UNITe – Overview

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project coordinator

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EUROPEAN UNION
European Regional Development Fund
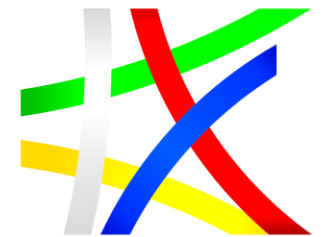
OPERATIONAL PROGRAMME
SCIENCE AND EDUCATION
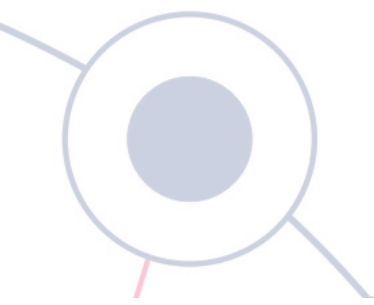FOR SMART GROWTH

Beneficiaries

- Sofia University St. Kliment Ohridski (SU) – coordinating institution

- Technical University Sofia (TU)

- Russe University "Angel Kanchev" (RU)

- Shumen University "Bishop Konstantin of Preslav" (ShU)

- Burgas University "Prof. Dr. Assen Zlatarov" (BU)

UNITe

UNITe phase 1

Total budget:

- 29 781 882.42 BGN., out of which:
  - 85.00 % EU co-funding: 25 314 600.06 BGN.
  - 15.00 % national co-funding: 4 467 282.36 BGN.

Project Start date:

- 28 February 2018

Project End date:

- 31 December2023

To establish the first in Bulgaria

Centre of Excellence

of the type: Distributed Research Infrastructure

- RusseUniversity "Angel Kanchev"
- ShoumenUniversity "Bishop Konstantin Preslavski"
- Sofia University St. Kliment Ohridski
- Technical University - Sofia
- University "Prof. Dr. Assen Zlatarov", Bourgas
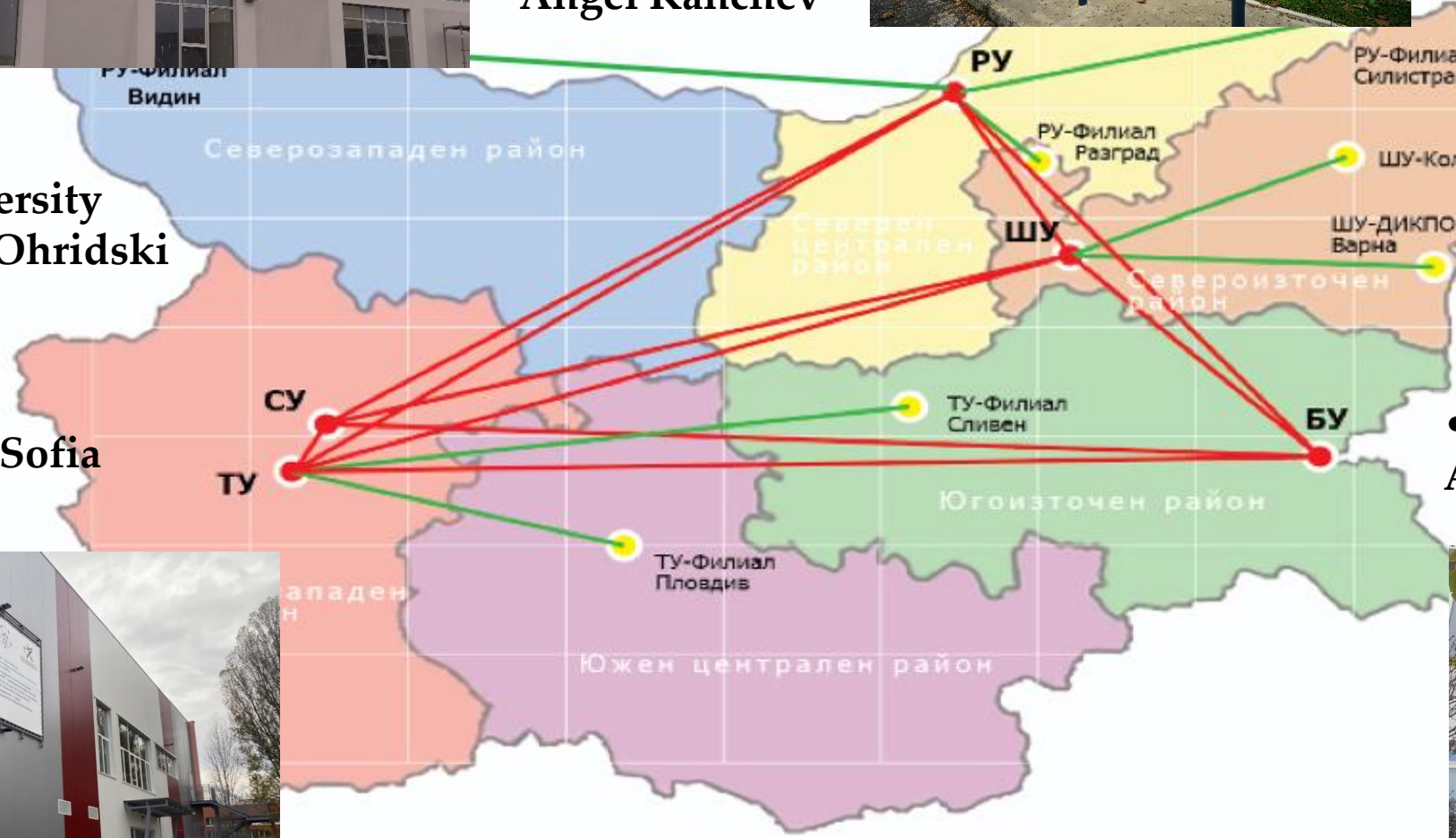
UNITe Infrastructure

