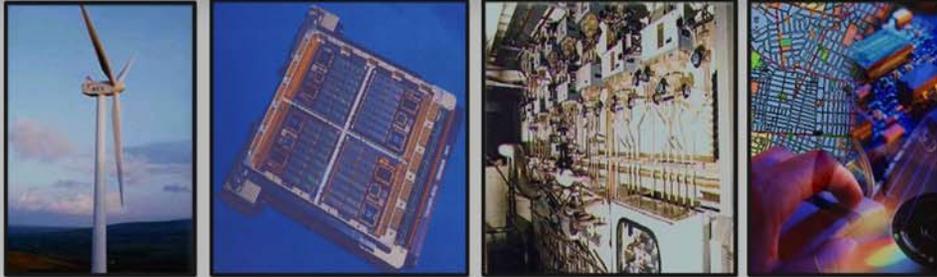


Supporting RTDI in Growth SMEs

from a compliance with EU Programs perspective

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Antalya, TÜRKİYE **9-10 September 2004**



TFCV

TECHNOLOGY DEVELOPMENT FOUNDATION OF TURKEY

The logo for TTGV, consisting of the letters 'TTGV' in a bold, blue, sans-serif font. A thin black line is drawn diagonally across the letters, starting from the top of the first 'T' and ending at the bottom of the 'V'.

TTGV

A solid teal rectangular box with a thin black border, containing the text 'TTGV in Brief' in white, bold, sans-serif font.

TTGV in Brief

TTGV was founded on June 1, 1991 as a NGO,

*to support improving Turkish Industry's competitiveness
in global markets through technology driven innovation.*

TTGV's founders include 26 private companies, 6 government organisations, 10 umbrella organisations and 14 individuals.

A public-private partnership (PPP) ?

Often trail-blazing

Governed by a Board with 9 members. (3 members appointed for representation from Treasury, TÜBİTAK and KOSGEB, remaining six from private individuals)

- ❑ TTGV has a permanent staff of over 40.
- ❑ TTGV has access to an active pool of 500 experts.
- ❑ TTGV is subject to independent monitoring and evaluation of all activities : including independent auditing according to IAS (International Accounting Standards).
- ❑ As a foundation, TTGV is subject to laws and regulations of Rep. of Turkey, concerning the foundations.
- ❑ TTGV's funding include :
 - ❑ Loans provided by the World Bank(TDP 1991-1998 and ITP 1999-2005)
 - ❑ Funds provided by the Undersecretariat for Foreign Trade (UFT)
 - ❑ Funds provided through the WB by the Montreal Treaty (GFE - PODS 1994-2004)
 - ❑ Own resources

Existing or Completed Programs

- Technology Development Funding (over 408 projects from over 250 firms supported)
- Strategic Focal Point Projects (UFT Funding / upto 1 year max. \$100,000)
- PODS Supports
- Technology Service Centers (total of 4 set-up)
- Technical Support Services (over 1300 SMEs supported)
- Venture Capital Funds (TTGV is junior partners in two commercial funds – İşRisk and TurkVen)
- Start-up Fund (Future Fund / pilot phase / under development for scaling up and to include spin-off supports)
- Technopark Development (Bilkent Cyberpark and İTÜ Arıkent including support for ICT themed incubators)
- Mission Oriented Pre-competitive Projects

Programs under Development

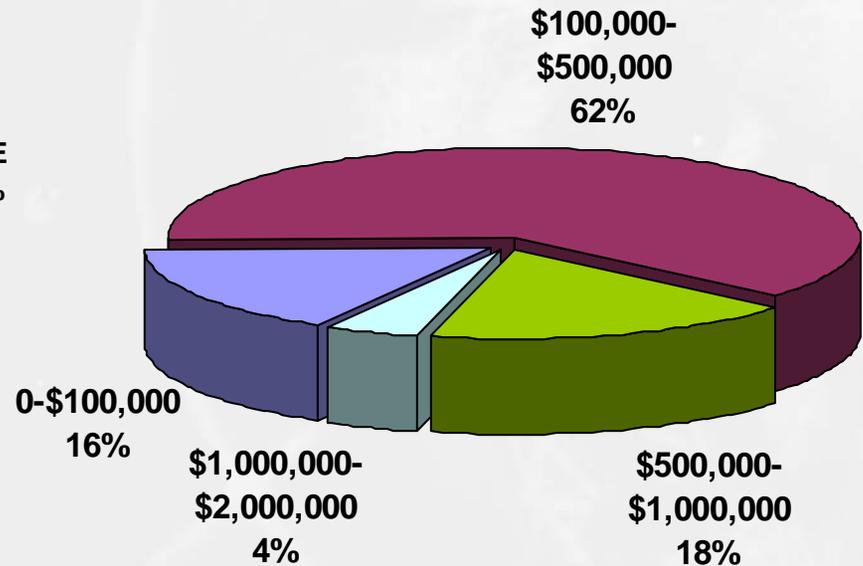
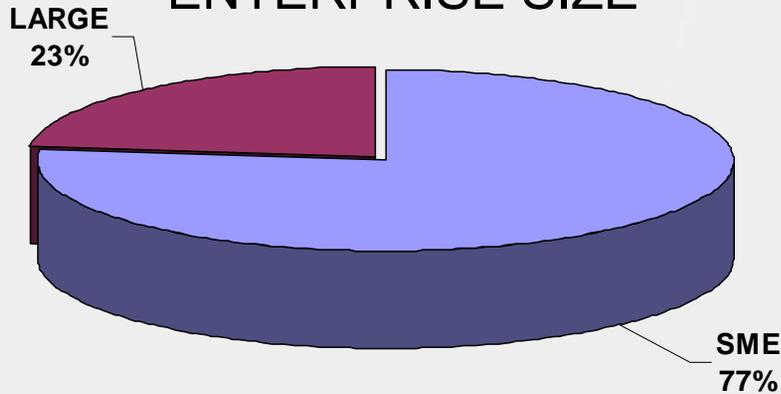
- Setting up of regional Innovation Coordinator Centers (ICCs) – with regional STDF
- Commercialization Support
- IPR Exploitation Support
- Client Development Support (including provision of Technology Audits)
- Entrepreneurship Competition (Business Plan competition in the Univs.)
- National Technology and Innovation Portal
- Technology and Innovation Clusters Development
- Technology Transfer Schemes (RTDI Grafting targeting start-ups)



