Russian State
Hydrometeorological University

RSHU & UHEL collaboration: history, past and present projects

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was used in the presentation
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COOPERATION TIMELINE

Tempus
COMBAT-METEO
2007-2010

Tempus
QUALIMET
2010-2013

Erasmus+
ECOIMPACT
2015-2019

UNIVERSITY OF HELSINKI

РГГМУ

INAR
Institute for Atmospheric and Earth System Research

RUSSIAN STATE HYDROMETEOROLOGICAL UNIVERSITY
1930

РГГМУ

COMBAT-METEO

Tempus III, 2007-2010, 500kE

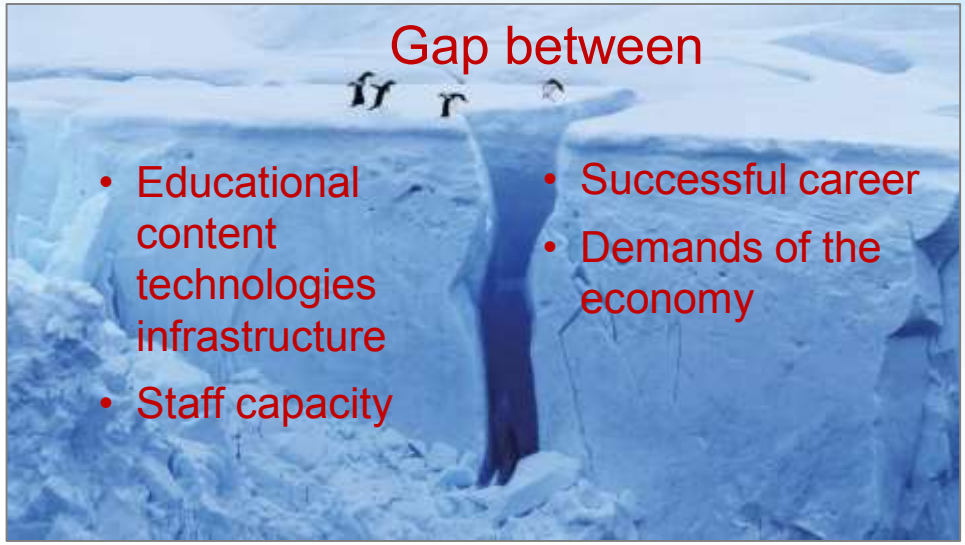
	U. Helsinki, FI
	U. Tartu, EE
	RSHU, MSU, Acad. Association of Hydromet. Universities, RU
	Odessa Environmental U., UA

Development of competency-based two-level curricula in meteorology

bologna process

RU 2003

UA 2005



Combat-meteo

Tempus III, 2007-2010, 500kE

Main steps

Research of labour market → clusters of opportunities for MET graduates

Survey of employers, prof. associations and alumni → main prof. and general competencies of a MET graduate to be successful in career

Staff and student (re)training mobility

Development: curricula, hours-to-ECTS algorithm, syllabi, textbooks

Outcomes

Internationally recognized competency-based two-level (Bachelor/Master) curricula in meteorology

Adapted/new syllabi

Federal state educational standard in meteorology

WMO

Федеральный Государственный Образовательный СТАНДАРТ

Some general conclusions

- Those general competencies undervalued by academics are teamwork, decision-making and capacity for applying knowledge in practical situations (for BSc level) and capacity for analysis and synthesis and decision-making for MSc level. The same competencies are highly valued by recent graduates.
- In most cases, improvements are possible either by introducing new ways of delivery (promoting group assignments, role games, etc) or by introduction new courses.