- **SU:** IoT Labs, Open Data and Citizen Services, Smart Cities, Data Science, a heterogeneous cluster for high-performance big data computing; terminal equipment for connections to UNITe computing cluster, and to computing clusters accessible through GEANT

- **TU:** Data centre with a high performance server and workstations, specialized equipment for Software Defined Radio, measurement antennas (EMP), vector analyzer, spectrum analyzer

UNITe Infrastructure

- **BU:** Real-Time Labs and Embedded Systems, Prototype Lab and Real-Time Environmental Control

- **RU: L**abs in serious games, simulations, digitalization and 3D scanning

- **ShU:** Steganological protection of information in networks, Cryptological protection of communications
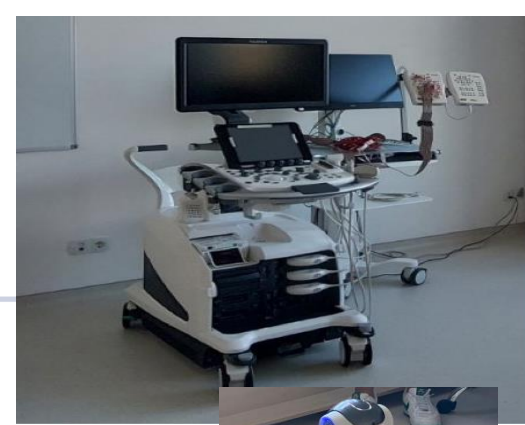
Structure of the activities in the UNITe project

Activities described in the project that are funded and are subject to reporting

Activity 2 Communication and Publicity	Activity 1 **Organisation and Management**		Activity 3 Independent and External Audit
	Activity 4 **Establishment and Modernisation of the Infrastructure**	Activity 5 **Purchasing and Modernization of the Equipment**	
	Activity 6 **Dissemination of the Research Results**	Activity 7 **Carrying our Research Activities**	
	Activity 9 **Scientific Partnerships and Participation in Research Networks**	Activity 10 **Specialisation, Exchange and Mobility of Researchers**	
	Activity 8 **Development of Sustainable Working Conditions, Sources of Financing and Partnerships, Joint Projects with Business and Private Investors**		