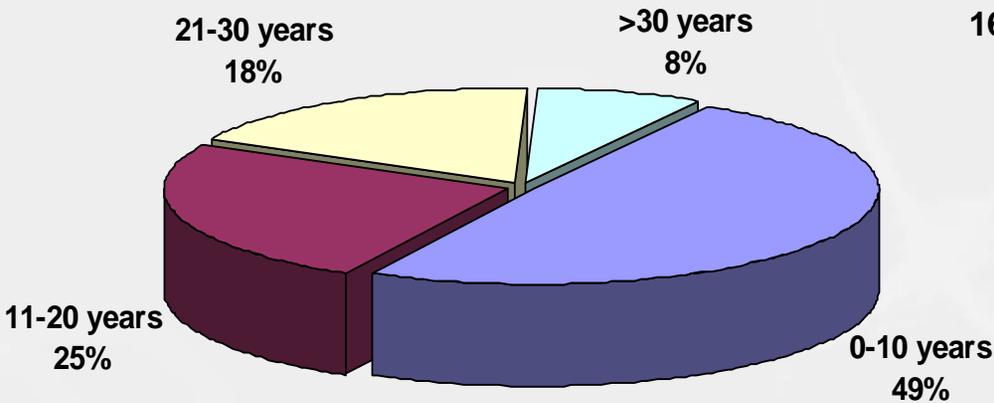
Technology Development Funding and SMEs

- ✓ Project based support upto the phase of technical demonstration (engineering prototype)
- ✓ Support specifics
 - Max. project duration is 24 months
 - Max. UFT/TTGV contribution is \$1,000,000 (or upto 50% of project cost)
 - Loan to be paid in 4 years after project completion following a grace period of 6 months
- ✓ Well-structured qualification criteria, transparent project evaluation
- ✓ Financial Model : Project Partnership
- ✓ No focus on sector or firm size

ENTERPRISE SIZE

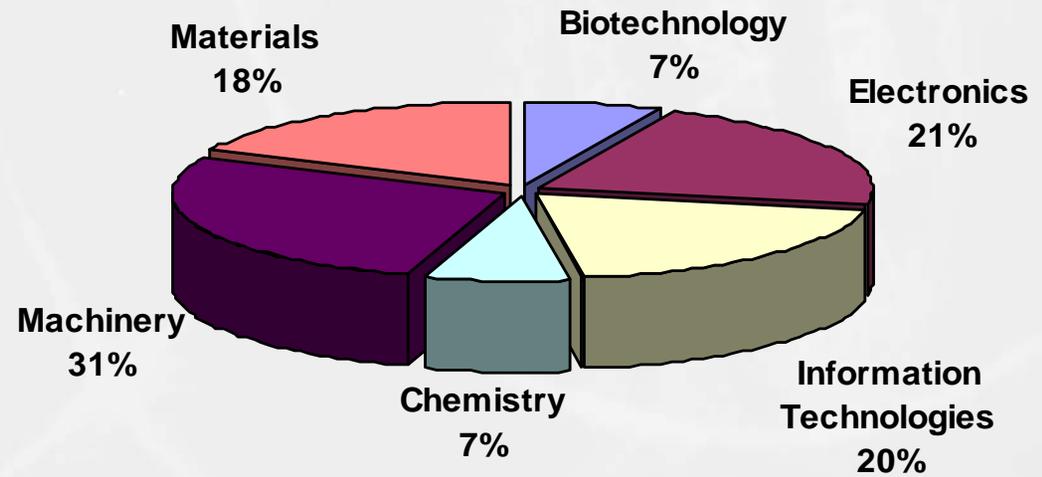
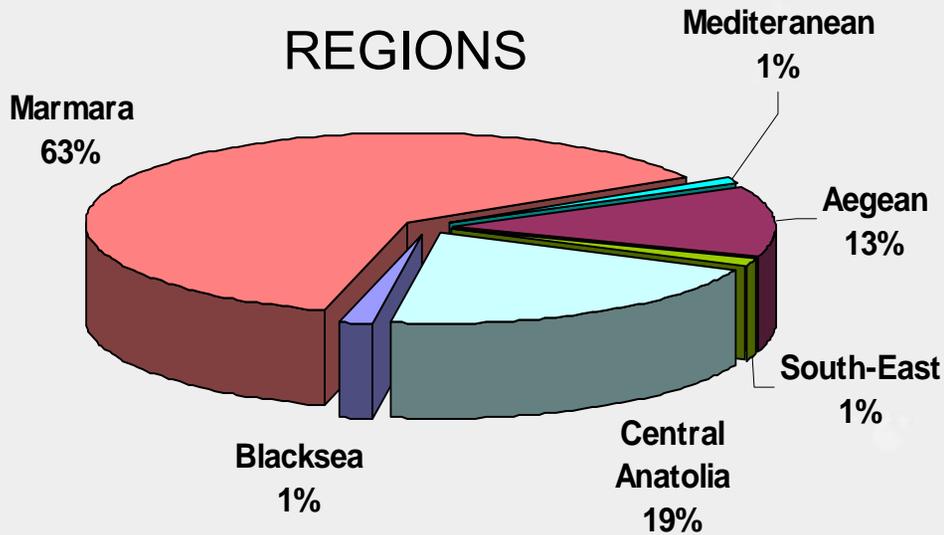


