

National Technology Platforms – Best practices & future prospects

# Technology Platforms in Turkey\*

\*[www.tubitak.gov.tr](http://www.tubitak.gov.tr)

Dr. Ozcan Saritas

[Ozcan.Saritas@manchester.ac.uk](mailto:Ozcan.Saritas@manchester.ac.uk)

# Manchester Institute of Innovation Research - MIoIR

MIoIR brings together the strengths of PREST and CRIC:

MIoIR has 5 major research themes in which we are, or seek to be, world leaders:

1. Technology strategy and innovation management
2. Service and organisational innovation
3. Science and innovation policy – including as a strong pillar: Foresight
4. Innovation and sustainability
5. Innovation and economic development

The University of Manchester  
Manchester  
Business School

MANCHESTER  
1824



# Presentation outline

- Turkey in the world and in Europe
- Background for the establishment of Turkish Technology Platforms: Past, present, future
- Positioning the TPs in the Turkish National Innovation System (NIS)
- TPs: Objectives, Focus, Process & Outcomes
- Points to consider when establishing TPs

# Geographical location





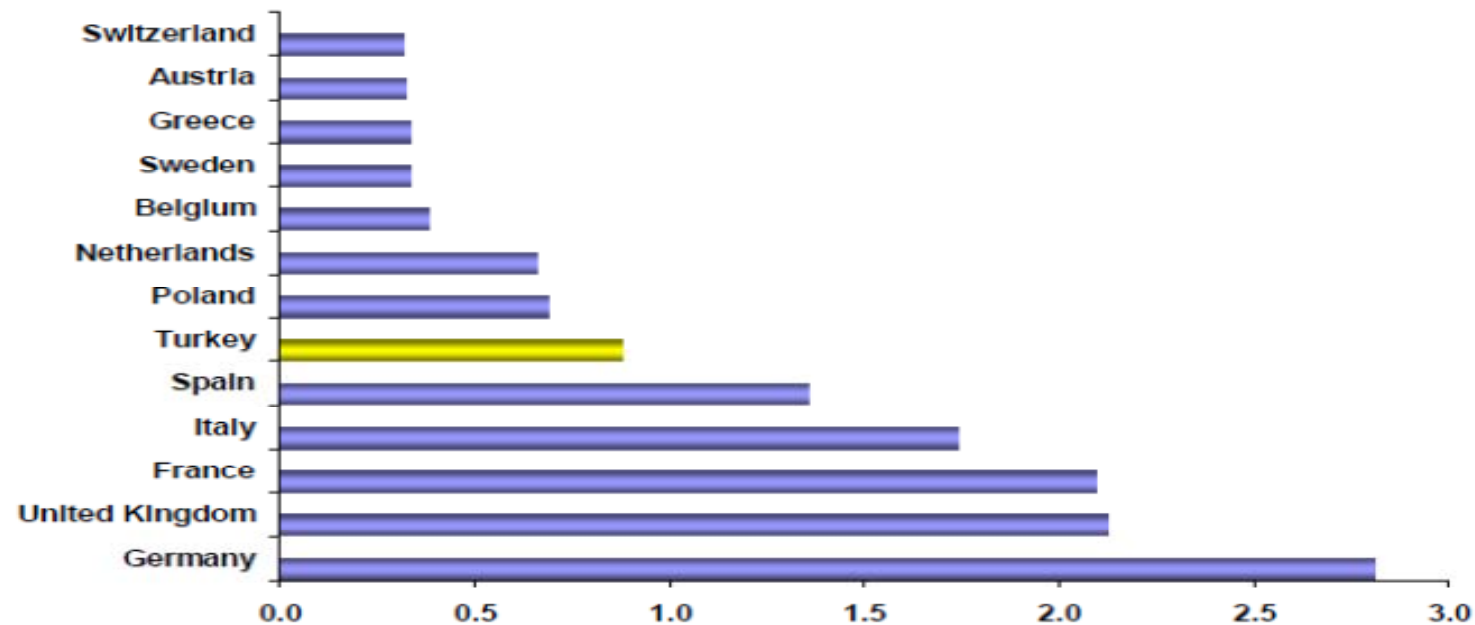
# Facts

- ❑ Area of 785.347 km<sup>2</sup>.
- ❑ 8.485 km of coastline, surrounded by sea on three sides: by the Black Sea to the north, the Mediterranean to the south and the Aegean Sea to the west.
- ❑ A unique geographical location as a gateway to European, Middle Eastern, North African and Central Asian markets.
- ❑ In four hours of flight from Istanbul, one can reach more than 50 countries and a quarter of the world population.
- ❑ A political and economic attraction center for the neighbouring geographies, with its strategical location.

