Turkish National Research & Innovation System

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Conference on Public-Private Partnerships and Innovation
in Support of Sustainable Development

23 May 2016

Outline

- National STI Targets
- Governance System
- Key STI Figures
- Mission and Need Oriented Approach

National STI Targets for 2023

National Innovation System Targets For Economic Development and Wellbeing in 2023

GERD / GDP	BERD / GDP	Researchers (FTE)	Private Sector Researchers (FTE)
3 %	2 %	300 K	180 K

References: The Economist (2012), TÜRKSTAT (2014), OECD (2014), UNESCO Education Expenditures (2014), World Bank (2014)

Supreme Council for Science and Technology (SCST)

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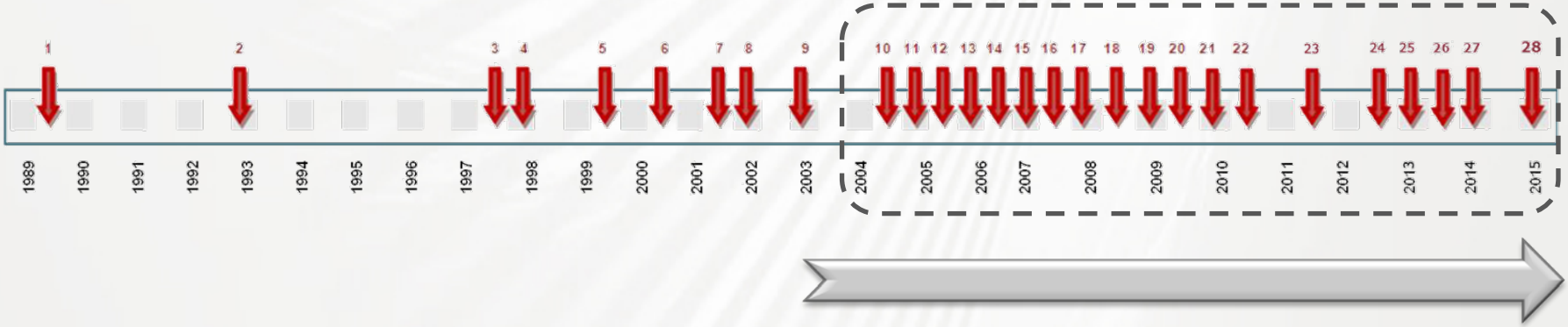
Every six months R&D policy of Turkey is reviewed in Supreme Council for Science and Technology chaired by the Prime Minister himself

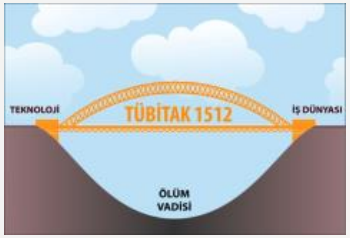


SCST

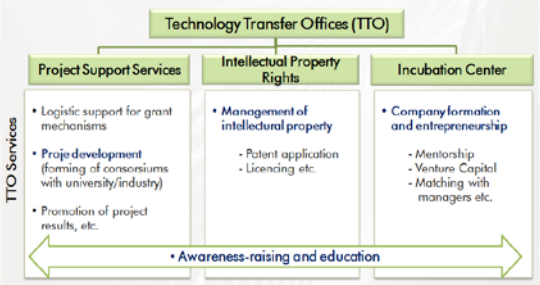
- Policy Making
- Setting Long Term Targets
- Appointment of Organizations and Establishment of Commitees
- Policy Implementation
- Monitoring