PROJECT SIZE



ENTERPRISE AGE

REGIONS



SECTORS

- ✓ Content of supported projects :
 - Product Material Improvement (85%)
 - New Product Development (75%)
 - Process Improvement (69%)
- ✓ All SMEs consider the support as an essential financing tool for similar projects (35% of SMEs report that without the support the project would not have started)
- ✓ Technical Success Rates
 - 73% for product development projects, 100% for process improvement projects
- ✓ Commercialization
 - 88% is expected to yield commercial applications, but additional support is needed
- ✓ 88% consider developing new R&D projects in 3 years, 63% consider to reapply for TTGV support.

➤ Definition of R&D

Oslo / Frascati Manual

“Research and Experimental Development (R&ED) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. R&ED covers three activities: Basic Research, Applied Research and Experimental Development.”

➤ WTO “Agreement on Subsidies and Countervailing Measure”

Coverage of supports provided by TTGV is a subset of what is allowed under the provisions of Article 8.2

➤ European Commission Decision (No 2002) – Concerning the FP6

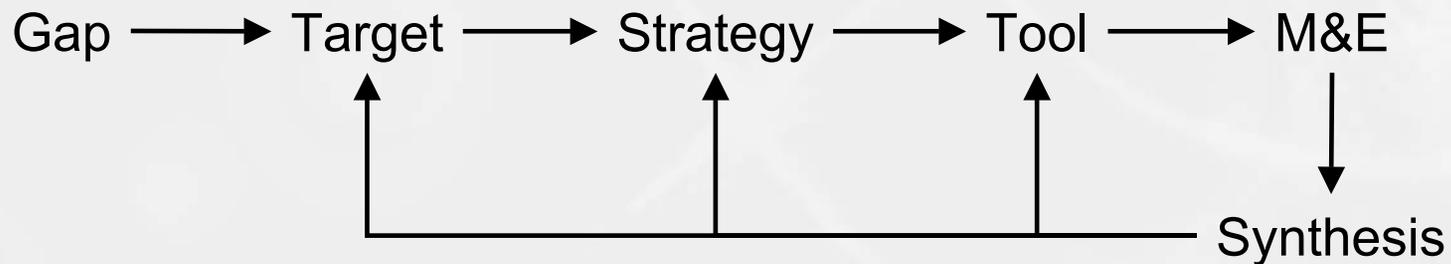
TTGV supports are in line with the provisions of FP6 supports.