# Turkey in Europe

## Europe's Biggest Economies

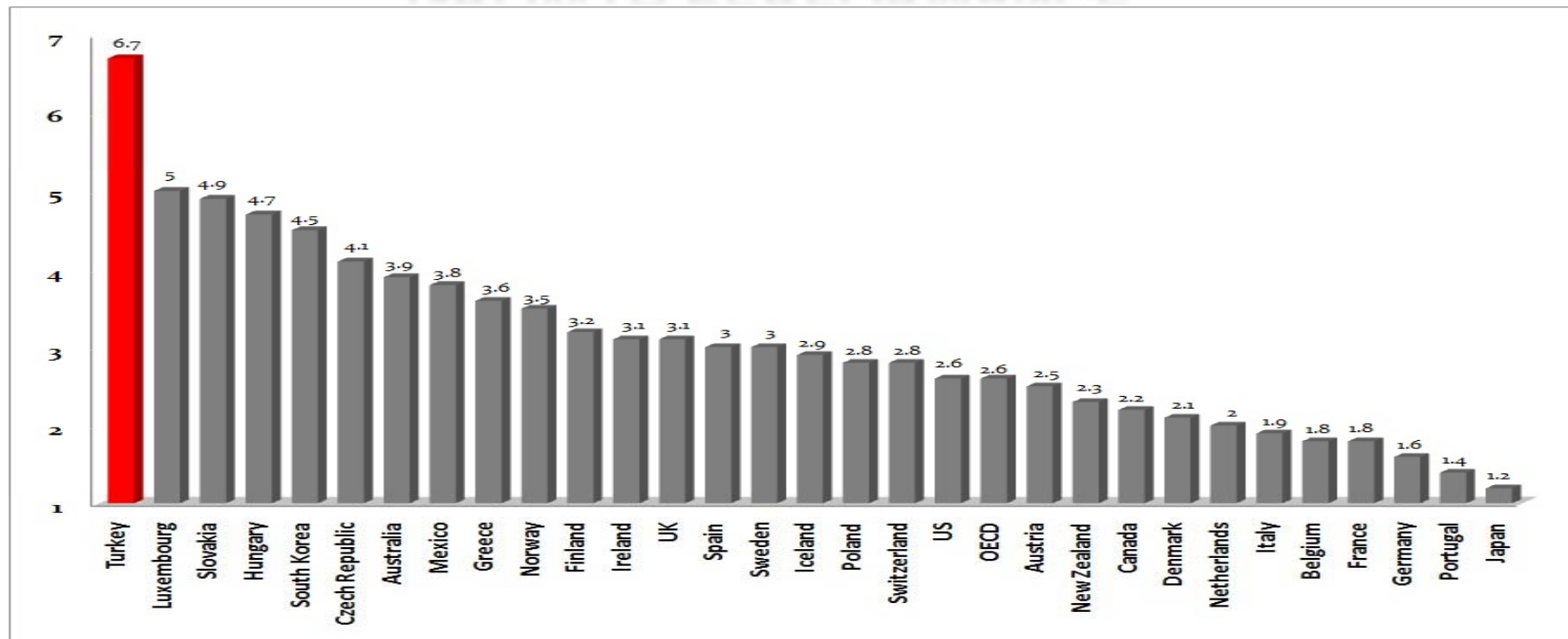
(GDP based on purchasing power parity , Trillion Dollars, 2009)



Source: IMF, World Economic Outlook, October 2010

# Turkey in OECD

## GROWTH PERFORMANCE



According to OECD, Turkey is expected to be the fastest growing economy among OECD members during 2011-2017, with an annual average growth rate of 6.7 percent.

# Technology Platforms - Background

- Innovation is a creative, complex and risky activity, and collaboration networks provide immense value by networking, distributing risk and providing cost efficiency (Powell et al., 1996; Powell et al., 2005)
- The emergence of Innovation Systems considering the systematic involvement of stakeholders in the innovation process and their interaction
- Innovation systems at the national (holistic), regional (local capabilities) and sectoral/technological levels (thematic specifications)
- TPs are based on the assumption that sectoral needs and dynamics differ, thus each sector requires a specific innovation approach. This provides depth and variety for innovation approaches