Examples: Resolutions of SCST Regarding the Ecosystem

Many of the decrees adopted in SCST meetings involve universities

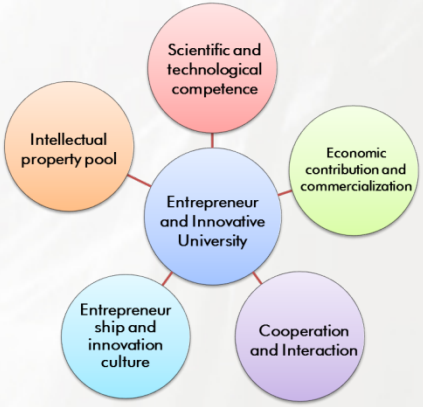


Fostering R&D Start-ups



Enhancing TTOs

Mini Entrepreneurship MBA Education



University Entrepreneurship Index

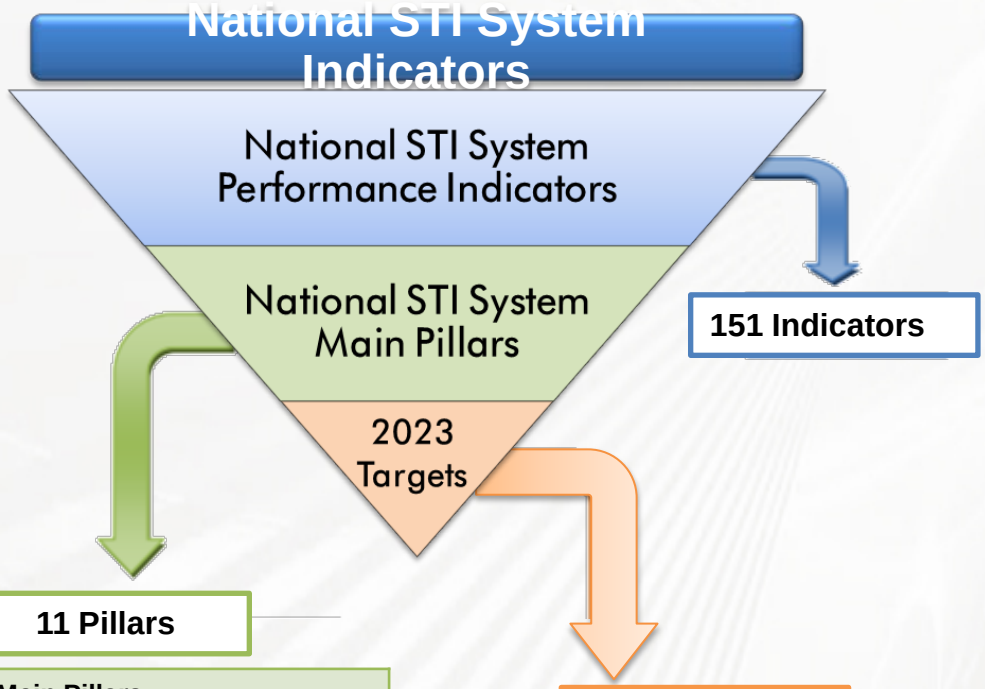
Open Video Courses For Higher Education

Development of Centres of Excellence

Improving Scholarships Supporting PhD Holders

Development of University R&D Strategies