Research Work Packages

WP 1: **The Infrastructure as a Big Data service**

WP 2: **Software Services for Big Data**

WP 3: **Innovative Math Methods and Models in the Digital World**

WP 4: **Big Data Analyses in a real time and virtualization of systems**

WP 5: **Visual Search, Image Recognition and 3D Printing**

WP 6: **Cyber-physical intelligent systems**

WP 7: **Smart and Sustainable Cities**

WP 8: **Factories of the Future**

WP 9: **Big Data in Natural Sciences**

Successful International cooperation

- Participation in the international network EuroCC (33 countries with Germany as coordinator) within the national Centre of Competence in HPC/HPDA/AI (High Performance Computing, Big Data, Artificial Intelligence), jointly with the CoE IICT-BAS and the CoC -UNWE

- Established RDA node Bulgaria and participation in the international network RDA Europe 4

- Member of EOSC - Association network

- Lead partner in EUMaster4HPC - European Master Programme in HPC: Training and Education on High Performance Computing (H2020-JTI-EuroHPC-2020-03)

Networking of CoE UNITe

Goal: digital transformation, Data Driven Industry, Factories of the Future

Goal: e-skills, creativity, innovation culture

Goal: e-participation, e-democracy Data Driven Society, attractive science

SMEs, non-ICT industry

educational organizations *(teachers)*

citizens NGOs

new teaching methods

RTD services, pilot projects

e-competences, ICT needs

ICT industry

RTD projects

CoE *(researchers and students)*

pilot projects

state bodies, local authorities

Goal: ICT innovations Internet of Things Future Internet

Goal: Open government Data Driven Government intelligent cities

knowledge transfer

knowledge sharing, e-infrastructure, joint RTD projects

intermediaries in innovation

research organizations, universities

international community

Goal: integration of science and innovation

Goal: Open science Data Driven Science

Goal: integration into ERA

PROJECT BG05M2OP001-1.001-

Impact: Contribute for Knowledge Society and Digital Market in Bulgaria

- Strengthening science capacity in Informatics and ICT and for Open Science

- Expanding the innovation potential of the ICT industry and support for Open Innovation

- Strengthening the ICT Innovation Eco System

- Raising the quality of ICT training and improving e-competences

- Digital transformation and ICT penetration in SMEs (e-business)

- Creating conditions for the development of Industry 4.0/5.0

- Enhancing e-governance and e-democracy capabilities

- Smart governance in municipalities and better quality of life (smart cities)

УНИТе

Project Contributions for Knowledge Society and Digital Market in Bulgaria

- Strengthening science capacity in Informatics and ICT and for Open Science
- Expand the innovation potential of the ICT industry and support Open Innovation
- Strengthening the National ICT Innovation System
- Increase the quality of ICT training and improve e-competences of citizens
- Digitalise the economy and accelerate ICT penetration in SMEs (e-business)
- Creating conditions for the development of Industry 4.0
- Enhancing e-governance and e-democracy capabilities of the administration
- Smart governance in localities and better quality of life (smart cities)

Indicators for the implementation of the UNITe project

- Mandatory with restriction of default, which are laid down in the administrative agreement

Indicator	Plan	Result
New Researchers	23	30 (121)
Researchers who are working in the improved infrastructure	33 (35)	66 (78)

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Indicators for the implementation of the UNITe project

Indicator	Plan	Result
Young Researchers up to 34 years old	9	10
Leading Researchers – seminars held	5	8
PhD Students	9	9
Scientists attracted from abroad	3	5
Trained scientists through mobility and collaboration	20	26

Indicators for the implementation of the UNITe project

Indicator	Plan	Result
Publications - first 10% WoS	8,28%	9,34%
Given Reports at International Conferences	402	350
Participation in EU projects, COST	30	27
Developed and acquired intellectual property rights	3	4
Joint Projects with the business	10	12
Newly built infrastructure complexes	1	1

Thanks for your attention!

For contacts:

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