QUALIMET

Tempus IV, 2010-2013, 1mE

	U. Helsinki, FI
	U. Tartu, EE
	U. Copenhagen, DK
	ENEA, IT
	RSHU, Acad. Association of Hydromet. Univ., Roshydromet Advanced Training Institute, MSU, TvSU - RU
	OSENU, TNU, UA

Development of qualifications framework in meteorology

Motivation: Higher education falls behind progress in science and not necessarily guarantee professional skills

Outdated system of professional-qualification requirements

Diploma by academic community = to permit to profession without testing / approval by professional community

From traditional learning to qualifications for job-competency → Life-long learning (LLL)

Development of qualification framework in meteorology (QualiMet)

- To develop **standards of knowledge, skills and competence** for all qualifications up to Doctoral level needed in all possible occupations a meteorology learner can undertake, by July 2011;
- To develop reciprocally recognized rubrics, criteria, **methods and tools for assessing the compliance** with the developed standards (quality assurance), by July 2012;
- To set a **network of Centers of Excellence** as a primary designer of sample education programs and learning experiences, both in traditional and distant setting of delivery, leading to achievement of the standards of knowledge, skills and competences, by December 2012;
- To set a **system of mutual international recognition** and award of qualifications in meteorology based on the developed procedures, by December 2012

WMO RTC in Russia

Vlab CoE

Moscow HM College
Moscow region

Roshydromet ATI
Moscow region

RSHU
St.-Petersburg

The Federal Service for Hydrometeorology and Environmental Monitoring of Russia

The Ministry of Natural Resources and the Environment of the Russian Federation

Ministry of Education and Science

The VLab network

Argentina (Buenos Aires and Cordoba)

Australia (Melbourne)

Barbados (Bridgetown)

Brazil (Cachoeira Paulista)

China (Beijing and Nanjing)

Costa Rica (San Jose)

Kenya (Nairobi)

Morocco (Casablanca)

Niger (Niamey)

Oman (Muscat)

Republic of South Korea (Jincheon)

Russian Federation (Moscow and St. Petersburg)

South Africa (Pretoria)

VLab links between CoEs and their supporting satellite operators and agencies

ECOIMPACT: Adaptive Learning Environment For Competence In Economic And Societal Impacts Of Local Weather, Air Quality And Climate

Consortium

- University of Helsinki, FI
- Agricultural University – Plovdiv, BG
- University of Central Europe in Skalica, SK
- Kherson State Agricultural University, UA
- Odessa State Environmental University, UA
- Taras Shevchenko National University of Kyiv, UA
- Roshydromet Advanced Training Institute, RU
- N.I. Lobachevsky State University of Nizhni Novgorod, RU
- Russian State Hydrometeorological University, RU