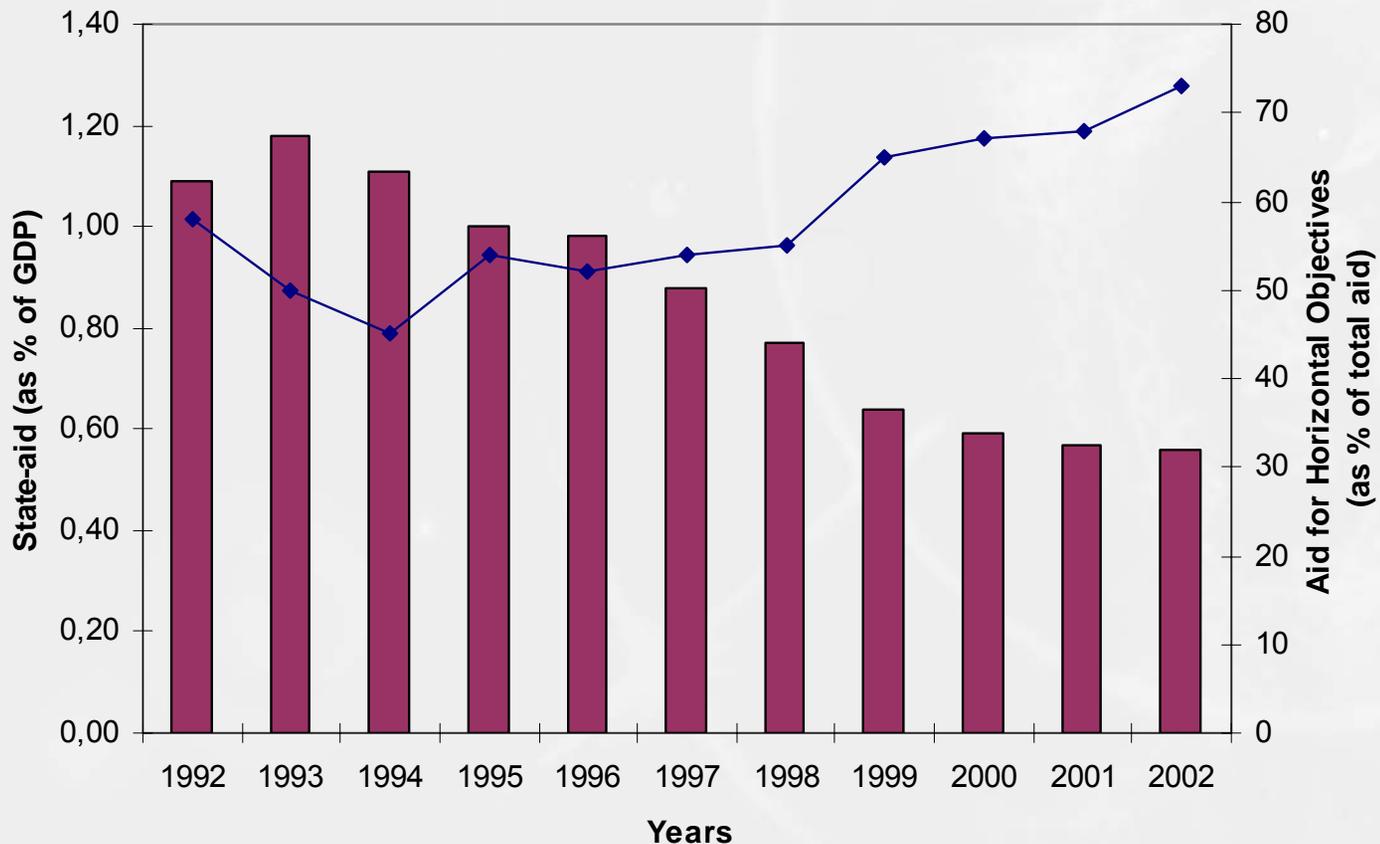
**SME issues in the EU :
A selective overview**

- ✓ The Bologna Charter on SME Policies – OECD
 - Financial barriers to innovation to be removed (equity financing and related services for innovative start-ups, risk-sharing programs and measures to R&D and innovation);
 - Other non-financial support (networks, mentoring, clusters etc.)
- ✓ Barcelona Target and Lisbon Strategy - EU
 - EU to become the most competitive and dynamic knowledge based economy in the world
 - R&D spending to increase to 3% of GDP, 2/3 by private businesses
 - Improve environment for private research investment, R&D partnerships and high-technology start-ups – create innovative forms of partnerships
 - Redirect public expenditure towards accumulation of capital –both human and physical- and support RTDI
 - Emphasis on clean technologies, frontier technologies including lifesciences

- ✓ European Charter for SMEs
 - Foster technology cooperation and sharing, develop more effective RTDI programs focused on commercial application of knowledge and technology
 - Public procurement
- ✓ Innovative Public Procurement – Advocacy to the EC
 - Public procurement as an effective demand-side mechanism for increasing private sector R&D
- ✓ SBIR and SME Set-asides - USA



Redirect state-aid resources towards to horizontal objectives of common interest, including cohesion objectives – EC (SMEs and RTDI are horizontal objectives)



Basic SMEs	No or few R&D activities – No R&D capability	70 %
Technology Adopting SMEs	Adoptors of existing technologies – low innovative SMEs – R&D capability	20 %
Leading Technology User SMEs	Developing or combining existing technologies on an innovative level	<10 %
Technology Pioneer SMEs	High level of R&D activities	<3 %

✓ SMEs in FP6

- Participate in Integrated Projects (IP), STREP (Specific Target Research Projects), CRAFT (Co-operative Research Projects), Collective Research
- No specific SME mechanism – SME success rates have been low
- EC considers SME programs as National Programs

✓ FP7

- No specific SME mechanism, still SMEs are considered critical (both politically and economically – 65% of EU GDP)
- SMEs account for significant RTDI investment gap with USA

