SCREENING CHAPTER 20
ENTERPRISE AND INDUSTRIAL POLICY

AGENDA ITEM IV: INNOVATION POLICY

Country Session: The Republic of TURKEY
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CONTENT

- Overview of Innovation Capacity
- Institutional Framework
- Policy Framework
- R&D Supports

Overview of Innovation Capacity (2002-2004)

%

Sectors	Carrying out Technological Innovation	No Technological Innovation	Type of Innovation Activity		
			Only Product Innovation	Only Process Innovation	Both Product and Process Innovation
Industry	34.58	65.42	30.89	30.27	38.84
Service	25.90	74.10	33.82	24.48	41.70

Source: TURKSTAT, 2006

Indicators of Science, Technology and Innovation System

Indicator	Value	Year
Gross expenditure on research and development (GERD) as a % of GDP	0.66	2002
Total researchers (FTE)	23,995	2002
Business expenditure on research and development as a % of GERD	28.7	2002
Government expenditure on research and development as a % of GERD	7	2002
Higher education expenditure on research and development as a % of GERD	64.3	2002
Number of triadic patents	7	2001
SMEs innovating in house (% of all SMEs)	24.6	2003
SMEs involved in innovation cooperation (% of all SMEs)	18	2003
Share of manufacturing value-added in high-tech sectors	6.6	2000
Labour participation of graduates with tertiary type A and advanced research qualifications (men)	83	2002
Labour participation of graduates with tertiary type A and advanced research qualifications (women)	65	2002
Rank in the overall competitiveness	48	2005
Global competitiveness index: Infrastructure	51	2005
Rank in competitiveness: Legal environment affecting R&D	41	2005

Source: TUBITAK

Institutional Framework

Actors	Role and Responsibility
Supreme Council of Science and Technology (SCST)	Policy Making
State Planning Organisation (SPO)	Policy Making, Planning, Project Support
Turkish Scientific and Technological Research Council (TUBITAK)	Conducting Research, Policy Making, Project Support
Ministry of Industry and Trade (MoIT)	Policy Making, Project Support
Undersecretariat for Foreign Trade (UFT)	Provide Financial Resources
Undersecretariat for Treasury (UoT)	Provide Financial Resources
Small and Medium-Sized Enterprises Development Organisation (KOSGEB)	Project Support, Incubator Services

Institutional Framework (CONT'D)

Actors	Role and Responsibility
Turkish Technology Development Foundation (TTGV)	Project Support, Finance
Turkish Academy of Sciences (TUBA)	Policy Making
Research Centers of Ministry of Agriculture and Rural Affairs (MARA)	Policy Making
Turkish Patent Institute (TPI)	Industrial and Intellectual Property Rights
TUBITAK Marmara Research Center (TUBITAK-MAM)	Contract Research for Industry and Development of Innovative Products
National Metrology Institute (UME)	Measurements, Training, Consultancy
Turkish Atomic Energy Authority	Policy Making and Project Support

Policy Framework

Policy Document	Date	Coordinator Institution	Legal Status
8th Five Year Development Plan	2001-2005	SPO	Approved by the TGNA
Medium-Term Programme	2006-2008	SPO	Decree of Council of Ministers
2006 Annual Programme	2006	SPO	Decree of Council of Ministers
SCST Decisions	2000, 2001, 2002	TUBITAK	Circular of Prime Ministry
National Science and Technology Strategy	2005-2010	TUBITAK	Circular of Prime Ministry

Policy Framework (CONT'D)

Policy Document	Date	Coordinator Institution	Legal Status
Industrial Policy for Turkey	2003	SPO	High Planning Council (HPC) Decision
SME Strategy and Action Plan	2003	SPO	HPC Decision
Preliminary National Development Plan	2004-2006	SPO	HPC Decision

8th Five Year Development Plan (2001-2005)

Objective:

To become an information society, achieving competitiveness at international level by the use of scientific and technological development.

Main Policy Priorities:

- Increased university-public-private sector cooperation,
- Reseach projects mainly focused on priority areas,
  (Advanced new materials, biotechnology, nanotechnology, IT, clean energy, nuclear, aerospace technologies and exploiting sea and underwater.)
- Increased public support for research.