Erasmus+ Action: Capacity-Building in the Field of Higher Education

Coordinator: University of Helsinki

Duration: 15.10.2015 - 14.09.2019

Project cost: 1 032 557 Euro

ECOIMPACT

Erasmus+, 2015-2019, 1mE

Co-funded by the Erasmus+ Programme of the European Union

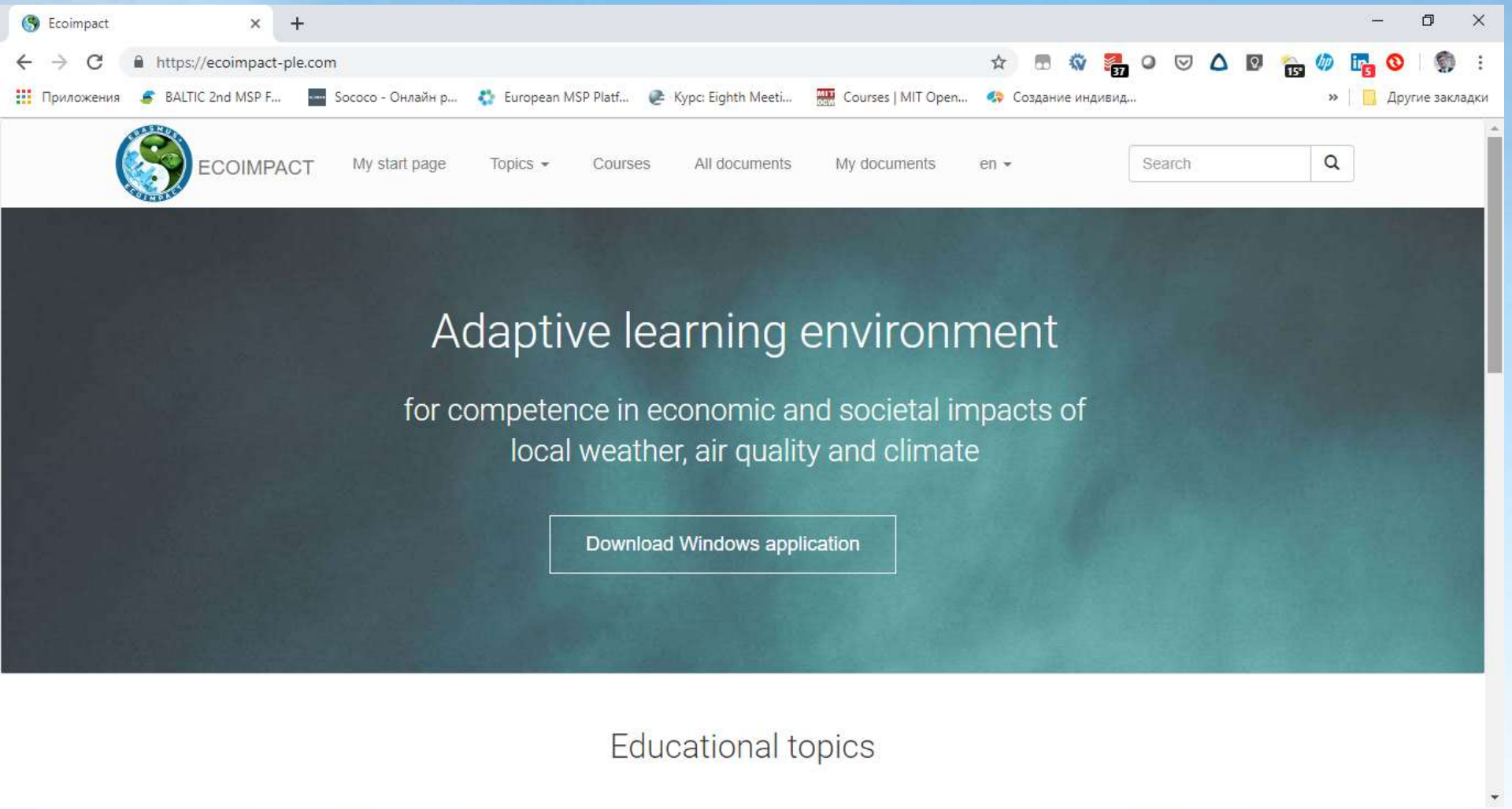
Approach

- **Personalized learning in connection with environment via IoT**
- **Problem-centered vs. discipline-centered**

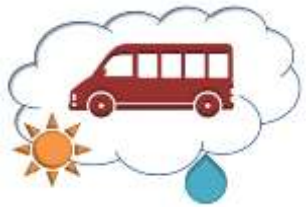
Target groups

- **University students (hydrometerology and economics)**
- **Hydrometeorology professionals**
- **Managers at weather-sensitive firms and public bodies**

ECOIMPACT PLE launched



ECOIMPACT Sectoral courses

	Course title	Developers
	Road transport	
	Biometeorology	
	City management	
	Energy	
	Agriculture	