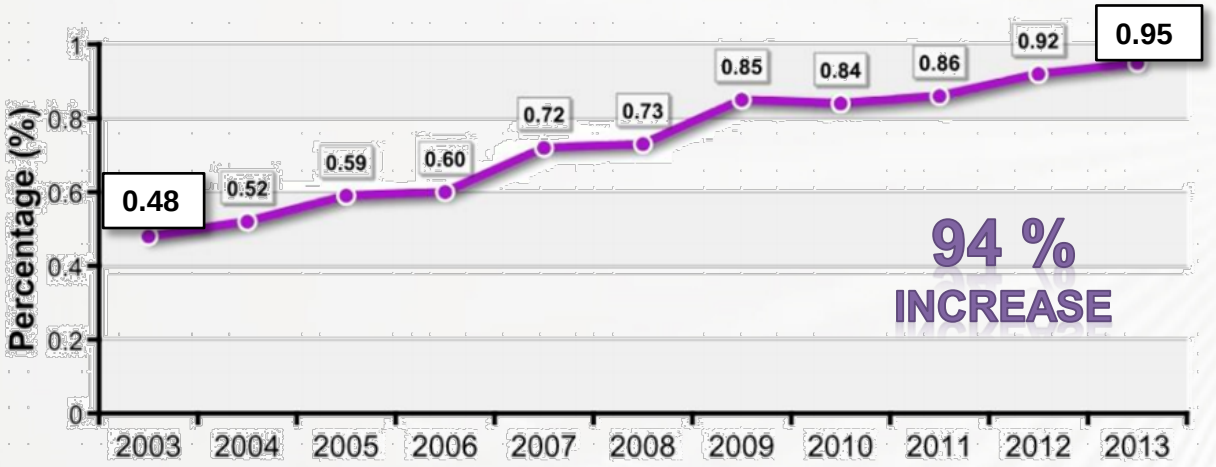
National STI System Indicators



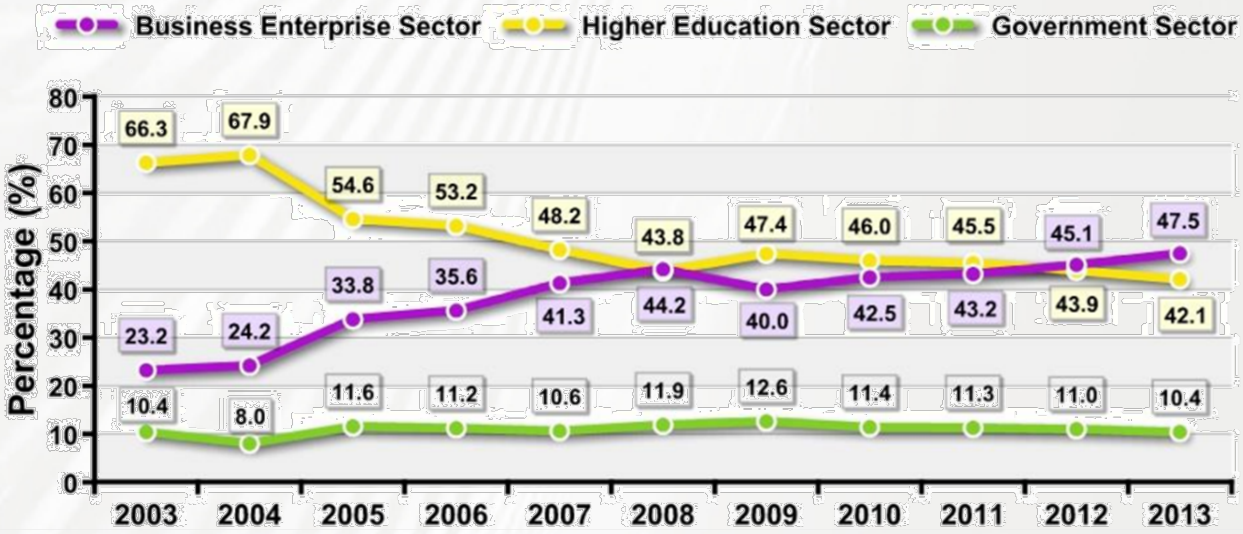
Main Pillars
R&D Competence
Human Resources
Education and Research Culture
Technoparks and Private Sector R&D Centers
SMEs
Cooperation
Intellectual Property Competence
Commercialization
Enterpreneurship
Infrastructure
Competence in Prioritized Areas

2023 Targets
1. GERD/GDP
2. BERD/GDP
3. Researchers (FTE)
4. Private Sector Researchers (FTE)
5. Domestic Patent Applications

