

Yuliya Lashyna

project manager

International Projects Department

## EXPERIENCE OF NTUU KPI IN IMPLEMENTATION OF TEMPUS PROJECTS

1



**NATIONAL TECHNICAL UNIVERSITY OF UKRAINE  
"KYIV POLYTECHNIC INSTITUTE"**

**KPI is the largest technical university in Ukraine.  
It was founded in 1898.**



# HISTORY

KPI was founded in 1898



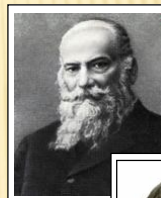
S.Yu. Witte



M.A. Tereschenko



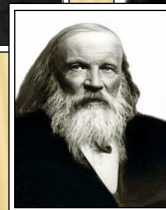
L.I. Brodsky



N.E. Zhukovsky



D.I. Mendeleev



K.A. Tymirjazev

360 students in 1898

# HISTORY



**Prof. D.I. MENDELEYEV** –  
Chairman of the first  
examining board in KPI,  
1903



The student **I. SIKORSKY** in the  
plane of his own design



**S. KOROLEV** – the  
student of KPI, the  
member of university  
air-club

## EDUCATIONAL - RESEARCH INSTITUTES

- Institute For Applied System Analysis
- Energy Saving & Energy Management Institute
- Institute of Physics & Technology
- Institute of Mechanical Engineering
- Institute for Telecommunication Systems
- Institute of Publishing & Printing Industry

## FACULTIES

- Faculty of Aircraft & Space Systems
- Faculty of Chemical Technology
- Faculty of Chemical Engineering
- Faculty of Management & Marketing
- Faculty of Electronics
- Faculty of Electric Power Engineering & Automatics
- Faculty of Heat Power Engineering
- Faculty of Informatics & Computer Engineering
- Faculty of Linguistics
- Faculty of Applied Mathematics
- Faculty of Instrument Making
- Faculty of Physics Engineering
- Faculty of Physics & Mathematics
- Faculty of Radio Engineering
- Faculty of Sociology & Law
- Faculty of Biotechnology
- Intercollegiate Medical Engineering Faculty

***29 in total***



## OVERVIEW

39 bachelor's, 92 master's, 82 Ph.D. programs

~ **25 300 students**

The largest producer of engineers in Ukraine

**25 %** students of technical universities of Ukraine are students of NTUU "KPI"



## FACULTIES AND STAFF

The NTUU "KPI" Community includes:

