

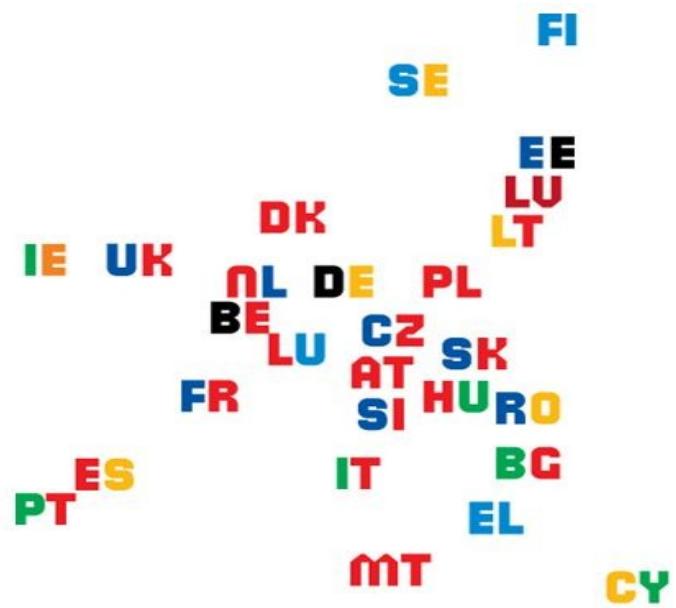
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INFLUENCE OF RESEARCH INFRASTRUCTURES ON TRAINING AND KNOWLEDGE PRODUCTION AT REGIONAL LEVEL

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**HUNGARIAN ACADEMY OF
SCIENCES and the EUROPEAN
RESEARCH COUNCIL**



THE GROWING NEED FOR TALENTS

-**DEFINITION:** THE ABILITY TO SOLVE COMPLEX PROBLEMS OR INVENT NEW SOLUTIONS. **NEED OF SUPPORTING INFRASTRUCTURE.**

-CHURCHILL: ...THE EMPIRES OF THE FUTURE WILL BE THE EMPIRES OF THE MIND (1943)

-TALENT HAS BECOME THE WORLD'S MOST SOUGHT-AFTER COMMODITY. SHIFTING BALANCE OF POWER . MOBILITY !

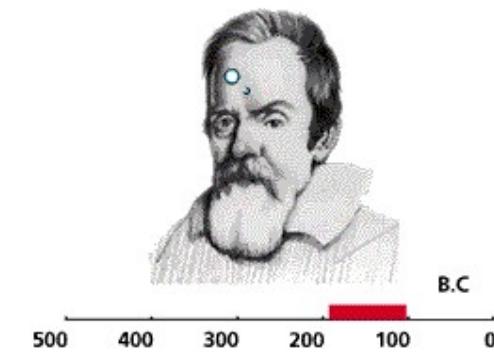
--GLOBAL HUNT FOR TALENTS: STRUCTURAL CHANGES; AGEING; FALLING LOYALTY OF EMPLOYEES; BROADER SPECTRUM OF JOBS WHERE TALENTS ARE NEEDED

THEY ARE ALONE NOT ENOUGH: REWARDING EXPERIENCE; STRONG ETHICAL CODEX; INTERNAL CONTROL ALSO NEEDED

EDUCATION CAN INCREASE THE TALENT POOL

-INEQUALITIES ARE WIDENING AS TALENTS BECOME MORE VALUABLE

-NOT EVERYBODY IS HAPPY WITH THE ELITE OF TALENTS: MERITOCRACY AND ITS DISCONTENT



KEY ROLE OF R&D IN COMPETITIVENESS AND THE CREATION OF NEW (HIGH TECH.) JOBS:

NEEDS TO INCREASE THE RESEARCH POTENTIAL:

- 1.HUMAN CAPITAL (REGIONAL,NATIONAL AND EU LEVELS)
- 2.PROPER INFRASTRUCTURE (ESFRI!, e-IRG,
RI-WG)**
- 3.STRONG (BASIC) RESEARCH BASE: B. OBAMA or the
ERC (excellence – competition on European level)
- 4.HIGHER R&D SPENDING
- 5.APPROPRIATE INSTITUTIONAL SYSTEM
- 6.IMPROVED ACADEMIA - INDUSTRY RELATIONS





WEAK POINTS OF EUROPEAN (BASIC) RESEARCH

1. WEAK COOPERATION ALONG STRATEGIC PRIORITIES
2. FRAGMENTED RESEARCH
3. LACK OF FINANCES FOR TRAINING, MOBILITY AND **RESEARCH INFRASTRUCTURE**; The ESFRI ROADMAP!
4. LACK OF SCIENTIFIC-TECHNOLOGICAL COHESION
5. LOW VOLUME OF EXCELLENT RESEARCH AND SMALL NUMBER OF EXCELLENT RESEARCH TEAMS
6. NEGLECT OF EU LEVEL ATTENTION ON BASIC RESEARCH . The message of ERC!