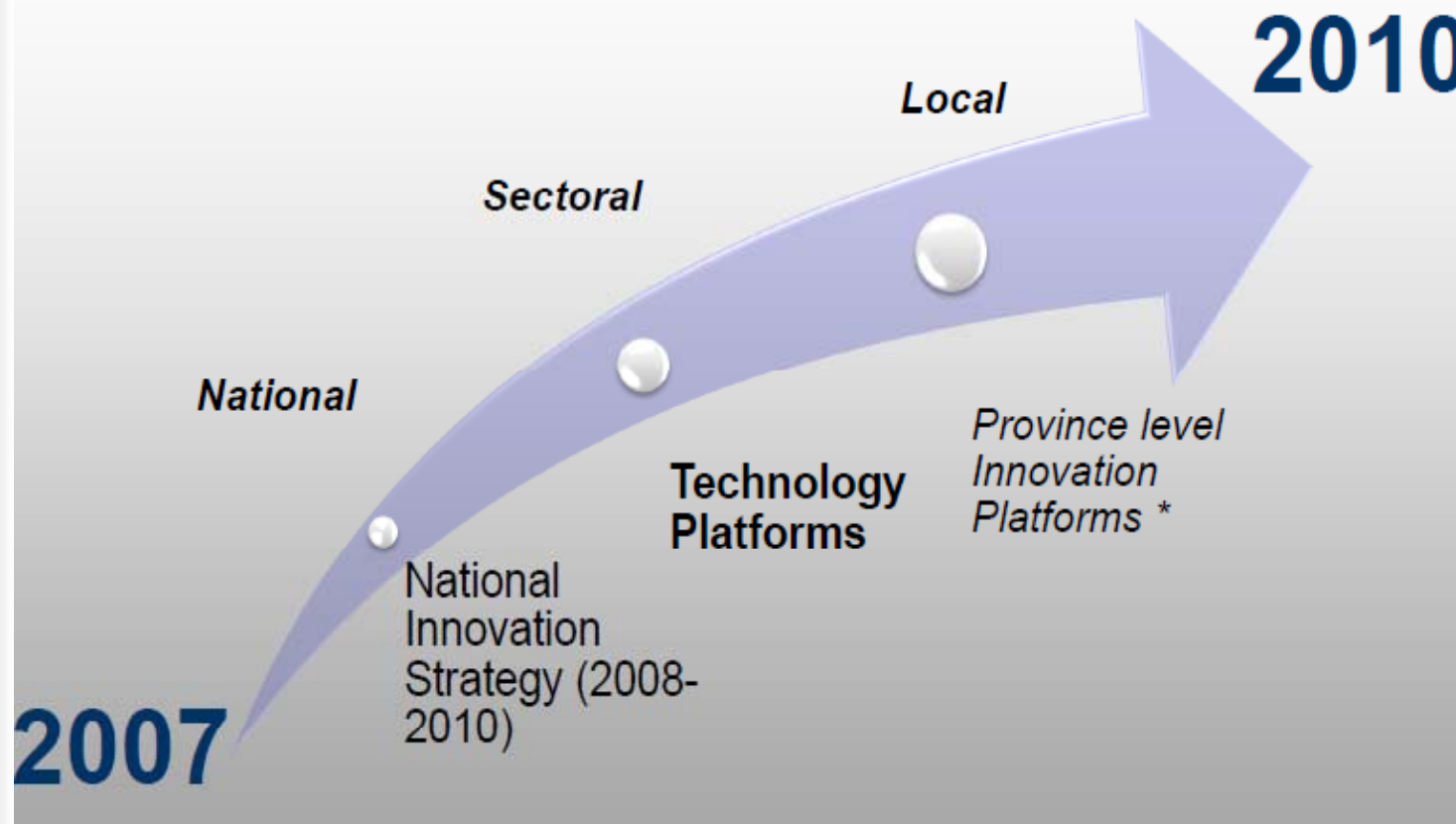
# Technology Platforms in Turkey

- SCST Decree (2006/201): “to prepare National Innovation Strategy and Action Plan, and to develop necessary supporting mechanisms for the implementation of the strategies”
- Technology Platforms (TPs) have been initiated by TUBITAK in 2007 within the framework of the SCST Decree
- The overall aim is “ to provide the participation and impact of enterprise sectors to formulate Innovation policies and to increase Innovation performance”