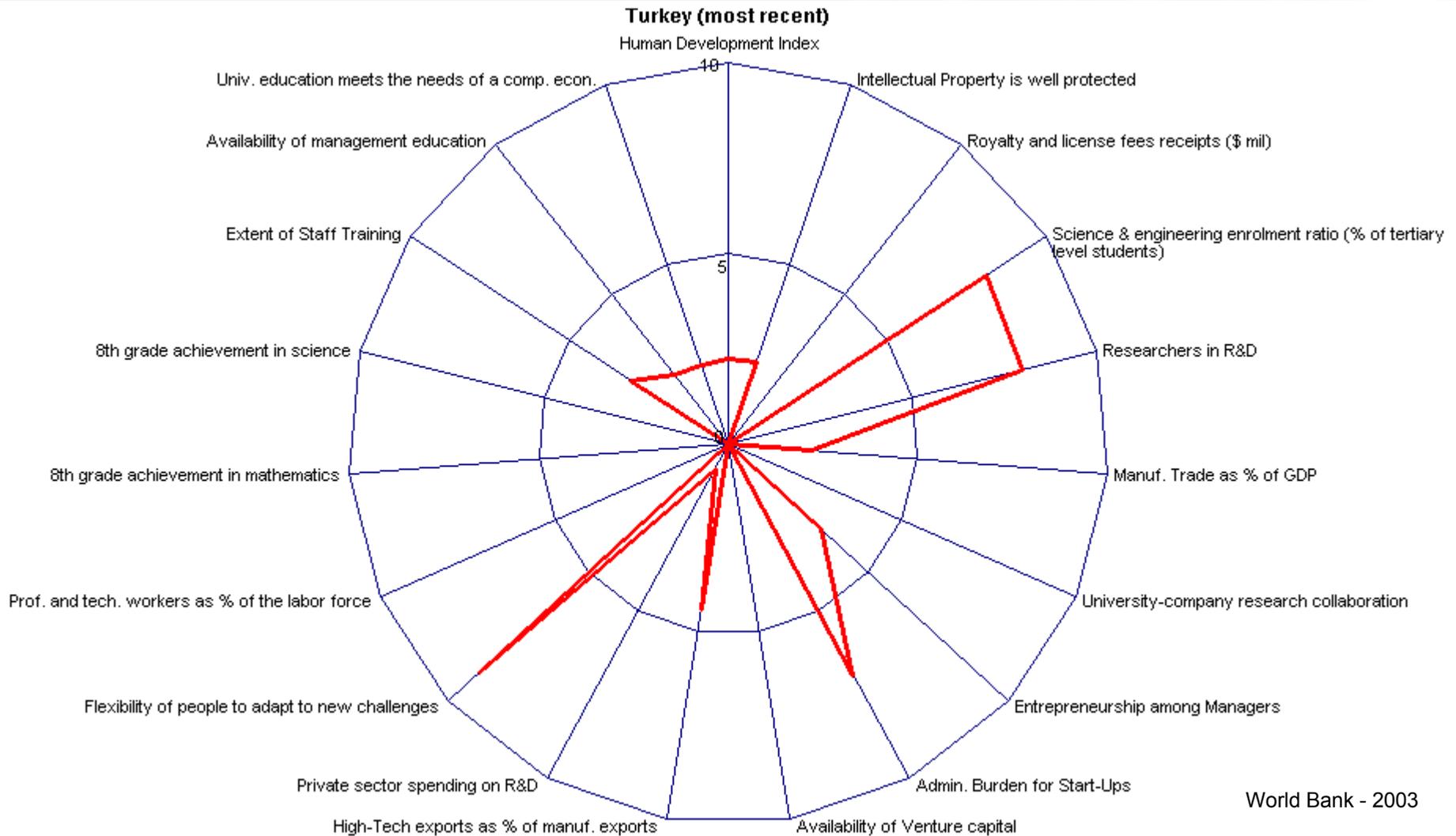
✓ ERA-NET

- EC considers sufficient to coordinate national programs, more emphasis
- FP7 may have quite a few SME RTDI ERA-NETs



SMEs and Knowledge Economy

Clear underspending for RTDI



World Bank - 2003

210,000 SMEs in manufacturing sector (99.6% of all enterprises)

64.3% of all manufacturing employment

10% of exports

26.5% of value-added

Ave. size is 3.1 employees (95% employ between 1-9)

(Source : SIS 2000)

Statistical data on detail profiles especially on RTDI is lacking.

