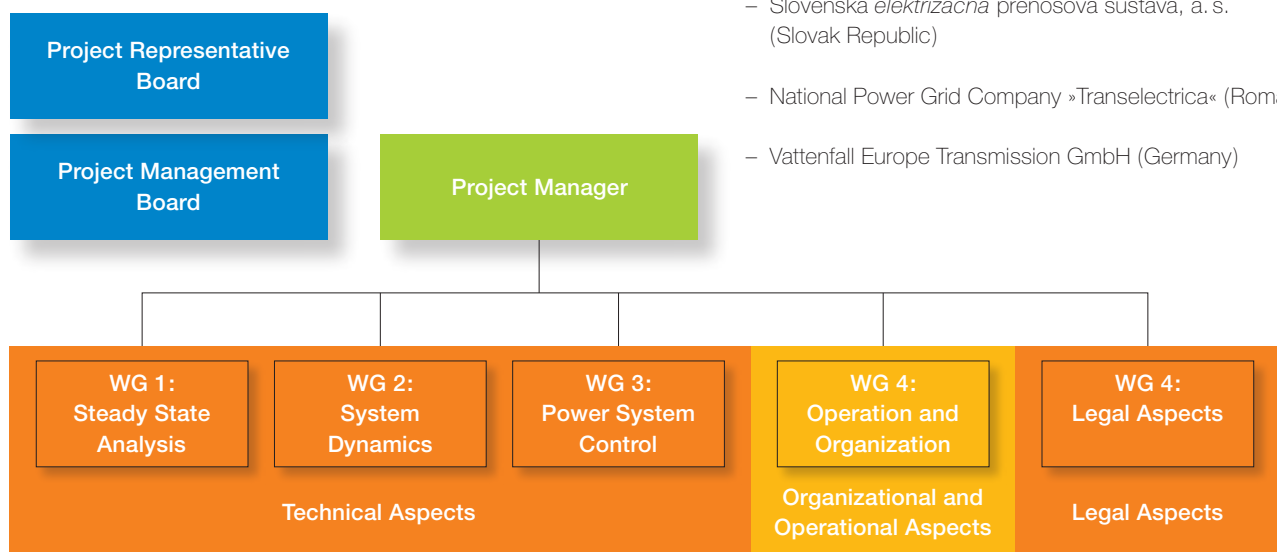


Figure 6: General project organization: joint structure from the working to the Board level



>>> A Consortium Agreement was signed by the companies on 24 November 2004. Other UCTE-TSOs support the project by data provision.

On the IPS/UPS-side, a group of 7 companies have established a joint agreement for the project:

Belenergo (Belarus), Eesti Energia (Estonia), Latvenergo (Latvia), Lietuvos Energia AB (Lithuania), Ukrenergo (Ukraine), Moldelectrica (Moldova) and System Operator – Central Dispatch Organisation of Unified Energy System of Russia (RAO UES) which has the leading role for the Eastern partners.

The study is considered as a joint project under the responsibility of UCTE. More than 100 experts from both sides are involved in the project. This huge amount of personnel resources is an attribute not only to the size of the system to be investigated, but also to the broad aspects of the tasks to be fulfilled: each of the two interconnected systems has been developed independently in terms of technical, organizational, operational and legal aspects in the past.

On the working level, five working groups deal with the subtasks of steady-state analysis, system dynamics, power system control, operational and organizational issues and legal aspects. All internal and external activities are co-ordinated by the project management.

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Further project entities are:

- Project Representative Board, which accompanies the project on the political level. It shall consist of representatives from the European Parliament, European Commission, UCTE, Baltic States and CIS countries.
- Project Management Board, which is responsible for steering the project and taking decisions on further steps. Furthermore, it shall approve of working group progress and reports. This joint board consists of representatives from UCTE and IPS/UPS.

At the end of 2004, negotiations on the Co-operation Agreement took place between the UCTE-Consortium and the IPS/UPS companies. This agreement defines – on a legal basis – the overall framework of the co-operation between both parties. From the goals reached in 2004, UCTE looks forward to an early project kick-off in spring 2005.

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