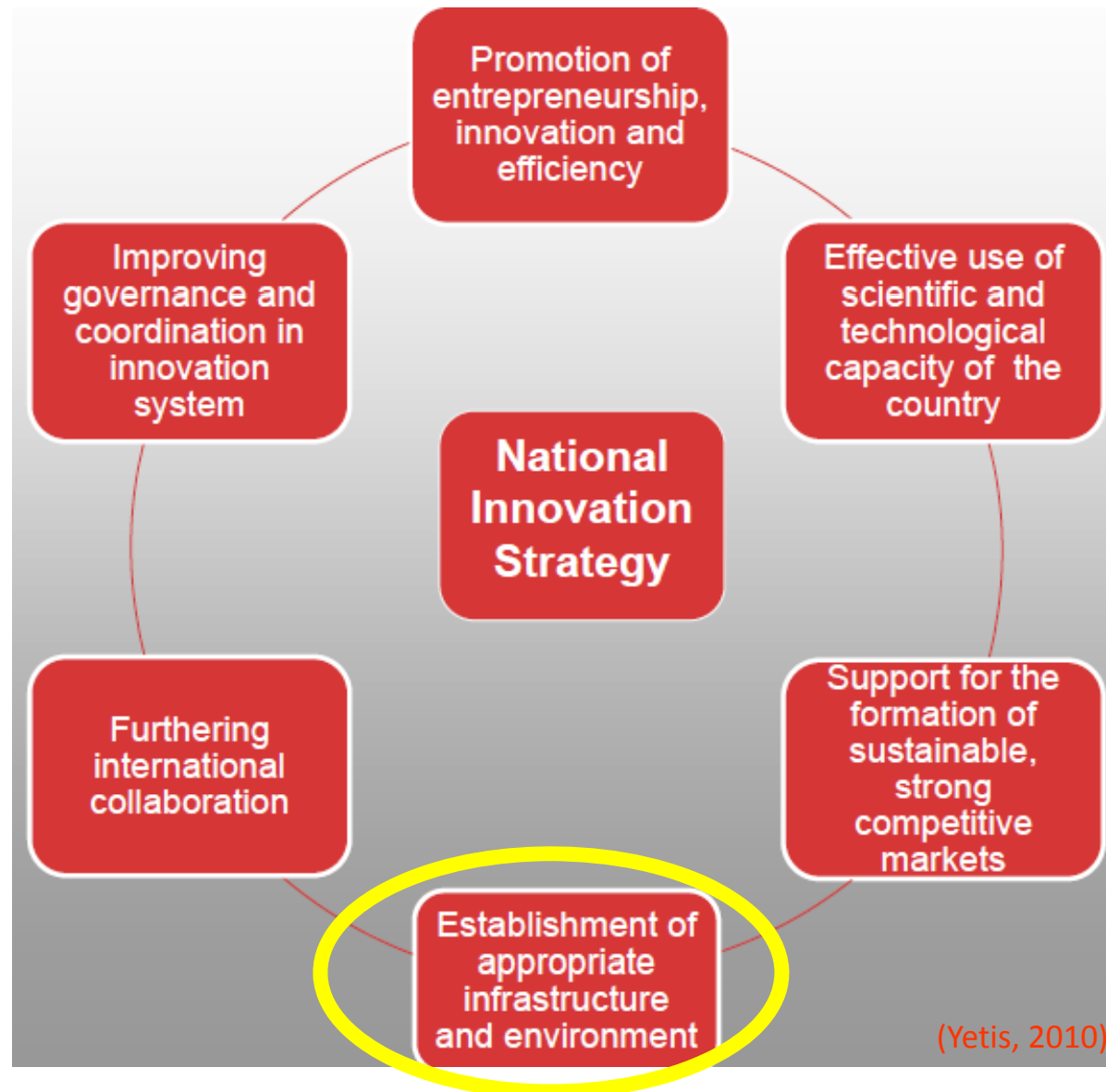
# Technology Platforms – Background

**2011-2016**

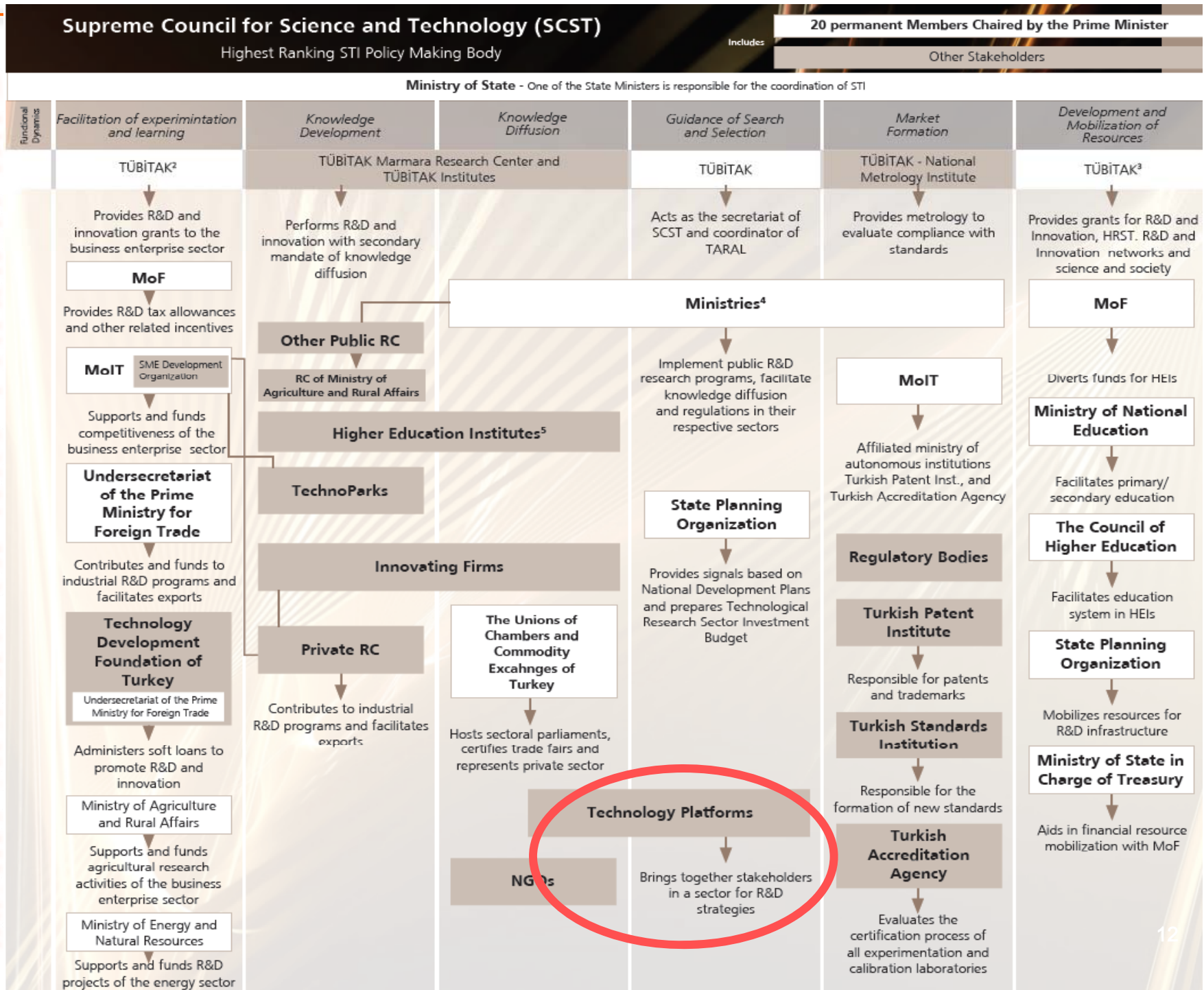
**National STI Strategy**



# National Innovation Strategy (2008-10)



# Main actors of the Turkish NIS



# Technology Platforms - Objectives

- TPs support the sectoral dimension of STI policy as an interface to integrate the business perspective into policy
- TPs are expected to enhance the innovation performance of private sector and provide an effective knowledge sharing between industry and academia, thus
- TPs play an important role for the coordination of the national research activities through consultations with various stakeholders for a sustainable growth
- TPs function as a mechanism for the participation of Turkish industry and research in the European and other TPs around the world
- Technology Platforms (TPs) are one of the best tools of forming and sharing long-term sectoral strategies in order to realise Vision 2023 goals



# TUBITAK Support Programmes

- 1001: Support Programme for Scientific and Technological Research Projects
- 1002: Short-Term R&D Funding Programme
- 1007: Support Programme for Research Projects of Public Institutions
- 1008: Patent Application Promotion and Support Programme
- 1010: Global Researcher Programme
- 1011: The Programme for Participation in International Scientific Research Projects
- **1301: The Support Programme for the Initiative to Build Scientific and Technological Cooperation Networks and Platforms**
- 3501: National Young Researchers Career Development Programme
- <http://www.tubitak.gov.tr/home.do?ot=1&sid=991&pid=547>

# Support for Technology Platforms

## The Support Programme for the Initiative to Build Scientific and Technological Cooperation Networks and Platforms (1301)

- Aims to support the establishment of cooperation networks and platforms in areas such as basic sciences, engineering, health, and social sciences, especially in order to align and develop our country with science and technology foresights.
- Industrial and business corporations, universities, public corporations and consortiums of these can apply for this programme.
- No time limitation exists for applications.
- The maximum amount of support given is 250,000 TL (100,000 EUR) annually and the maximum duration of support is 36 months.
- <http://www.tubitak.gov.tr/home.do?sid=374&pid=364>

# Technology Platforms - Initiation

- Meetings and workshops to present the TP concept and prioritise sectors for the formation of the platforms
- BCG matrix analysis (Analysis of Business Growth Rate vs Relative position in terms of market share) and export volume parameters
- Selection criteria:
  - High portion export volume and market share
  - Response to the pressures from increasing competitiveness of other emerging markets due to the low factor prices
  - Potentials for higher R&D and innovation based value added for sustainable competition in the long run

