TÜBİTAK

UME

The National Metrology Institute of Turkey

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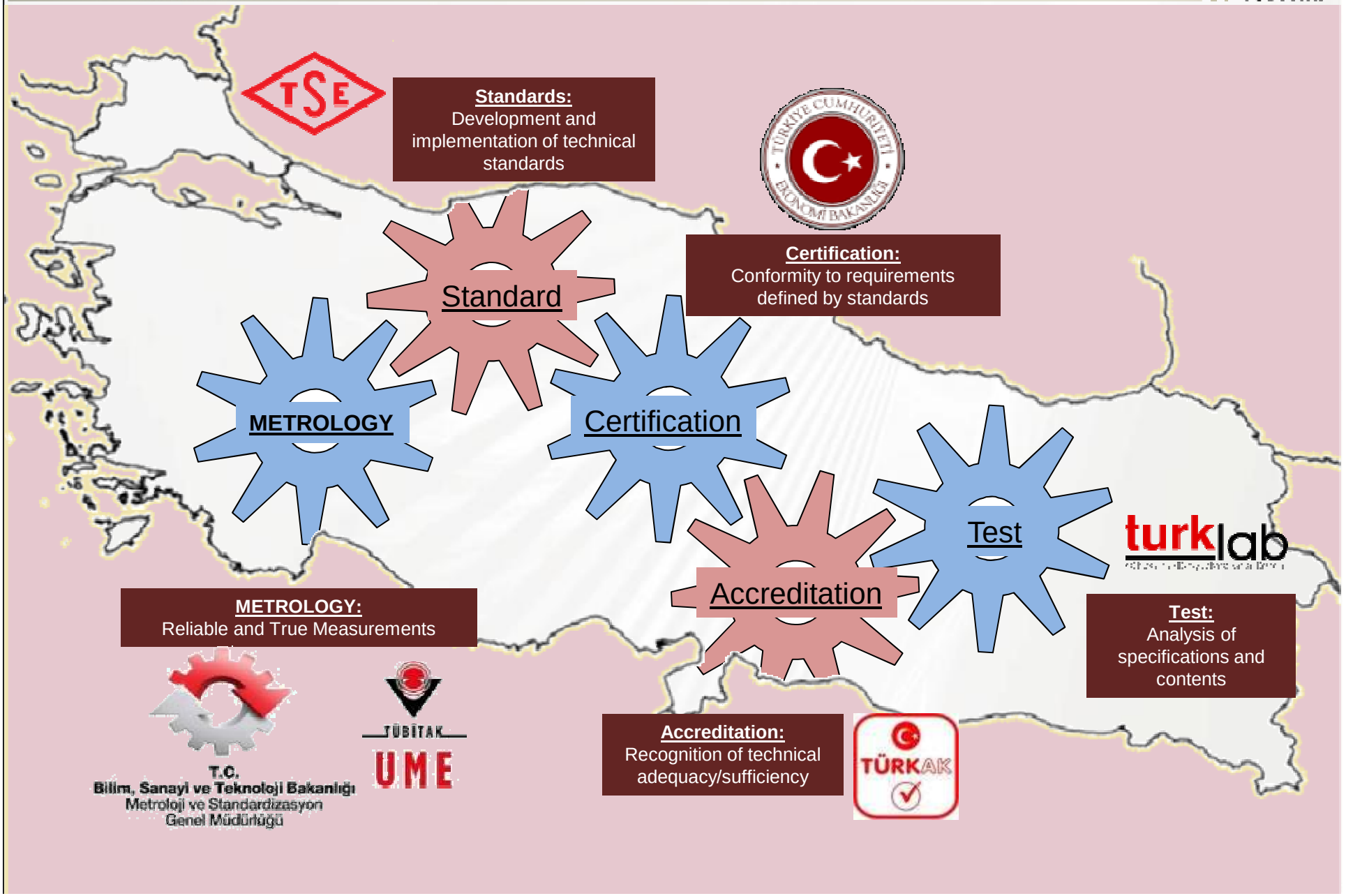
TÜBİTAK UME, Turkey
December 04-05, 2014