Significant Increase in Resources Allocated to RDI



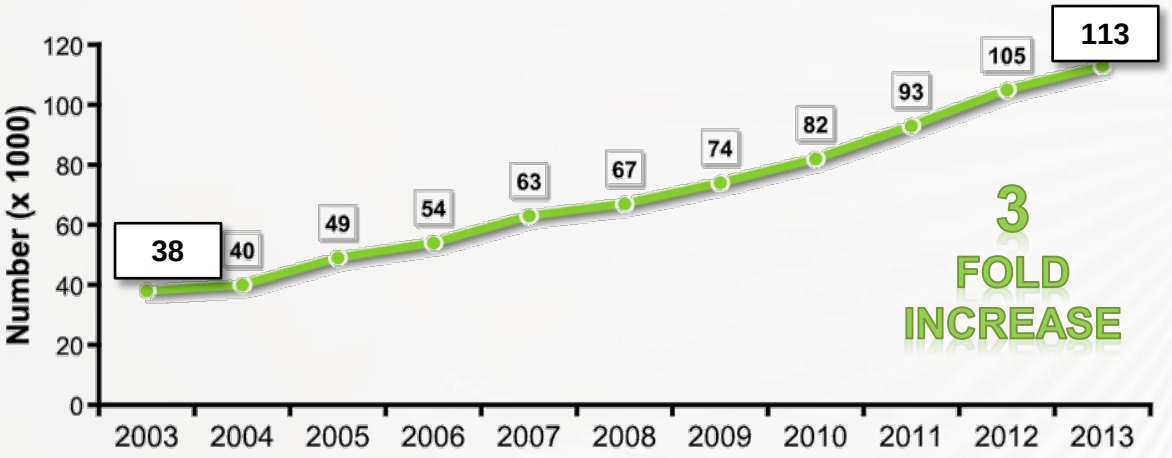
- Based on an annual growth rate of **17 %,** R&D expenditures reached **13,5 billion $**



- **Private Sector (2013): 48 %**
- **Higher Education Sector (2013): 42 %**

Source: TurkStat (2014)