Professors	520
Associate Professors	1500
Senior Lecturers	500

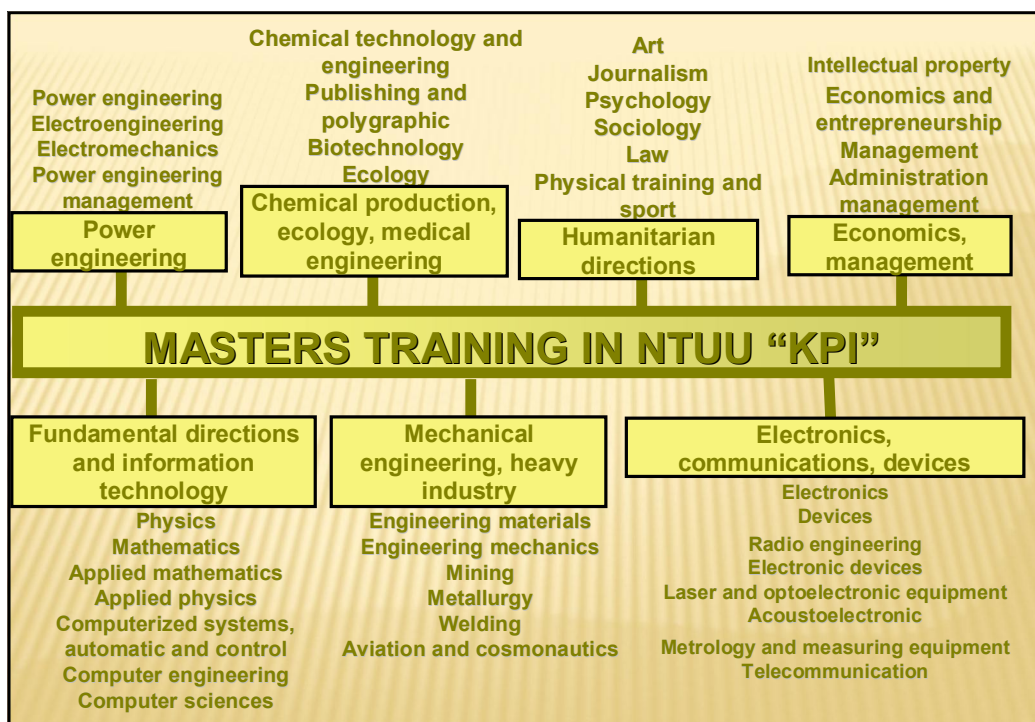


**Students:**

Undergraduate students	~ 16900
Post-graduate students	~ 7500
PhD students	855

<b>Total</b>	<b>~ 25300</b>
--------------	----------------

**Towards MIT research university model**



## NTUU "KPI" REPRESENTS UKRAINE IN INTERNATIONAL ORGANIZATIONS



## Ukrainian Universities Rating in 2012 (UNESCO, Compass, WEBOMETRICS)


Name of institution	Place in consolidated rating	Place in ratings			Total points
		UNESCO	Compass	WEBOMETRICS	
<b>KPI</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>
Kyiv Taras Shevchenko National University	2	2	2	2	6
Kharkov National University VN Karazin	3	3	9	4	16
Lviv Polytechnic National University	4	11	4	5	20
Donetsk National Technical University	5	16	6	3	25





# NTUU KPI development through realization of Tempus Projects



13



2002	Law of Ukraine 'On Higher Education'
1999 – 2002 	<b>'Modern Information Technologies for the Libraries'</b>
1996 – 1998 	<b>Fachsprachliche Fremdsprachenausbildung an der NTUU 'KPI'</b> <b>(Subject area: Modern European Languages)</b>
1994-1996 	<b>Entwicklung eines effektiven autonomen Hochschulverwaltungssystems am Kiewer Polytechnischen Institut</b> <b>(Subject area: Academic Management)</b>
1991	Ukraine obtains an independence

14

## UNIVERSITY MANAGEMENT

### 1994 – current challenges for Ukrainian universities

1. Universities acquired rights to foreign economic activity
2. Reorganization of university management
3. Introduction of information technologies to university management



CR\_JEP- 8570-1994 TEMPUS project  
'Entwicklung eines effektiven autonomen Hochschulverwaltungssystems am Kiewer Polytechnischen Institut' (1994-1996)  
Coordinator: Aachen University



## PROVIDING SUPPORT FOR PROJECTS

- Establishment of 'Computer Telecommunication Centre of KPI'
- Control Center for base node of URAN (Ukrainian Research Academic Network)
- Introduction of the optical network, uniting buildings No. 1, 2, 7, 12 and 18





# KPI MANAGEMENT - 2012

Information resources of the University:

- Web-site;
- Electronic document management system;
- Introduction of Automated information system 'Electronic Campus of NTUU KPI'
- Joining the GÉANT network – the pan-European communications infrastructure serving Europe's research and education community.



17

# MODERN EUROPEAN LANGUAGES

1996 - current challenge for Ukrainian universities:

Ukraine's integration into the world educational and scientific community

**CR\_JEP- 10253-1996 TEMPUS project**

**'Fachsprachliche Fremdsprachenausbildung an der NTUU "KPI" (1996 – 1998)**

Coordinator: University of Dresden



## MODERN EUROPEAN LANGUAGES

### Outcome:

#### New specialities and new chairs

- Department of theory, practice, and translation of the German language
- Department of theory, practice, and translation of the French language



#### Centre of Business French of NTUU 'KPI':

support for Double Diploma Programs;

preparing candidates for exams DELF and DALF, competition for internship in France;

carrying out of the functions of NTUU 'KPI' as a member of the Association of Francophone Universities (AUF).



