The AComIn Project in Brief

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Background: It all started with a SWOT analysis

- After the institute creation 1 July 2010 (and having in mind the REGPOT calls), we asked ourselves:
  - What to do (i.e., to be or not to be)?
  - How to make radical changes, to progress significantly?
  - How to align the RTD topics of IICT to the Horizon 2020 challenges? ….
- Identified areas of IICT expertise with available critical mass of human potential:
  - ***Advanced computing*** (supercomputing, high-performance computing, parallel processing etc.)
  - ***Smart interfaces*** (language and semantic technologies & signal and image processing)
  - ***Optimisation and intelligent control***

SWOT Analysis - Strengths

- Human Resource excellence
- Sustainable capacity building: 2 EC & 1 BG CoEs
- Strong IICT core infrastructure available
- Leadership of 2 national Research Infrastructures
- Tradition in joint RTD with renowned int. partners
- Proven abilities of the IICT seniors to raise funding
- Attracting outstanding incoming young researchers
- Experience in training: (int.) PhDs, MSc and BSc
- Experience in organising top scientific events
- Long-term partnership with high-tech Bg SMEs
- Several patent applications to BPO, EPO, US PO

SWOT Analysis - Weaknesses

- Insufficient modern equipment which prevents:
  - Setting of long-term research agenda in hot ICT areas
  - Full exploitation of the available computing core
  - Cooperation with leading EU partners
  - Know-how transfer to Bulgarian industry
  - Development of attractive training programs
- Weaker international orientation in some areas, focus on topics with local importance
- Relatively low-flow of incoming researchers
- Insufficient dissemination activities & IICT visibility
- Lack of expertise in TT and IPR issues
- No strategy for attracting PhD students from industry

SWOT Analysis - Opportunuties

- Acceptance of Nat. Research Strategy in 2011 (NRS)
- Focus on ICT, related to “Dig. Agenda” 2020
- Increasing investments in research training / OP
- Strengthening the innovation potential / OP
- Stimulation of private sector involvement in RTD / OP
- Adopting the instruments of international evaluation which facilitates IICT recognition
- Reforming the BAS Joint Innovation Centre and PO
- Improved image of BAS after the self-initiated evaluation by ESF/ALLEA

SWOT Analysis - Threats

- Very slow and/or ineffective implementation of the NRS Measures, incl. Policies for
  - Targeted funding for the CoEs,
  - Implementation of two-way researchers' mobility incl. attraction of foreign experts or Bulgarian emigrants
- Lack of effective Strategy for encouraging the developments of high-tech industry
- Delay in launching of Innovation Strategy
- Slow non-coordinated and incoherent reforms without implementation of the evaluation results
- In BAS, lack of resources and adequate policy to support international patent applications

Action Plan with 5 strategic priorities

- Strengthening Human Potential
- Providing up-to-date Research Infrastructure
- Strengthening IICT Innovation Capacity
- Endorsing the 'Science-in-Society' principles
- Organising regular assessment of the IICT achievements

…. and many actions planned in each priority

AComIn Work Packages

- **WP1: Strengthening the IICT Human Potential** – selection and employment of incoming post-docs, incl. reintegration of Bulgarians
- **WP2: Purchasing Smart Lab and building User Communities**
- **WP3: Networking**
- **WP4: Development** of Intellectual Property and Knowledge Transfer Plan and Innovation Capacity Building,
- **WP5: Dissemination**
- **WP6: Assessment** (of the whole institute IICT)
- **WP7:** Project **Management**

WP1: Human Potential

- A major budget
- Employment of **Incoming Experienced Researchers**
- We consider 2 categories of incoming:
  - Post-docs for long-term employment, 7 positions of 36 months each: 3 with Bulgarian Nationality and 4 foreigners;
  - Experienced researchers with more than 10 years of experience for shorter employments: 17 mmonths for foreigners and 17 mmonths for Bulgarians. They will cooperate with IICT seniors in varios tasks: RTD in innovative areas, equipment deployment, using software platforms, in TT to User Communities, delivering talks to dissemination events etc.
- Salaries based on the EC Mobility rates in Marie Curie
- There is appropriate funding for Bulgarian experts dealing with RTD, tender for equipment purchase, Smart Lab integration and exploitation, the project management etc.