# Technology Platforms – Sectoral focus

- First five TPs established included:
  - Automotive
  - Electric and Electronics
  - Metal
  - Textiles
  - Maritime Technology (Critical impact potential)
- The initiative was then extended to include new sectors :
  - Energy
  - Pharmaceuticals (the highest share of imports in the Turkish economy)
  - Agriculture (as a sector with strategic importance)
  - Construction Technologies

# Technology Platforms – Launch & Process

- Opening meeting on 11 January 2007
- Workshops for setting up TPs
  - Establishment of committees to synchronise TPs
  - Definition of vision and mission of TPs
  - The positioning of TPs and their role
  - Preparation of platform roadmaps and implementation schedule
  - Application of ISBAP - TPs' networking activities are supported through the match-funds mechanism of ISBAP (Support Programme for the Initiative to Build Scientific and Technological Cooperation Networks and Platforms )
- TPs have hold various meetings and undertake studies to build the R&D and innovation strategy of their sector



# Technology Platforms - Participants

- Each TP has its own management structure including a Programme Coordination Council, which brings together enterprise managers, faculty administrators and government representatives.
- Domination of private sector, e.g. the Automotive TP consist of:
  - Programme Coordination Council
    - TOFAS/FIAT, FORD, TEMSA, OPET, Bayraktarlar Holding, MARTUR, OSD, TAYSAD, METU, ITU, TUBITAK MRC
  - Workshop participants
    - Mercedes Benz, Uzel, Turk Tractor, FARBA, Inci Battery, MAN, Honda

# Automotive Technology Platform (OTEP)



**bayraktarlar**

**ISUZU**

**FORD OTOSAN**



**inci AKÜ**

**HAŞSAN  
GROUP**

**dpet**

**MARTUR**



**Otokar**

**TOFAŞ** TÜRK OTOMOBİL  
FABRİKASI A.Ş.

**Tüpraş**

**AVL**

**FIGES**

**HEXAGON  
studio**

**Tekno  
tasarım**

**OSD**

**TAYSAD**

**TCV**



Sabancı  
Universitesi



**OTAM**

**MAM**

## OTEP MEMBERS

### 12 Companies

### Name of the Company

ANADOLU ISUZU Otomotiv San. ve Tic. A.Ş.
BAYRAKTARLAR Tasarım Araştırma Geliştirme Hizmetleri ve Ticaret A.Ş.
COŞKUNÖZ Metalform Makina Endüstri ve Ticaret A.Ş.
FORD Otomotiv Sanayii A.Ş.
HASSAN Tekstil San. Ve Tic. A.Ş.
İNÇİ AKÜ
MARTUR A.Ş.
OPET Petrolcülük A.Ş.
OTOKAR A.Ş.
OYAK RENAULT Oto. Fab. A.Ş.
TOFAŞ Oto. Fab. A.Ş.
TÜPRAŞ

### 4 Engineering Co.

AVL Türkiye
FİGES Fizik ve Geometride Bilgisayar Simülasyonu Hiz.Tic. A.Ş.
HEXAGON STUDIO
TEKNO TASARIM