19

## 'Double Diploma' - 2012

- Otto-von-Guericke-Universität Magdeburg, **Deutschland**
- TU Dresden, **Deutschland**
- Université du Maine, Le Mans, **France**
- École Polytechnique, Paris, **France**
- Korea Institute of Science and Technology, Seoul, Korea
- University of Indianapolis, Athens, Greece



## INFORMATION TECHNOLOGIES FOR THE LIBRARIES

### Current challenge for Ukrainian libraries:

- computerization of library
- development of electronic reading rooms
- creation of digital copies of rare books



TEMPUS project CP – 20552-99

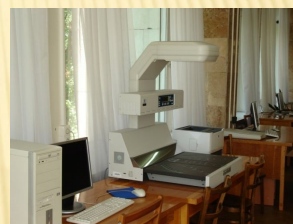
‘Modern Information Technologies for the Libraries’  
(1999 – 2002)

Coordinator: RWTH – School of Aachen

## INFORMATION TECHNOLOGIES FOR THE LIBRARIES

### Outcomes:

- ✓ Library has been provided with up-to-date equipment owing to which rare editions were transformed into digital form;
- ✓ Integrated Library System Aleph
- ✓ An electronic catalogue of the library has been created.





## BOLOGNA PROCESS



**Signing of the "Magna Charta Universitatum"**



**The International seminar "Higher Education in Ukraine and Bologna Process", 2004**

24

## MANAGEMENT OF UNIVERSITY LIBRARIES

Current challenge for Ukrainian libraries:

- Training of the library staff to use modern information technologies



TEMPUS project 'UM\_JEP-23074-2002

“Information Technologies in Management of University Libraries” (2003 – 2005)

Viennese Technological University – coordinator

## MANAGEMENT OF UNIVERSITY LIBRARIES

Outcomes:

- ✓ Establishment of the Library Manager Training Centre
- ✓ Continuing education course ‘Library Manager’
- ✓ 8 traditional and 5 distant learning courses for training university library staff in IT
- ✓ Training of staff of 29 Ukrainian libraries from all regions of Ukraine, dissemination of knowledge through URAN



## BRIDGING THE GAP BETWEEN UNIVERSITY AND BUSINESS

### Current challenge for Ukrainian universities and business:

- To facilitate cooperation among academia, business and society in Ukraine
- Development of education and research cooperation in the areas of environmental and sustainable energy technologies.



TEMPUS Joint European Project 25163 – 2004  
'Bridging the gap between University and business'

Coordinator: Royal Institute of Technology, Stockholm

## BRIDGING THE GAP BETWEEN UNIVERSITY AND BUSINESS

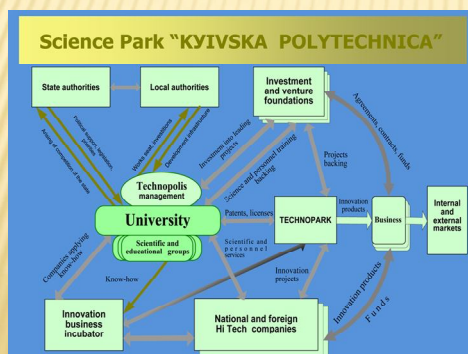
### Outcomes:

- ✓ Launch of **The Joint Swedish-Ukrainian Laboratory on Sustainable Environmental and Energy Technologies** (November 13, 2007)
- ✓ **Ukrainian festival of innovative projects 'Sycorsky Challenge'**



## SUPPORT OF THE PROJECTS


- Science Park “Kyivska Polytehnika”  
– under special law of Ukraine dtd. December 22, 2006, No. 523
- Career Development Center of NTUU “KPI”