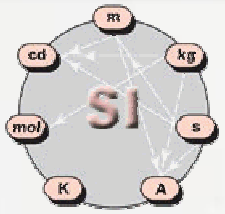
Quality Infrastructure of Turkey



Quality Infrastructure in Turkey

Prime Ministry

- **Ministry of Science, Technology and Industry**
  - **TÜBİTAK** (Turkish Scientific and Technological Research Council)
    - **TÜBİTAK UME** (National Metrology Institute) ***NMI***
    - **TÜBİTAK MAM** (Material Inst. Underwater Acoust.Lab) **DI**
  - **MSGM** (General Directorate on Metrology & Std)
  - **TSE** (Turkish Standardization Institute)
  - **TAEK** (Turkish Atomic Energy Authority) **DI**
- **Ministry of Energy and Natural Resources**
- **Ministry of European Affairs**
  - **TÜRKAK** (Turkish Accreditation Body)
- **Ministry of Economy**
  - **ÜGDGM** (Directorate for Product Safety Assessment)

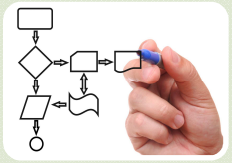


Accrediated Test and Calibration Laboratories, Manufacturer Laboratories

Institutional Development

Since 1982

Communications at TÜBİTAK UME



1. Before establishment of UME labs

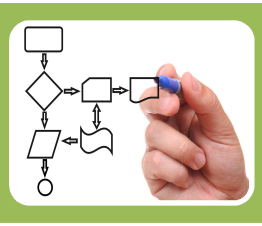
2. After establishment of UME labs

1875 1982 1994

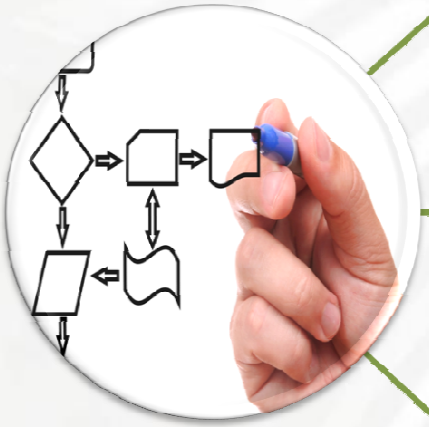
Activities Aimed @ Potential Customers (Business Development)

Activities Aimed @ Existing Customers (Customer Relations Management)