MTDENLPLPTATROELSKSIESSEUKCZBEGCDKEEFIFRIETCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEGCDKEEFIFRIETCYLTLUUH
IEITCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEGCDKEEFIFRIETCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEGCDKEEFIFR
ELSKSIESSEUKCZBEGCDKEEFIFRIETCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEGCDKEEFIFRIETCYLTLUUHUMTDENLPLPTATRO





WIDENING OF THE EUREAN KNOWLEDGE

BASE (EUROPEAN RESEARCH AREA)

(1)

- HARMONIZATION OF NATIONAL RESEARCH PROGRAMMES

- RECOGNITION OF EXCELLENCE IN (BASIC) RESEARCH
(new way of financing excellence on European level; ERC)

- RECRUITMENT, TRAINING AND CAREER PATH OF SCIENTISTS
(700 000 scientist-engineer positions until 2010)

- ATTRACTIVE RESEARCH ENVIRONMENT:

**INFRASTRUCTURE+GOOD ATMOSPHERE AND CAREER
PERSPECTIVES**

- BETTER USE AND DEVELOPMENT OF THE RESEARCH POTENTIAL



ERA (2)

- WELL BALANCED RESEARCH **INFRASTRUCTURE**

THE WEAKEST POINT IS CENTRAL EUROPE

PRACTICALLY NO LARGE FACILITIES, STRONG

GEOGRAPHICAL **DISBALANCE!**

POTENTIAL BENEFITS FROM STRUCTURAL FUNDING

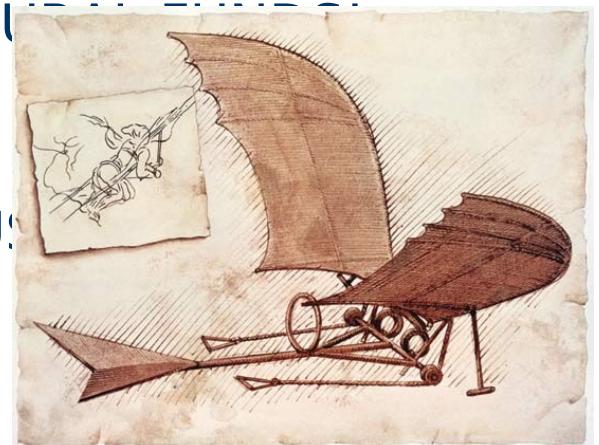
- **MOBILITY.** HUMAN RESOURCES

MARIE CURIE SCHEME (BALANCED USE OF

TWO WAY STREET

STARTING GRANTS OF ERC

- THE 3% ISSUE



THE SYNERGY BETWEEN MOBILITY AND RI-s VITAL



ERA(3): TO KEEP SCIENCE ON THE TOP OF THE POLITICAL AGENDA (Green Paper)

- 2. MOBILITY**
- 3. WORLD CLASS RESEARCH INFRASTRUCTURE**
- 4. EXCELLENT RESEARCH INSTITUTIONS (public-private partnership)**
- 5. EFFECTIVE KNOWLEDGE SHARING**
- 6. WELL COORDINATED RESEARCH PROGRAMMES AND PRIORITIES**
- 7. OPENING ERA TO THE WORLD**

WORLD CLASS RESEARCH INFRASTRUCTURES: PILLARS OF AN AMBITIOUS ERA-

- RI-s PLAY A KEY PART IN MAINTAINING or IMPROVING COMPETITIVENESS IN BASIC AND APPLIED RESEARCH
- ADEQUATE RI-s ARE VITAL FOR PROMOTING INNOVATION AND OFFER CONDITIONS REQUIRED FOR CUTTING-EDGE RESEARCH AND HIGH LEVEL HUMAN CAPITAL DEVELOPMENT
- HIGH QUALITY RI-s SERVE AS MAGNETS FOR TALENTED RESEARCHERS. CRITICAL MASS OF RESEARCH SKILLS NEEDED. HARMONY OF RI-S WITH HUMAN CAPITAL.
- RI-s PLAY A CLEAR SOCIETAL AND ECONOMIC ROLE