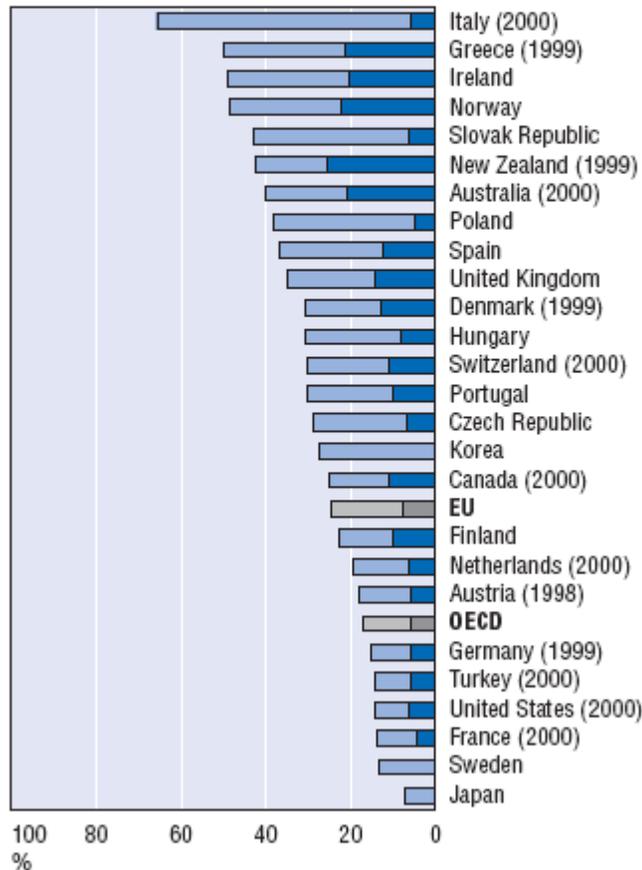
		Cost Items involved in Technological Innovation Activities					
		R&D Activities by Source					
	Involved in Technology Innovation Activities	Inhouse	Service Procur.	Equipment Procur.	Technology Procur.	Industrial Design	Market Launch
10-19	29.4%	19.1%	0.2%	62.5%	0.3%	12.1%	4.3%
20-49	21.5%	11.1%	1%	80.3%	0.7%	6.0%	0.6%
50-99	28.4%	54.7%	0.1%	43.2%	0.9%	0.4%	0.4%
100-249	34.5%	6.2%	0.8%	78.1%	2.2%	1.7%	9.6%

SIS - 2000

While approx. 40% of projects are found to be performed in collaboration with Univ. and other R&D organisations, only 7% cite Univ. as source of information.

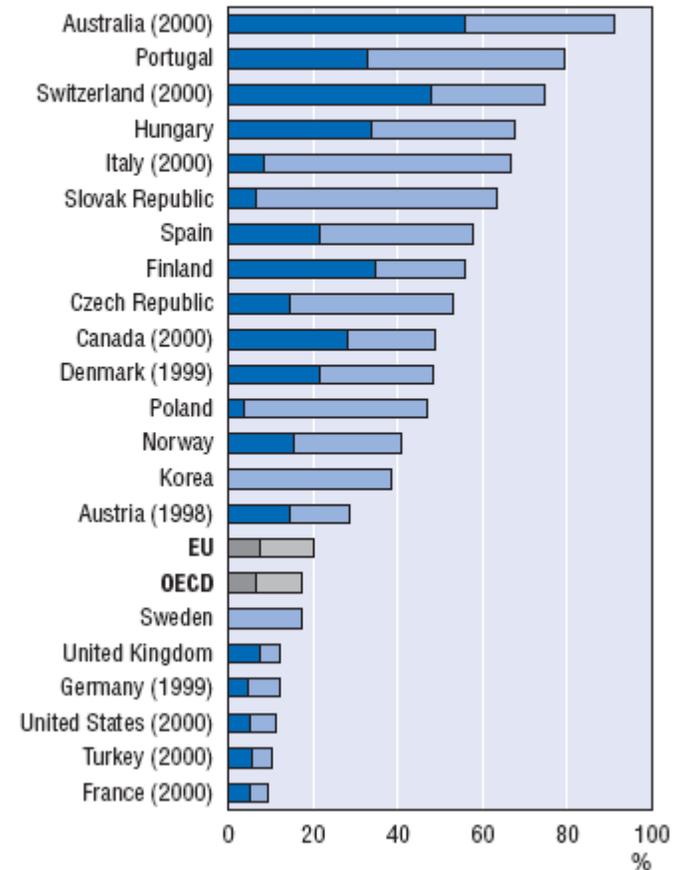
Share of business R&D by size class of firms, 2001