Medium-Term Programme (2006-2008)

Objective:

To increase the capacity of science, technology and innovation and transform this capacity into socio-economic value added.

Priorities:

- Improve coordination and give central role to private sector,
- Increase private sector's demand and strenghten its capacity for R&D,
- Increase university-public and private sector cooperation,
- Effective use of public procurement,
- Increase international cooperation, primarily with the EU,
- Increase awareness of the society on science, technology and innovation.

Annual Programme (2006)

Priorities:

- Increase resources for R&D, especially for private sector,
- Promote private sector to establish R&D departments and employ increased number of researchers,
- Develop financial instruments to promote and support R&D based enterpreneurship,
- Enhance capacity of technology development zones,
- Increase number of university-industry cooperation centers,
- Increase number of technology incubators,
- Encourage academic research serving to the needs of the private sector,
- Identify and support regional innovation systems.

SCST Decisions (2004-2005)

- Policy Targets for 2010,

  GERD as % of GDP= 2 %, half of it from industry

  Number of Researchers = 40.000

- National Innovation System Performance Indicators will be developed within the context of the decision of SCST dated 06 March 2006,

- Science and Technology Strategy 2005-2010.

National Science and Research Strategy (2005-2010)

Objectives:

- To increase quality of life and public awareness on S&T,
- To increase competitiveness,
- To support result-oriented research,
- To strengthen scientific and technological performance of private sector,
- To improve research environment and infrastructure,
- To improve cooperation at national and international level.

Main Targets:

- To increase demand for RTD,
- To improve quality and quantity of scientists, professionals and technical personnel,
- To increase share of RTD expenditure in GDP.

Industrial Policy for Turkey and SME Strategy and Action Plan

• Aiming at supporting SMEs, improving innovation system and encouraging new entrepreneurs,

• Prepared jointly by the actors of the national innovation system (SPO, MoIT, UoT, UFT, EUSG, KOSGEB, TPI, TOBB, TESK) in consultation with relevant private and public organisations.

Industrial Policy for Turkey and SME Strategy and Action Plan (CONT'D)

- In the manufacturing industry, investments in R&D, new product and technology generation should be supported,
- Establishment of technological support and development centres, new technoparks and technology institutes will be encouraged,
- The existing R&D supports shall be increased,
- Increase the capacity in engineering, technology transfer, R&D, design and of service producers and all other related technology shall be provided,
- Cooperation between universities and industry shall be supported,
- SMEs shall be directed towards R&D activities.

R&D Supports

Support for Public Research

- **Public Investment Programme**
  - ✓ Main document for allocating funds to public sector R&D projects and support programmes
  - ✓ Prepared annually by the SPO, in line with the Medium-Term Programme

(Mio Euro)

	2003	2004	2005
Allocated Resources	**189**	**185**	**408**

Source: SPO

Important Programs and Projects in the Public Research

Major University Projects

Centres of Excellence and Strategic Research Institutes (2001)

- Nanotechnology, biotechnology, advanced materials, supercomputing, MEMS, automotive, agriculture, aerospace etc.
- Researcher development component (850 new researchers involved).

Researcher Programme

- Network of universities,
- Central university provides PhD for partners' academician nominee,
- About 1200 new researchers by 2010 on priority research areas,
- Industrial PhD programmes

Integrated National and International Projects

- High socio-economic value, multilateral, new technology and product oriented,
- 10 projects, 85 institutions, 36 universities and more than 500 researchers since 2004.

Important Programmes and Projects of Public Research (CONT'D)

Turkish Research Area (TRA)

Executed by **TUBITAK,** aims at providing synergy among:

- Institutions carrying out R&D activities (universities, public research institutions and private firms),
- Institutions demanding R&D (private and public sectors),
- Institutions funding R&D activities (public and private sectors),

Total resources allocated to the programme was 205 million Euro in 2005.