MTDENLPLPTATROELSKSIESSEUKCZBEBCDKEEFIFRIEITCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEBCDKEEFIFRIEITCYLTLUUH
IEITCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEBCDKEEFIFRIEITCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEBCDKEEFIFR
ELSKSIESSEUKCZBEBCDKEEFIFRIEITCYLTLUUHUMTDENLPLPTATROELSKSIESSEUKCZBEBCDKEEFIFRIEITCYLTLUUHUMTDENLPLPTATRO

RESEARCH INFRASTRUCTURES are

MORE THAN THE „PHYSICAL” INFRASTRUCTURES
(FROM LARGE TO SMALL FACILITIES).

NETWORKING OF THE SMALLER ONES : EUROPEAN
ADDED VALUE (finantial, human capital, critical size)

E-INFRASTRUCTURE (BOTH THE SUPPLY AND THE
USER SIDES: (see the next frame)

DATABASES IN ALL FIELDS (INCL. METADATA,
PUBLICATION REPOSITORIES, OPEN ACCESS,
PRESERVATION)

KEY ROLE OF RESEARCH PERFORMING
ORGANIZATIONS IN THE RI LANDSCAPE



THE ECONOMIC ROLE OF RI-S:

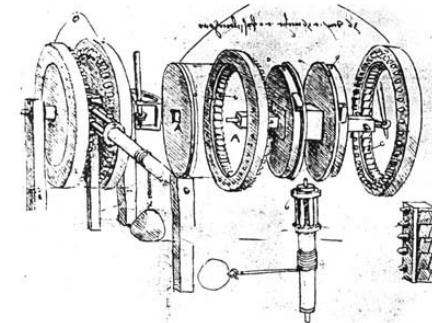
THEY GENERATE DISCOVERIES AND NEW INDUSTRIAL APPLICATIONS AND

ARE BEACONS OF:

- HIGH-TECH COMPANIES,
- RESEARCH ESTABLISHMENTS AND
- EDUCATIONAL INSTITUTIONS

CREATING: -NEW ECONOMIC ACTIVITIES AND

- FRESH EMPLOYMENT OPPORTUNITIES,
- ATTRACT TALENTED RESEARCHERS (MOBILITY)



REGIONAL DEVELOPMENT AND THE EU

ONE OF THE BASIC COMMON GOALS OF THE EU AND THE MEMBER COUNTRIES

THE BEST GROUND TO BUILD KNOWLEDGE BASED ECONOMIES:

- BY EXPLORING THE SPECIFICITIES OF THE REGIONS
- BY CONCENTRATING ON HUMAN CAPITAL (AND RESEARCH INFRASTRUCTURE)
- BY TURNING SCIENCE, TECHNOLOGY AND INNOVATION FROM EXOGEN INTO ENDOGEN INSTRUMENT IN REGIONAL DEVELOPMENT
- ONE OF THE BASIC ELEMENTS OF ERA.

THE ROLE OF NETWORKS (European added value)

THERE IS A NEED FOR REGIONAL TECHNOLOGY FORESIGHT PROGRAMMES



THE ROLE OF INNOVATION PARKS

THE GROUNDS TO ACCELERATE THE INNOVATION PROCESS:

- BY EXPLORING THE NONLINEAR INNOVATION CHAIN,
- BY VERTICAL DEZINTEGRATION (THE BIRTH OF AN INCREASING NUMBER OF SME-S)
- BY FINDING THE NEEDED SPECIALIZED LABOUR FORCE
- BY IMPLEMENTING FLEXIBLE ORGANIZATORY STRUCTURES
- BY DECREASING THE GEOGRAPHICAL DISTANCE BETWEEN THE ACTORS (FROM THE MARKET TO BASIC RESEARCH AND EDUCATION)
- AND THIS WAY SECURING THE NEEDED CRITICAL SIZE OF THE (FINANTIAL AND HUMAN) RESOURCES FOR RESEARCH, TECHNOLOGY TRANSFER, ETC.

WHY ARE SOME REGIONS INNOVATIVE AND OTHERS LESS SO?