29


2012 ↑ Law of Ukraine 'On Higher Education' revised

2011 The Decree on the approval of the National Qualifications Framework


2011-2014  **Double Degree Master Program in Automation / Mechatronics**

2011-2015  **Establishing Modern Master-level Studies in Industrial Ecology**

2011-2013  **Creation of third cycle studies – Doctoral Programme in Renewable Energy and Environmental Technology**

2010-2012  **Implementing tools and policies for quality work at institutional level**

2009 – 2011  **Curricula Reform in Space Technology in KZ, RU, UA**

2007-2008  **Introduction of two-cycle system in Machine Building speciality**

30

## CURRICULA REFORM

Current challenges for Ukrainian universities:

- Introduction of ECTS into Ukrainian higher education;
- Harmonization of curricula with European universities



TEMPUS IV (Ref.144681-TEMPUS-2008-DE-JPCR) –  
'Curricula Reform in Space Technology in KZ, RU, UA'

Coordinator: Technical University of Berlin

## CRIST - CURRICULA REFORM IN SPACE TECHNOLOGY

Outcomes:

- ✓ Modernization of curricula
- ✓ Training in the universities of Belgium and Germany
- ✓ Computer lab
- ✓ Satellite Engineering Lab
- ✓ Ground Station for Communication with Satellites





## ONGOING TEMPUS PROJECTS IN NTUU "KPI"

1. **MPAM EU-PC** Double Degree Master Program in Automation/Mechatronics
2. **EIMAST** Establishing Modern Master-level Studies in Industrial Ecology
3. **UNIQTOOL** Implementing Tools and Policies for Quality Work at Institutional Level
4. **CREDO** Creation of Third Cycle Studies - Doctoral Programme in Renewable Energy and Environmental Technology
5. **CENEAST** Reformation of the Curricula on Built Environment in the Eastern Neighboring Area



## CREDO

Current challenge for  
Ukrainian universities:

- Creation of Third Cycle Studies - Doctoral Programme



510952-TEMPUS-1-2010-1-SE-TEMPUS-JPCR

'Creation of Third Cycle Studies - Doctoral Programme in Renewable Energy and Environmental Technology'  
(2011-2013)

Coordinator: Royal Institute of Technology, Sweden

## CREDO

### Outcomes:

- ✓ Pilot project in the transition to three-cycle training
- ✓ Some project results were used while preparing revised Law of Ukraine 'On Higher Education'

35

## FUTURE PLANS – TEMPUS VI

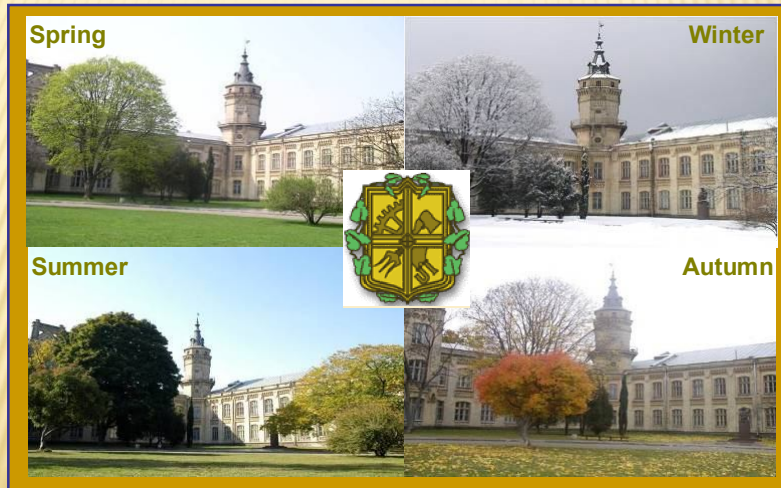
### Areas of future projects:

- Research, Innovation and Technology Transfer Management
- Modification of Curricula According to Qualification Frameworks
- Telemedicine Technologies
- Waste Management Technology and Environmental pollution control
- Student Early Employability, etc.



36

**THANK YOU FOR ATTENTION!  
WELCOME TO NTUU "KPI"!**



**KPI SEASONS**