R&D Human Resources



Total FTE R&D Personn

- **3 times** increase since 2003

Public Sector

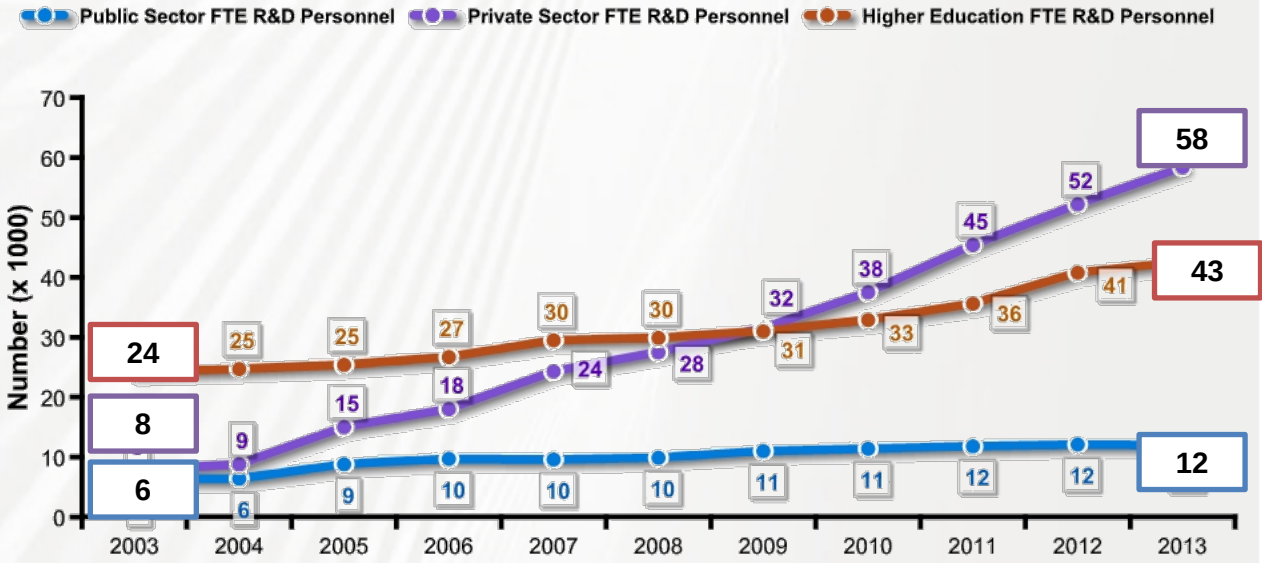
- **2 times** increase since 2003

Private Sector

- **7,3 times** increase since 2003

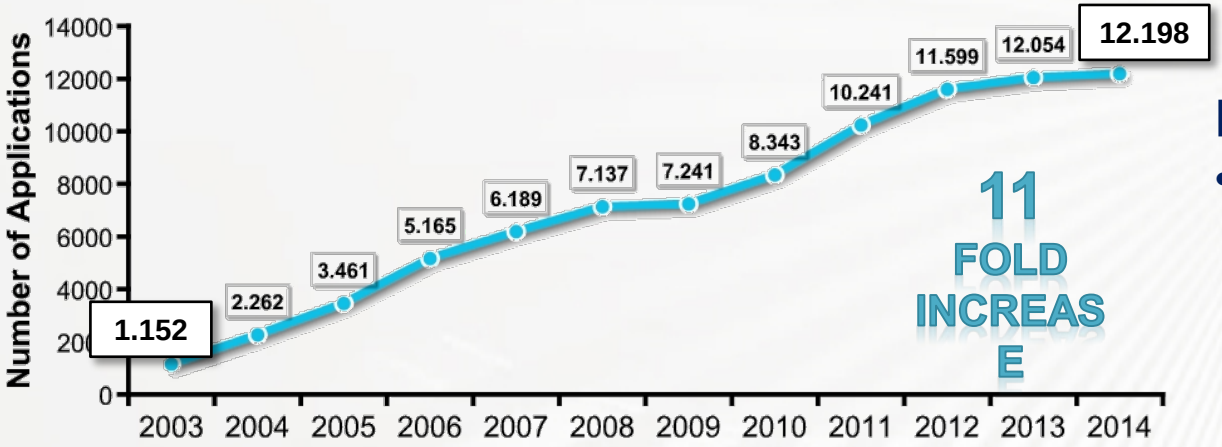
Higher Education Sector

- **1,8 times** increase since 2003



*Source: TurkStat (2014)

Patents and Publications Are Also Increasing

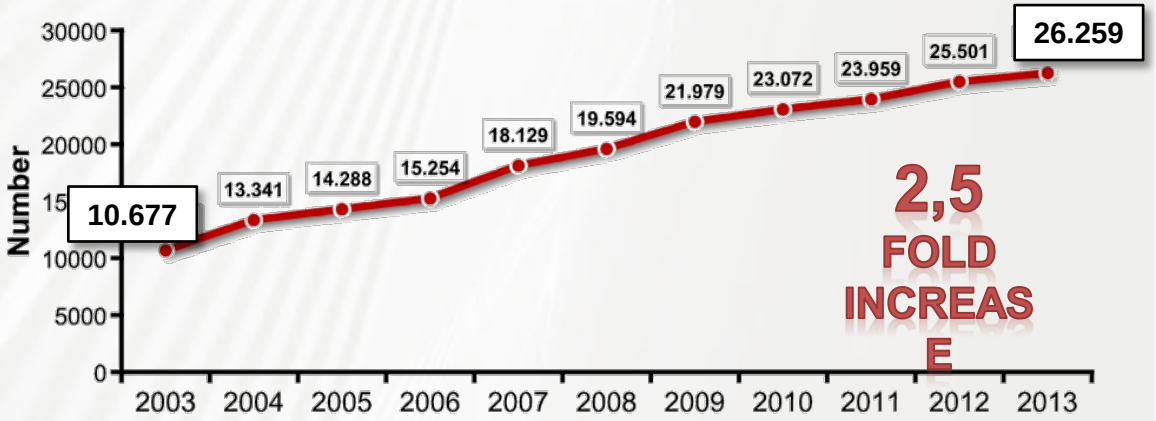


Patents:

- **11 times** increase since 2003

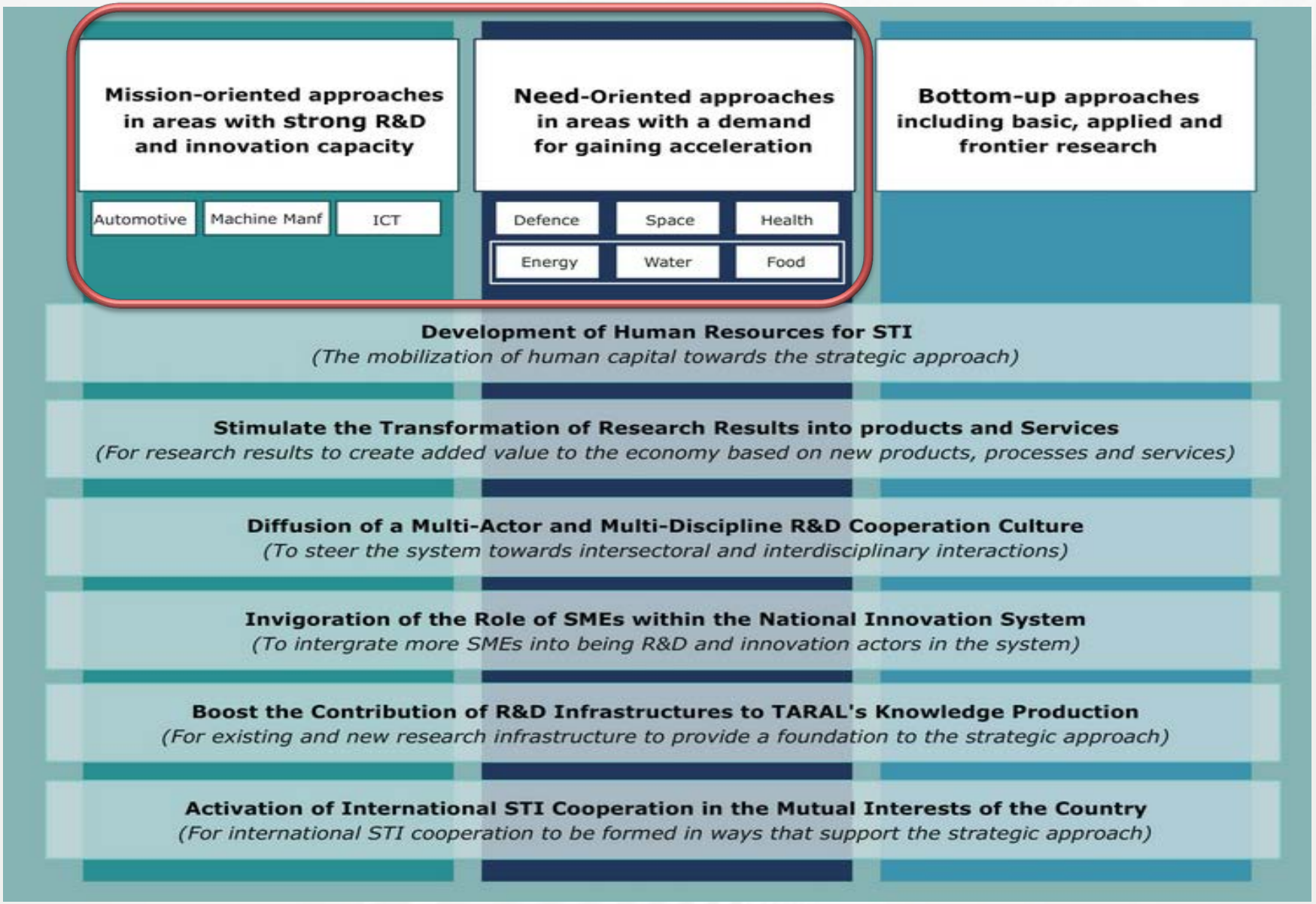
Scientific Publications:

- **2,5 times** increase since 2003



*Source: TPI, TUBITAK ULAKBİM (2014)

The Strategic Framework of National Plan 2011-20



Mission Oriented Approaches

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SCST

National Science, Technology and Innovation Strategy (2011-2016)

Automotive | Machine Manf | ICT | Defence | Space | Health | Energy | Water | Food