IF THEY SUCCEED TO HARMONIZE ALL PARAMETERS , INFLUENCING THE OPTIMAL FUNCTIONING OF THE REGION:

-KNOWLEDGE INDUSTRY, INFRASTRUCTURE, LOCAL INDUSTRIAL STRUCTURE, INTERCOMPANY RELATIONS, THE COMPOSITION AND SIZE OF THE LOCAL LABOUR FORCE, GEOGRAPHICAL SPECIFICITIES, ETC.

AND IF THEY MEET THE NEW CHALLENGES IN THE 21. CENTURY:

-MULTIDISCIPLINARITY,

-INCREASING CRITICAL SIZE OF HUMAN CAPITAL AND FINANCES

SOME SORT OF SUMMARY

RESEARCH INFRASTRUCTURES ARE ONE OF THE BASIC PILLARS
OF (REGIONAL) KNOWLEDGE PRODUCTION

THEY MAY ATTRACT THE TALENTS INTO RESEARCH

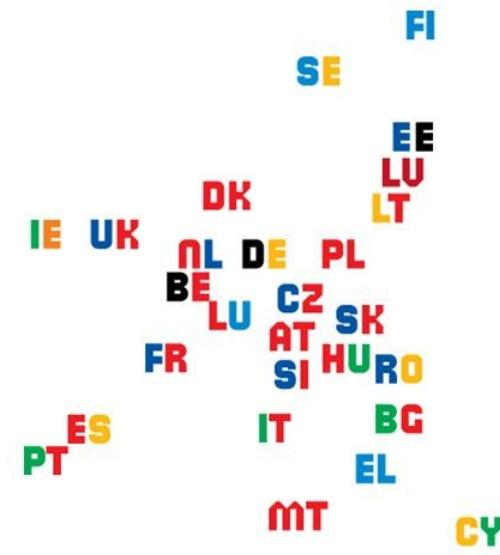
RESEARCH IS THE BASIS OF ECONOMICAL COMPETITIVENESS ON
ALL (REGIONAL, NATIONAL AND EUROPEAN) LEVELS

THE DECISIVE ROLE OF REGIONS IN THE INNOVATION CHAIN

THE NEED TO DECREASE IN EUROPE THE UNBALANCED
DISTRIBUTION OF RI-s

THE VITAL ROLE OF STRUCTURAL FUNDS IN THIS
PROCESS

THE ROLE OF RI-s IN (2 WAY) MOBILITY





erc

THANK
YOU FOR
YOUR
ATTENTION

LPTATROELSKSIESSEUKCZBEBGDKEE
LUHUMTDENLPLPTATROELSKSIESSEL
ESSEUKCZBEBGDKEEFIFRIEITCYTLU
MTDENLPLPTATROELSKSIESSEUKCZ
ATROELSKSIESSEUKCZBEBGDKEEFIF
FRIEITCYTLULUHUMTDENLPLPTATRC
EUKCZBEBGDKEEFIFRIEITCYLTULUHUMTDENLPLPTATRO
FRIEITCYTLULUHUMTDENLPLPTATROELSKSIESSEUKCZ
KSIESSEUKCZBEBGDKEEFIFRIEITCYLTULUHUMTDENLPL
ATROELSKSIESSEUKCZBEBGDKEEFIFRIEITCYLTULUHUMTDENLPL
JHUMTDENLPLPTATROELSKSIESSEUKCZBEBGDKEEFIFRI
BEBGDKEEFIFRIEITCYLTULUHUMTDENLPLPTATROELSK
PLPTATROELSKSIESSEUKCZBEBGDKEEFIFRIEITCYLTUL
KEEFIFRIEITCYLTULUHUMTDENLPLPTATROELSKSIESSEU
ELSKSIESSEUKCZBEBGDKEEFIFRIEITCYLTULUHUMTDE
LULUHUMTDENLPLPTATROELSKSIESSEUKCZBEBGDKEE
ENLPLPTATROELSKSIESSEUKCZBEBGDKEEFIFRIEITCYLT
FIFRIEITCYLTULUHUMTDENLPLPTATROELSKSIESSEUK
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YLTULUHUMTDENLPLPTATROELSKSIESSEUKCZBEBGDKE
SSEUKCZBEBGDKEEFIFRIEITCYLTULUHUMTDENLPLPTAT
FRIEITCYLTULUHUMTDENLPLPTATROELSKSIESSEUKCZ