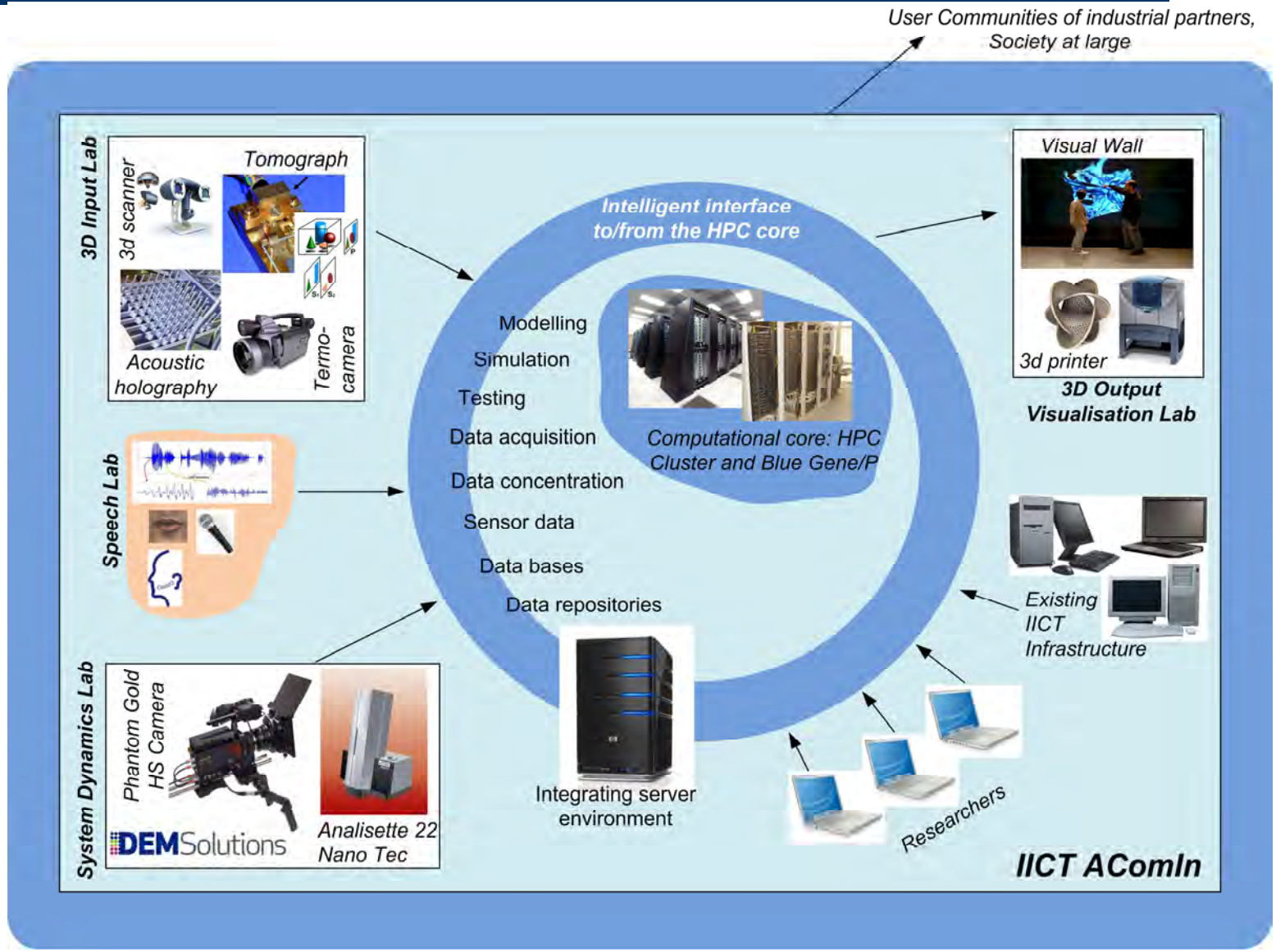
Novel RTD results in 10 areas

- *Advanced computing and Finite Elements applications*
- *Monte Carlo methods, algorithms and distributed computing*
- *Multimodal enrichment of voice communication*
- *Large-scale approach to multilingual terminology*
- *3D modelling and recognition in biometrics*
- *Digital preservation of cultural heritage*
- *High spatial resolution based on near-field focalisation*
- *Hierarchical optimization in real time applications*
- *Energy efficient production technologies*
- *Maintenance of industrial facilities operating in aggressive environment*

WP2: Smart Lab and building User Communities

- **A coherent set of complementary high-tech devices**: 3D input/output of microstructures, modelling of particle dynamics and interaction in granulated media as well as (pre-/post-) processing of speech, images and signals.
- Ensure **'data autonomy'** of IICT (flow of real-world data for IICT RTD tasks)
- Viewed as **advanced 'periphery'** (in a broad sense) to the HPC core
- Enable technologies for processing of microstructures and dynamic events – **central topics in H2020**
- **Support synergy of IICT research** and upgrade to modern computational paradigms
- **Unique set** of devices for South-East Europe
- Smart Lab is also a major budget - 1/3 of the project cost