Misson Oriented Programs and Call Based System

STI Support Themes and Agenda

Technology Road Maps

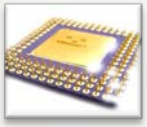
1. Energy Efficiency
2. Mobile Comm. Tech.
3. Pharmaceuticals
4. Vaccines
5. Biomedical Equipment
6. Medical Diagnose Kits
7. Biomaterials
8. MEMS/NEMS
9. Advanced Display Technologies
10. Machine Control and Factory Automation Systems
11. Embedded Software in Automotive and Machinery Sectors
12. Lightweight Materials Technology in Automotive
13. Social Sciences (Education, Economic Growth, Family, Urbanization, Culture, History)

Mission Oriented Programs

Call Based Support Programs in Priority Areas

Industry Oriented RDI (1511)

NEW



Embedded Systems

Biomaterials

University Oriented RDI (1003)

NEW

HEVs

Solar Energy

Public Challenges Oriented RDI (1007)

REVISION

Domestic Seed

Wind Energy

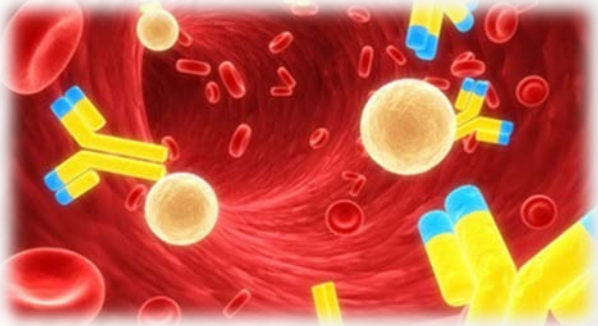
Examples of Mission Oriented Big Scale Projects

GÖKTÜRK -2
First High Resolution National Observation Satellite

TÜRKSAT 6A
First National Communication Satellite

MİLRES
National Wind Energy Power Plant

Domestic Electric Vehicle
Development of A Competitive, National Electric Vehicle



Biosimilar Pharmaceuticals
Domestic Biosimilar Medicines Produced via Biotechnological Methods

Thank you

TÜBİTAK's Missions

- **Science, technology and innovation policy making**
- **Promoting and supporting R&D**

University Funds	• 8 Programmes • 8826 Applications (2014)
Private Sector Funds	• 12 Programmes • 2530 Applications (2014)
Academic Scholarships	• 29 Programmes • 19 thousand scientists
Science and Society Activities	• Science Centers – 450 M$ budget • Science Fairs – 1890 schools, 124k students
International Cooperation	• Horizon 2020, EUREKA • Bileteral cooperations (31 Institutions)

- **Conducting research in strategic areas**

TÜBİTAK Headquarters and Institutes

Total Personnel: 4667, Budget: 856 Million $ (2014)

19 Institutes; 520 ongoing projects; 1.6 Billion $

Ankara

Space Tech. Ins. (UZAY)

TÜBİTAK Presidency

Defense Industries R&D Ins. (SAGE)

Academic Network and Information Center (ULAKBİM)

Software Tech. Ins. (YTE)

Advanced Tech. Research Ins. (İLTAREN)

Gebze

TÜBİTAK Marmara Research Center

Chemistry Ins.

Energy Ins.

Genetics Ins.

Food Ins.

Environment Ins.

Materials Ins.

Earth&Marine Sciences Ins.

Informatics& Information Security Research Center (BİLGEM)

Criptology Ins. (UEKAE)

Information Tech. Ins. (BTE)

Cyber Security Ins. (SGE)

TÜSSİDE

Measurement Ins. (UME)