■ Firm with fewer than 50 employees
■ Firms with 50 to 249 employees¹

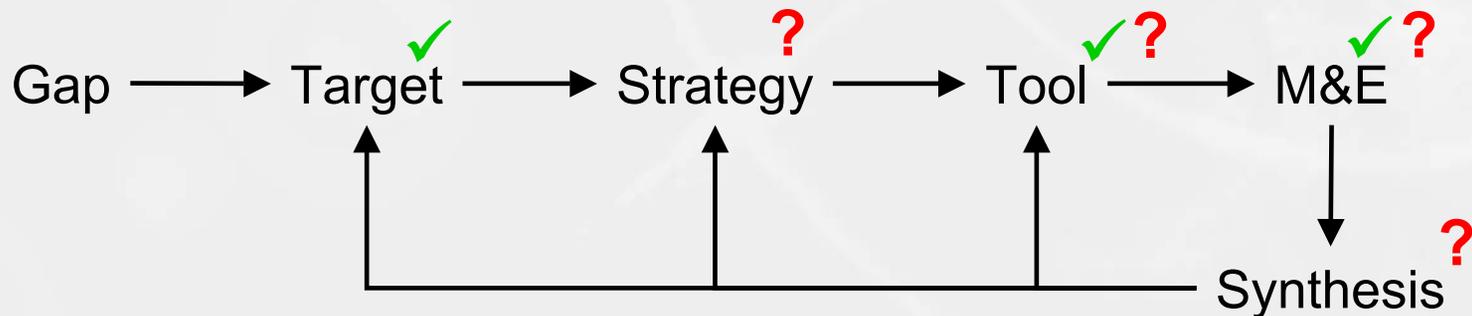


Share of government-financed business R&D, by size class, 2001

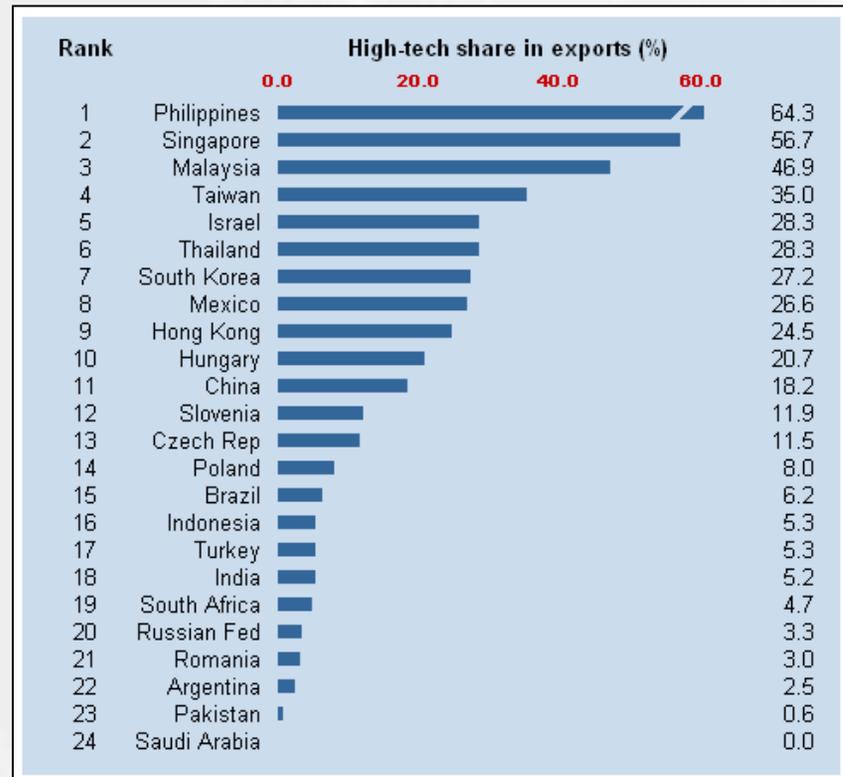
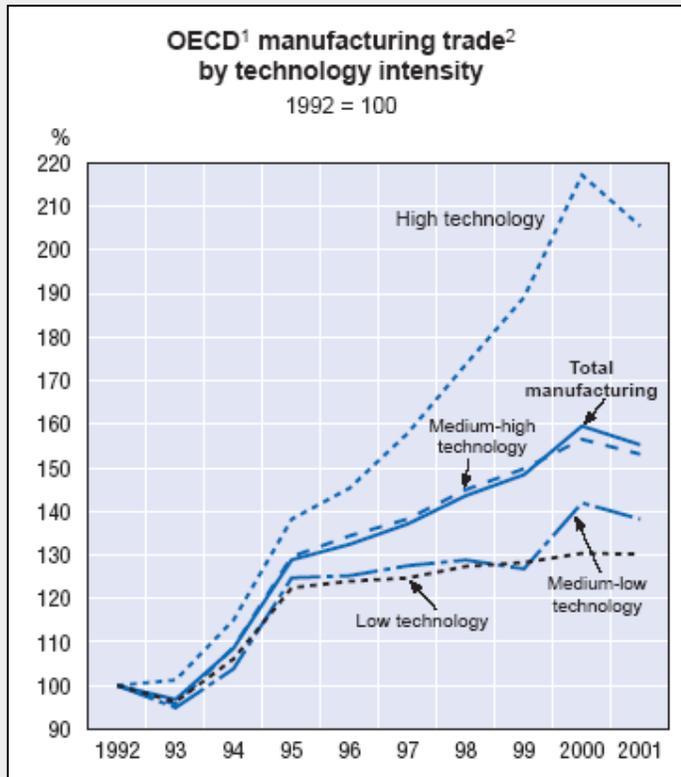
■ Firms with fewer than 50 employees
■ Firms with 50 to 249 employees²



- ✓ Increase RTDI spending to 2% of GNP. (PM Erdoğan) (timeframe? 10 years?) Current level is 0.65% of GNP. (40% is spent by the private businesses)
- ✓ Assuming the target implies business spending to improve to 60% (consistent with EU objective), i.e. 1.2% of GNP. (~3 Billion USD at the current level of GNP – or an approx. increase of 2.5 Billion USD)
- ✓ A lot of stimuli will clearly be needed for the jump
- ✓ Policies and strategies?



Can export driven growth finance business RTDI?