Public Support for Private Sector and Public-Private Cooperation

Financing of innovation and technological cooperation activities in private sector is mainly executed through the programmes by

- Ministry of Industry and Trade,
- Ministry of Finance,
- Undersecretariat of Treasury,
- Undersecretariat for Foreign Trade,
- TUBITAK,
- KOSGEB,
- Turkish Patent Institute,
- TTGV.

Supports of Ministry of Industry and Trade

Technology Development Zones (TDZs)

- Promoting R&D and technology transfer,
- Creating jobs for high-skilled IT and R&D personnel,
- Attracting FDI,
- Generating sustainable economic growth and local know-how

through cooperation among universities, research institutions, and private sector.

Supports of Ministry of Industry and Trade (CONT'D)

Technology Development Zones (TDZs)

- 20 TDZs in Turkey,
- 463 firms in TDZs (local (388), foreign (20) and incubation firms (55)),
- 5,266 R&D staff and 1,677 technical support personnel in TDZs,
- Financial support for land, infrastructure and construction of management building,
- Tax exemptions until 2014,
- Incentives for mobility of researchers.

Supports of Ministry of Industry and Trade (CONT'D)

- A new project called "**SAN-TEZ**" has been launched in 2006, for developing university industry collaboration.

- Aim of the project is to;
  - ✓ Commercialise academic knowledge,
  - ✓ Transfer academic knowledge into high value added technological products,
  - ✓ Solve problems of industry during production process in cooperation with universities,
  - ✓ Provide R&D and technological culture for SMEs.

Ministry of Finance

40% of expenditures of R&D can be deducted from the declared income tax in the related year.

Undersecretariat of Treasury

Provides loans to industry under the “Support for R&D Investment Programme” covering 50% of machinery, equipment and software expenses.

Undersecretariat for Foreign Trade

Provides funding for research projects of private sector under the “State Support for R&D Programme”.

	2003	2004	2005
Grant (Mio. Euro)	34	37	37

TUBITAK

- Develops and applies tools for the stimulation of industrial R&D,
- Grants support for the projects proposed by the industry,
- Grants financing up to 60 % of the budget of R&D project,
- 69 million Euros transferred from TRA Programmes in 2005.

University-Industry Joint Research Centers Program (USAMP)

- Implemented by TUBITAK,
- Funded by TUBITAK, private sector and universities,
- 6 USAMP centers have been established to:
  - ✓ Stimulate university - industry collaboration,
  - ✓ Promote industry oriented projects,
  - ✓ Increase and strengthen university research potential.

KOSGEB

- Support SME projects on research, new product/production technology development,
- 18 Technology Development Centers (TEKMERs) and 10 “Incubators Without Wall” located in universities,
- TEKMERs acting as a bridge between university and industry.

(Mio Euro)

Support Type	2003-2005
Grant	1.4
Credit	14.97

KOSGEB (CONT'D)

Technology Research and Development Incentive

Through TEKMERs, technology "incubators without wall", technology innovation centers and the partnership protocols for R&D projects.

Incentives for :

- Materials,
- Equipment,
- Quality improvement,
- Technological equipment,
- Consultancy services.
- Technopark rent,
- Publishing R&D results,
- Office and workshop space,
- Attending to congress, conference, panel, symposium and technology fairs

KOSGEB (CONT'D)

Industrial Property Rights Incentive

- Cost of patent registration,
- Utility model registration,
- Industrial design registration.

Turkish Patent Institute (TPI)

Awareness Activities

- Trainings and seminars,
- Participation in fairs,
- Cooperations,
- Information centers.

On-going Projects

- MATRA-PSO project,
- EPO-TPI multilateral cooperation on innovation support,
- IP4INNO project,
- TPI-TUBITAK cooperation.

Technology Development Foundation of Turkey (TTGV)

- Technology Development Projects Funding,
- Technoparks and Technology Centers,
- Venture Capital Funds,
- Start-up Funds,
- Joint Technology Development Project Supports,
- Commercialisation of R&D Activities Supports,
- Risk Sharing Supports,
  - ✓ To increase competitiveness of enterprises through research, technology development and innovation,
  - ✓ To promote innovation culture in society.

THANK YOU FOR YOUR ATTENTION