ECOIMPACT logic

Sectoral courses =>

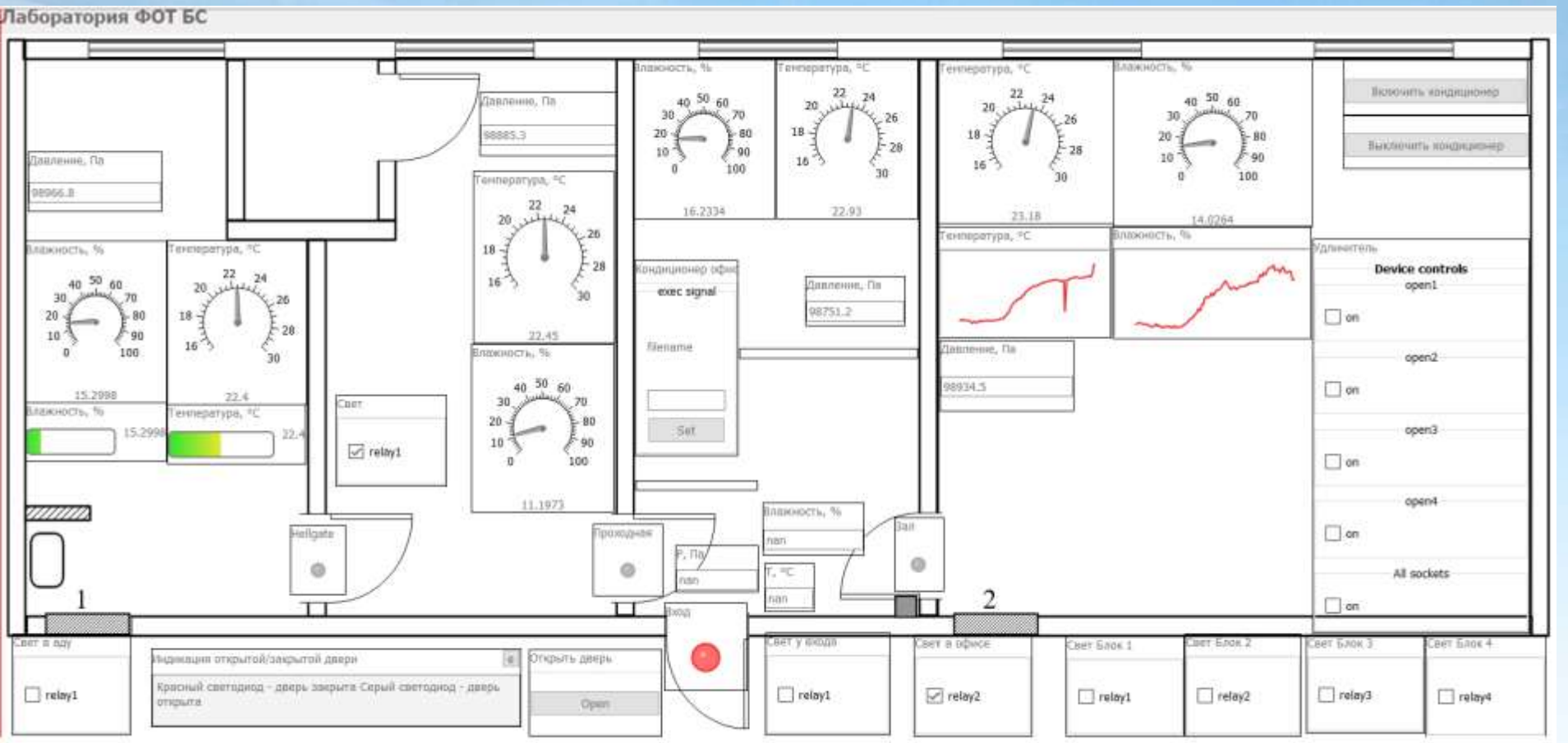
Professional Development course for NWS =>

Academic course in Economic Meteorology

Developed first for Moodle, then for PLE

Courses take advantage of smart sensors used in PLE for lab works

Virtual laboratory environment



RSHU staff and students at Hyytiälä field station

2007

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2020

More than 30 RSHUers involved

UNIVERSITY OF HELSINKI

New perspectives:

2019: PEEX Academic Challenge: research training intensive course on “Multi-Scales and -Processes Modelling and Assessment for Environmental Applications”

2020: PEEX Academic Challenge: research training intensive course on “Atmosphere-Surface Interactions and Feedbacks: Approaches to Measurements & Analysis”

2020: Erasmus+ International Student Mobility Program

(UHEL, RSHU, HSE - 12 incoming semester students – either 1st and 2nd cycle - from HSE and RSHU to UHEL and for 8 incoming teachers from HSE/RSHU to UHEL for max. 14 days each and 4 outgoing teachers from UHEL to HSE and 2 to RSHU)

Thank you for your attention!

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