### 3 Association/Foundation

OSD Otomotiv Sanayi Demeği
TAYSAD Taşıt Araçları Yan Sanayicileri Demeği
TTGV

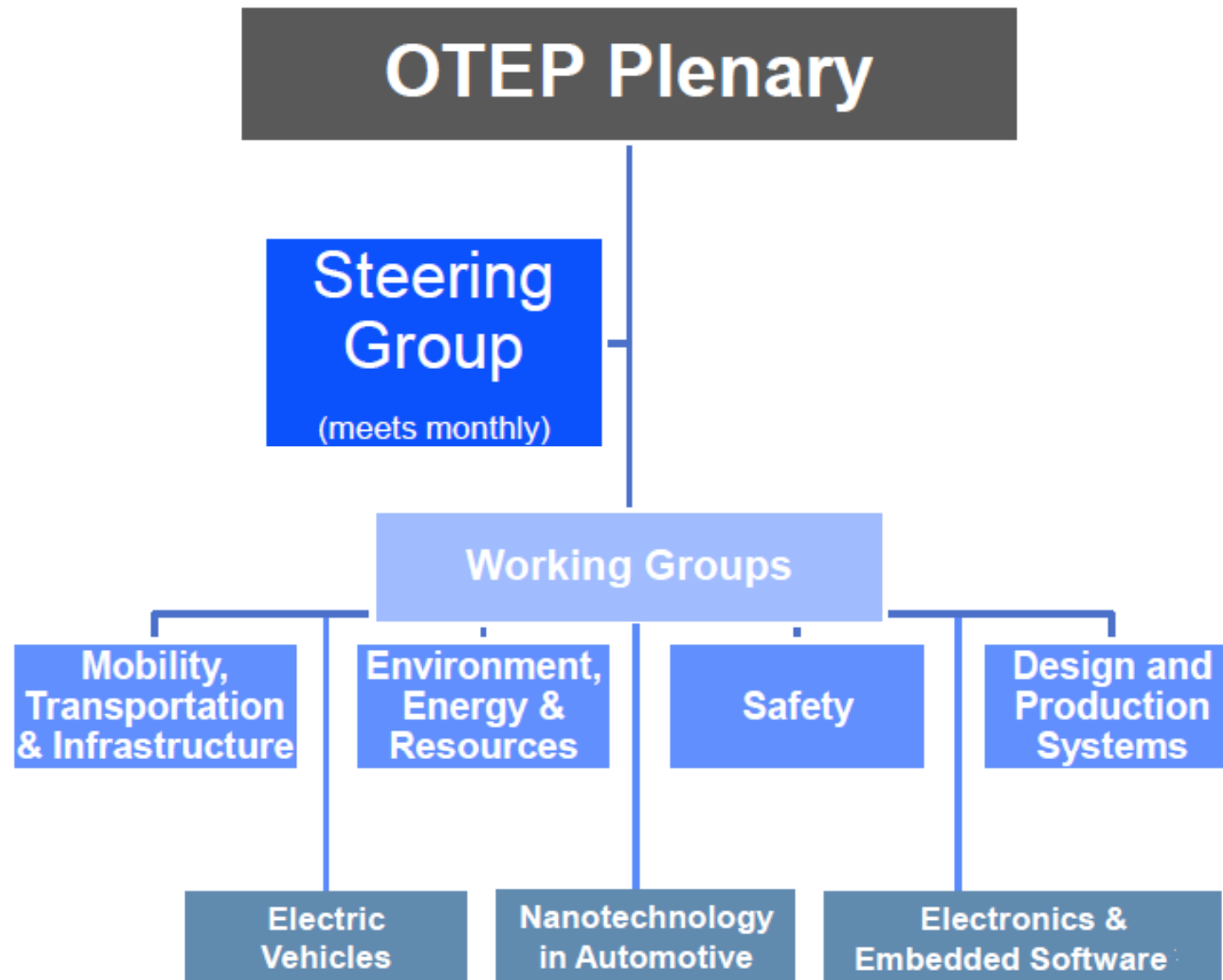
### 6 University

ULUDAĞ ÜNİVERSİTESİ
ORTADOĞU TEKNİK ÜNİVERSİTESİ - BİLTİR Merkezi
İSTANBUL TEKNİK ÜNİVERSİTESİ
SABANCI ÜNİVERSİTESİ
KOCAELİ ÜNİVERSİTESİ
AFYON KOCATEPE ÜNİVERSİTESİ