Smart Lab at a glance



WP2 includes building of User Communities

- Early orientation to industrial partners in order to increase their competitiveness
- Building User Communities
- Planned tasks: Technology / know-how transfer, Industrial training with focus on innovation, demonstrations, hands-on experience etc.
- Four Communities are planned at the moment:
  - *(i)* 3D input/output – the 3D technology is at the door,
  - *(ii)* Speech processing,
  - *(iii)* Microstructure dynamics and
  - *(iv)* Advanced transportation systems
- Lecturers to the TT seminars: IICT experts as well as the incoming experienced researchers

WP3 Networking

- **Networking with the international partners** (two-way secondments, short visits in both directions)
  - Focused on experienced researchers (from IICT and partnering sites – i.e. at least post-docs)
  - There are requirements about Work Programmes in case of longer stays, secondment results etc.
  - IICT will have a procedure for selection of candidates for outgoing secondments
- **Participation in conferences** (with accepted papers and presentations), **exhibitions, information events**
- AComIn provides sufficient budget to support **active international contacts**

WP4 Development of Innovation Potential in IICT

- **Complementary with the new TTO Project** (IICT was successful in getting a Competitiveness OP project for building a TTO)
- An experienced consultant (Dr Frank Heemskerk) will provide **opinion about the IICT Innovation Strategy** and will deliver 2-3 day courses about IPR issues and valorisation in academic organisations (he is a co-founder of ProTon Europe, the largest association of University TTOs of over 500 universities across Europe)
- JiC-BAS will provide **training** and will support the development of innovation potential
- Budget for protecting IPR in EPO is foreseen

WP5 Dissemination

- Project site
- A dedicated event **AComIn** – int. conference, year 3
- Partial support of another 15 events in Bulgaria
- 5 Cycles of TT Seminars with User Communities
- Dissemination to the society as a whole
  - Information days, Doors Open days combined with Stock Exchange of Technology Transfer
  - Publishing books, monographs, user manuals, popular materials
  - Participation in international fairs
  - Making movies about AComIn
  - A tour around the country in year 3
  - Leaflets, promotional materials

Active Dissemination programme

	Jan	Febr March	April	May	June	July Aug	Sept	Oct	Nov	Dec
2012										
2013	SM	elNews		HHQL	LSSC	User Com KT events	RANLP elNews	ACAC NMNT	IDay out of Sofia	DOD+ SETT
2014		User Com KT events elNews		CTS	BioM RTable	User Com KT events NM&A	AIMSA ACOSA elNews		CPPS IDay out of Sofia	DOD+ SETT
2015		User Com KT events elNews	Tour in BG		LSSC	AComIn VACS User Com KT events	RANLP AICS DOD+ SETT elNews			

WP6 Evaluation by 4 independent reviewers

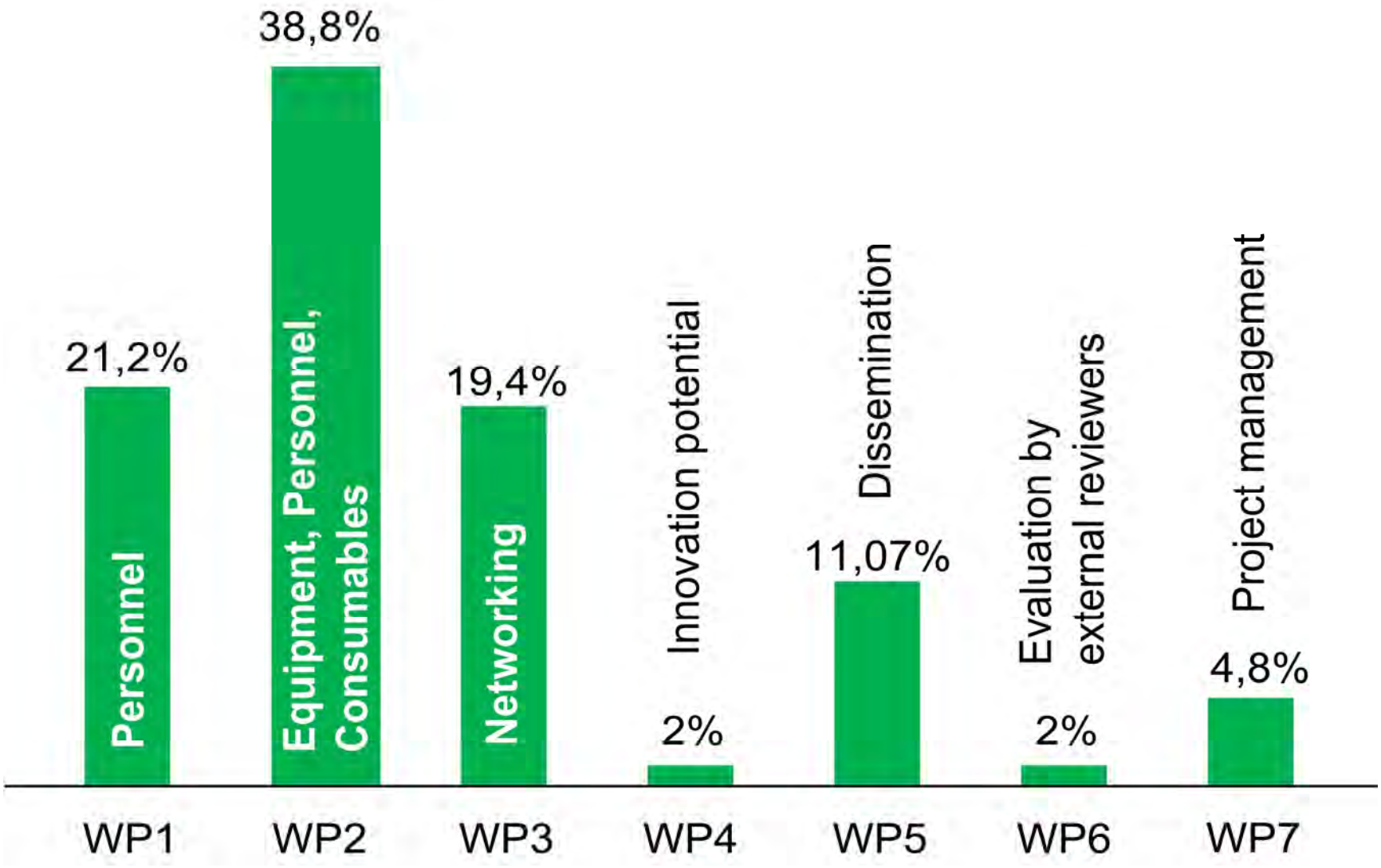
- Months 35-42, actual review months 37-42
- EC-selected reviewers
- Done for IICT as a whole (not only regarding AComIn performance)
- Assigns a “quality mark” to the institute