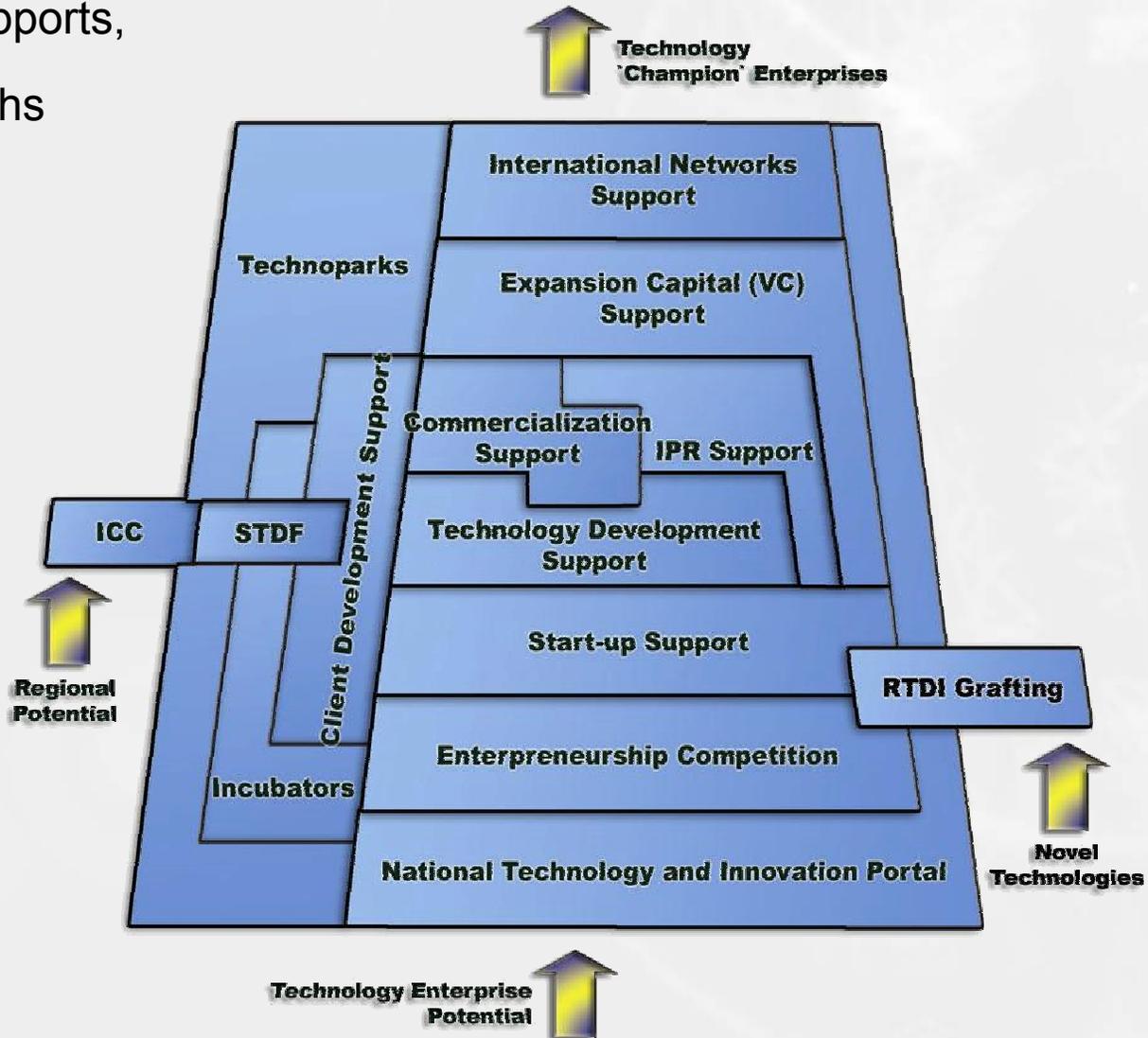


Turkish equity finance market seriously lags. Can KB growth regenerate itself - critical mass?

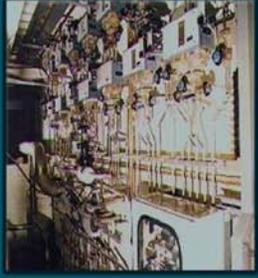
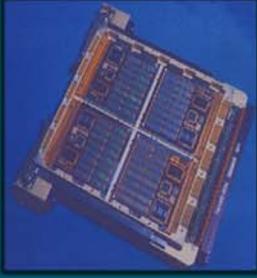
Start-up (EU ave. 0.05% of GNP) and growth VC. (0.03% of GNP vs. 0.3% in the EU)

Supporting enterprises through different phases of development with integrated supports,

Follow-up paths



- ✓ Public funding for business RTDI : not a question of “if” or “why” but “how”.
- ✓ Need to think beyond delivery of finance. More emphasis on structure and added-value (non-financial supports).
- ✓ For better integration with EU programs, need to develop national programs
- ✓ Need to develop new and innovative delivery methods/mechanisms. (Israeli Model for VC? – technology oriented VC)
- ✓ Should emphasize Monitoring and Evaluation of public funding, especially in terms of addionality and attribution aspects. Better policy making.
- ✓ Policy coordination of RTDI at the national level. A working National Innovation System. Role and mandate of BTYK – delivery mechanisms?



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