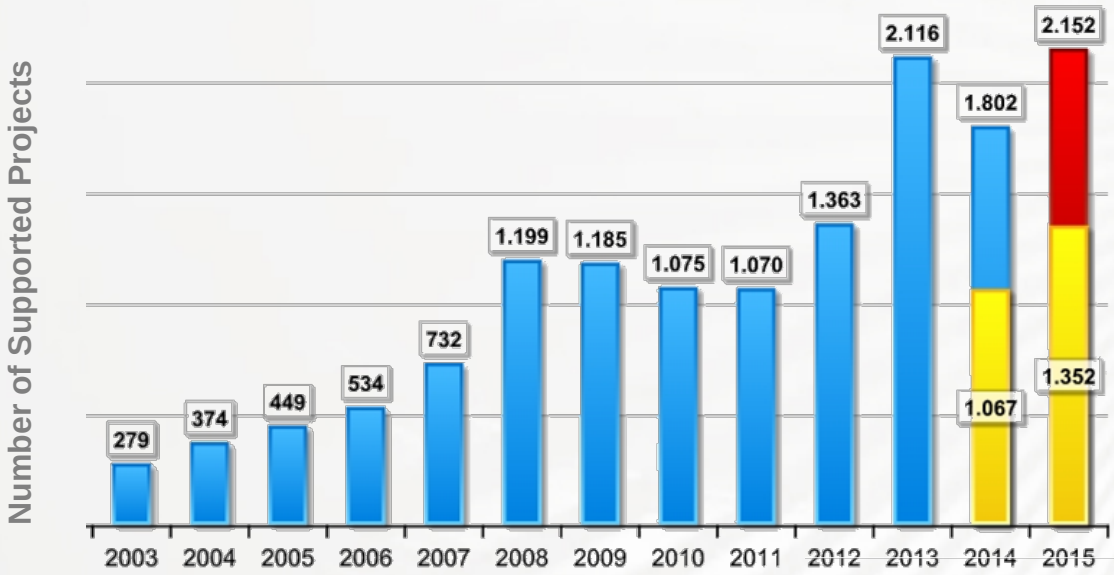
Antalya

TUG

Bursa

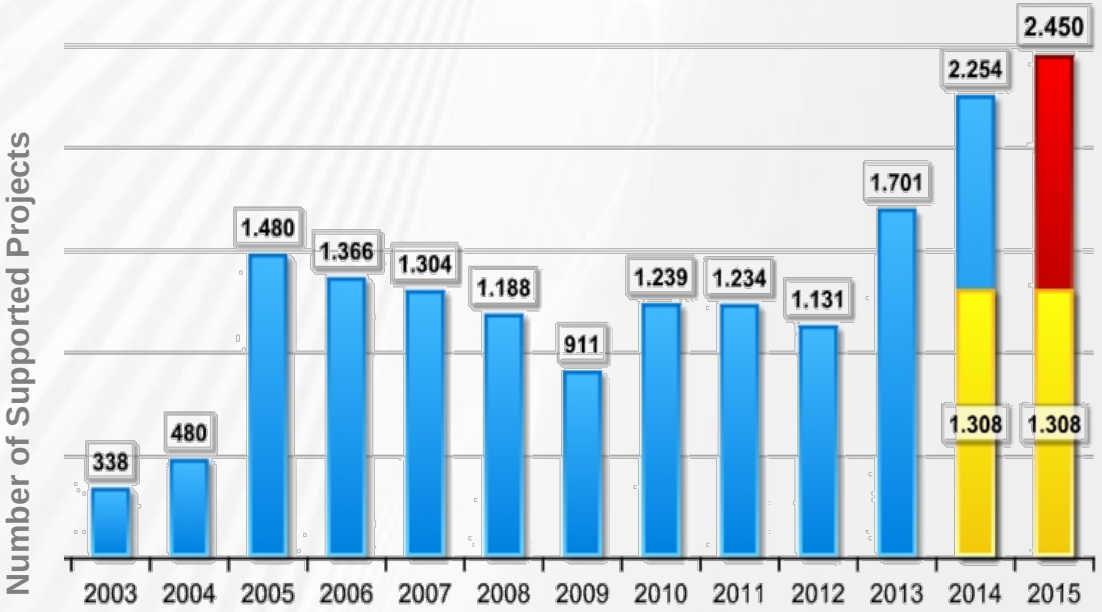
BUTAL

R&D Support to Private and Higher Education Sectors



Private Sector:

- **6,5 times** increase since 2003



Higher Education Sector:

- **6,7 times** increase since 2003

Source: TUBİTAK

Yellow bars: August 2015, Red bars: 2015 year-end estimations