- Will be helpful
  - for the next BAS evaluation exercise
  - when the government selects CoEs
  - as international recognition label

WP7 Management

- Organises and monitors the everyday project activities
- ….
- Prepares and delivers a Sustainability strategy (m24)

Budgets


38,8%
21,2%
19,4%
Innovation potential
Dissemination
11,07%
Evaluation by external reviewers
Project management
4,8%
2%
2%
Personnel
Equipment, Personnel, Consumables
Networking
WP1
WP2
WP3
WP4
WP5
WP6
WP7

Performance indicators

- ***Research productivity***: the number and quality of scientific publications will be increased by 10%
- ***Relevance to the socio-economic needs***: the number of contacts with industrial, governmental and NGO users/clients will be increased by 15%
- ***Human Resources***: increase of staff (incoming researchers, part-time project-based, doctoral students); defended PhD theses; visits to IICT
- ***Innovation impact:*** patent applications, software licenses
- ***Social impact:*** *hundreds of visitors and attendees at various events, dozens of media reactions*

IICT senior core

- Permanent research staff of 104 scientists with average age 45.6 years
- 42 PhD students
- > 40 part-time project collaborators
- More than 70% of the permanent senior staff is closely related to the AComIn topics
- AComIn Core consists of 20+ seniors

Role of the International partners

- Members of the (so-called) Steering Committee – a monitoring assembly providing internal comments and recommendations
- Might help in long-term employments, providing additional evaluation of candidates (when we need further opinions to assess them in more details)
- Host IICT seniors for secondments, to organise a secondment of their sfatt member to IICT
- Perform joint RTD with IICT experts
- Support the AComIn Technology-transfer seminars and training of User Communities
- Participate in the AComIn dissemination events

Sustainability: Current vision

- So far IICT is **stably successful** not only in raising funds but in **combining various resources** in order to sustain its infrastructure and human potential
- As usual we rely on RTD projects from national and international sources
- New recent elements:
  - the Operational Programmes open new opportunities, e.g. IICT might become a “Centre for SME support in ICT” based on its new infrastructure
  - After AComIn end, IICT will have increased RTD capacity and links to national high-tech industry

What is done in AComIn 1-25 October

- Web site open
- Executive Board (EB) appointed
- Selected Commissions for:
  - Considering and assessing job applications
  - Organising the equipment tender
  - Organising public procurement procedures
- Adopted procedure for selection of candidates for employment
- 2 post-docs with Bulg. nationality employed at 15th October
- Another application for 12 months employment expects final EB decision: Jean Michel Sellier, PhD "*Simulation of 2D Submicron Semiconductor devices*" from the University of Catania, last job: Research Assistant Prof. at the Purdue University, Indiana, USA
- Job announcement to be posted in public sites next week

Thanks for your attention
Any questions?