### 2 Center

OTAM
TÜBİTAK-Marmara Araştırma Merkezi

# Automotive TP (OTEP) structure



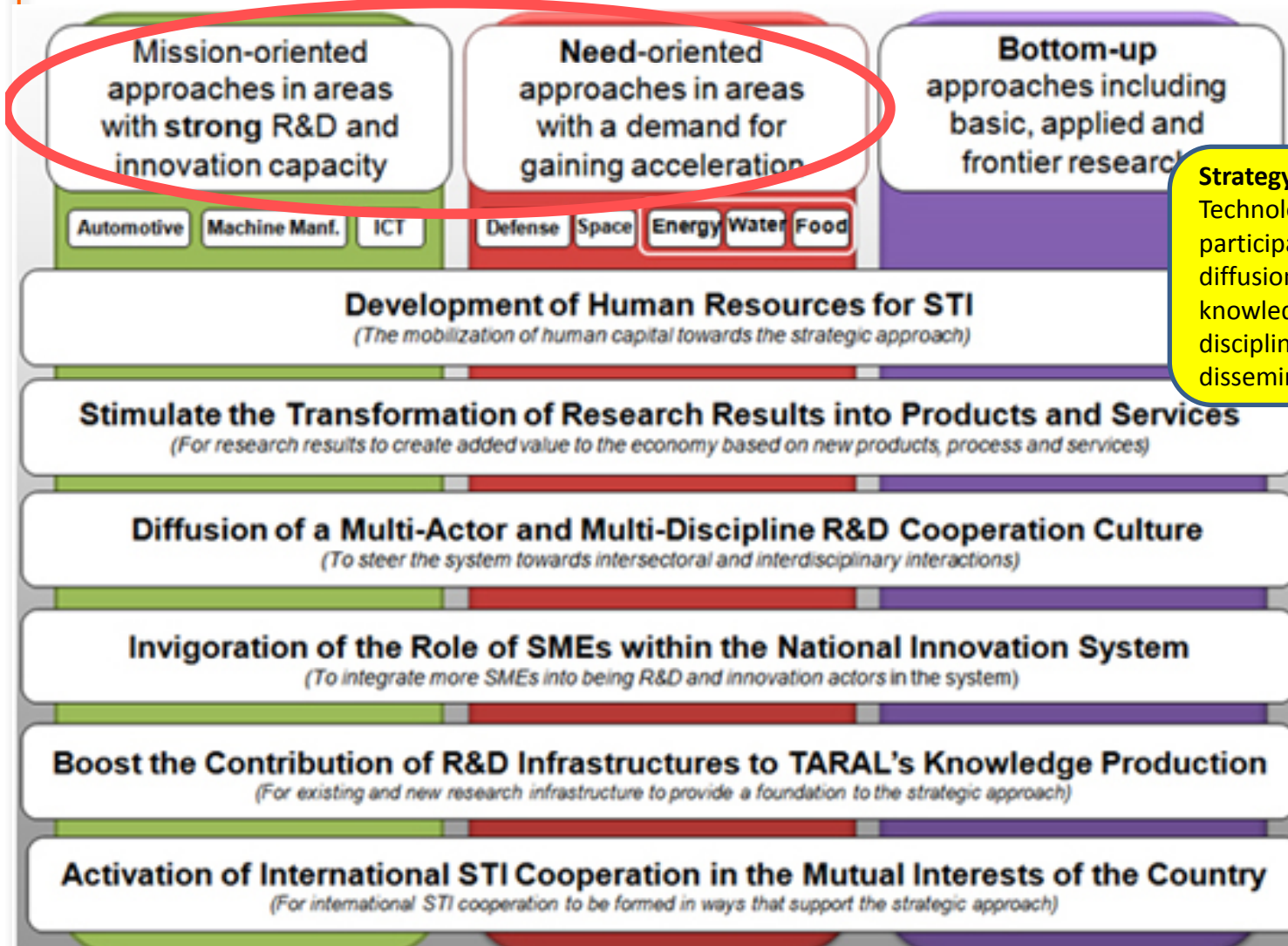
# Turkish National STI Strategy (2011-16)



## **Priority areas for the coming five years:**

- (1) developing human resources for science, technology and innovation;
- (2) transformation of research into products and services;
- (3) disseminating a multi-actor, multi-disciplinary R&D cooperation culture;
- (4) strengthening the role of SMEs in R&D and
- (5) boosting the contribution of R&D infrastructure to knowledge production.

# Turkish National STI Strategy (2011-16)



**Strategy:** Creating and empowering Technology Platforms with the participation of stakeholders for the diffusion and commercialisation of knowledge, to increase multi-disciplinary research, provide the dissemination of research results



# Province Level Innovation Platforms

## **Province Level Innovation Platforms to foster provincial level innovation and R&D capacity**

- Aimed at developing STI capacities at the provincial levels by involving local stakeholders, including public bodies, local universities, industry and civil society organisations, who will be asked to develop innovation strategies and action plans at provincial level.

# Expected outcomes from TPs

- Strategic Research Agenda to be utilized in conceiving and developing sectoral innovation policies
- Long-term research targets
- Strategic research plans, and roadmaps for their implementation
- Pre-competitive research proposals to apply for public R&D support
- Improved pre-competitiveness collaboration between the members of TPs and among TPs
- Leadership for the establishment of new TPs in other sectors

# Technology Platforms – Points to consider

- TPs are **NOT R&D and Innovation projects** themselves. They are the collaboration networks, which are expected to set RD&I agenda in the light of strategies developed
- TPs **should be pioneered by the industry** in collaboration with strong research partners. The participation of other stakeholders (esp. SMEs) are crucial for the adoption and implementation of strategies
- TPs are **NOT clusters**. Unlike clusters, which are organised at regional or local levels, TPs are national level initiatives
- **Competition within sectors is NOT an obstacle** for collaboration. TPs are characterised by pre-competition collaborations
- The **outcomes of TPs are NOT products or services**. The main outcomes are collaboration mechanisms, sectoral strategies, and implementation plans. Therefore the partners involved are not liable to provide Intellectual Property Rights plan
- TPs are **NOT sectoral associations**. They are RDI oriented collaborations, which are focused on long term sectoral strategies

**End of presentation**

Dr. Ozcan Saritas

Ozcan.Saritas@manchester.ac.uk