Communication at TÜBİTAK UME



1. Before establishment of UME labs



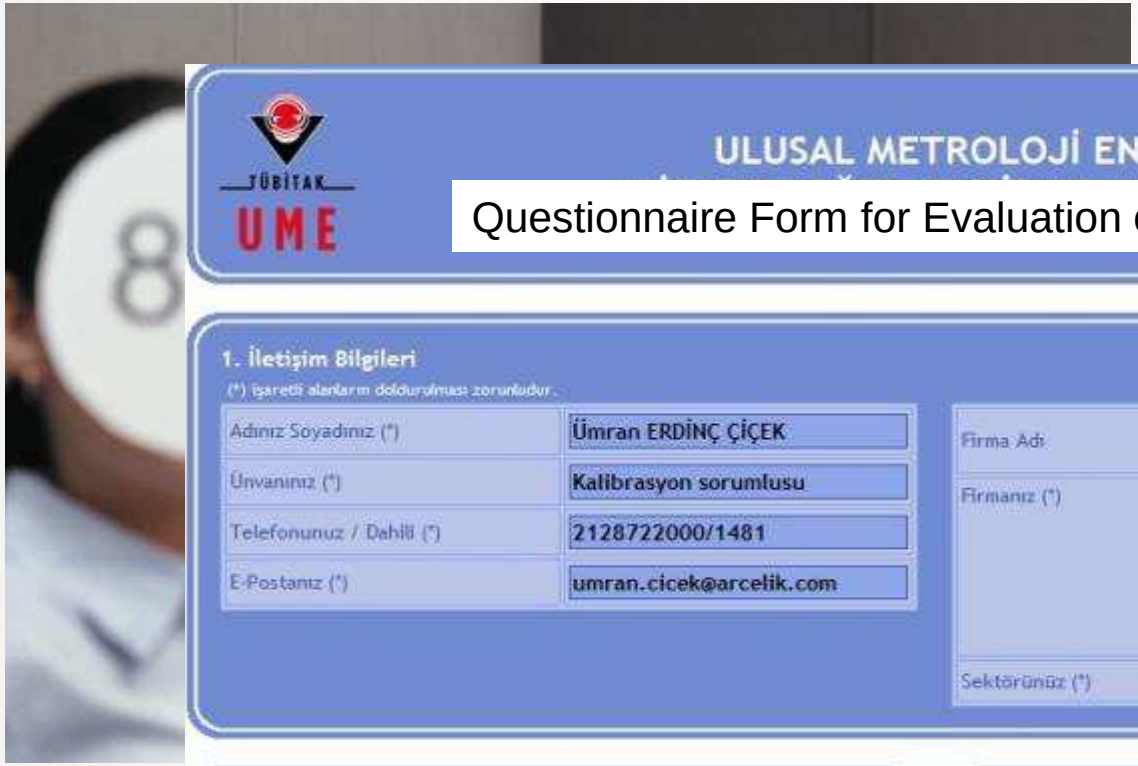
- **Visits**
  - Industrial Areas
  - Large Companies
  - Industrial Chambers
- **Seminars**
  - Universities
  - Public Organizations
- **Promotion Campaign**
  - Papers
  - Promotion Materials
  - News
  - Films

Communication at TÜBİTAK UME

2. After establishment of UME labs

- **Services**
  - Calibration
  - Training
  - Consultancy
  - ILC/PT
  - Projects
- **Information**
  - Before service delivery
  - After service delivery
- **Visits**
  - Observation of calibrations
  - Lab Visits
- **Meetings**
  - Board of Advisors
  - Stakeholders

Customer Feedback



TÜBİTAK UME

ULUSAL METROLOJİ ENSTİTÜSÜ

Questionnaire Form for Evaluation of Services

1. İletişim Bilgileri

(*) işaretli alanların doldurulması zorunludur.

Adınız Soyadınız (*)	Ümran ERDİNÇ ÇİÇEK
Ünvanınız (*)	Kalibrasyon sorumlusu
Telefonunuz / Dahili (*)	2128722000/1481
E-Postanız (*)	umran.cicek@arcelik.com

Firma Adı	ARÇELİK A.Ş. ELEKTRONİK İŞLETMESİ
Firmanız (*)	○ Akredite Laboratuvar ○ Akredite Olmayan Laboratuvar ○ Ar-Ge ● Üretici ○ Diğer
Sektörünüz (*)	○ Kamu ● Özel Sektör

2. TÜBİTAK UME'yi neden tercih ettiniz?

(Birden fazla şık işaretleyebilirsiniz)

- ☑ Uzmanlık / Teknik Deneyim
- ☐ Tarafsızlık
- ☐ Başka Hizmet Sağlayıcı Olmaması
- ☑ Daha Önce Alınan Hizmetlerden Memnuniyet
- ☑ Alınan Hizmetin Kalitesi
- ☐ Diğer

3. Aldığınız hizmeti belirtiniz.

(Birden fazla şık işaretleyebilirsiniz)

- ☑ Kalibrasyon / Deney
- ☑ Eğitim
- ☐ Danışmanlık
- ☐ Cihaz / Ölçüm Standardı / Referans Malzeme Satışı Ve Otomasyon Hizmeti
- ☐ Yayın Temini
- ☐ Bakım / Onarım
- ☐ Ar-Ge Projesi
- ☐ Sıvı Azot/Helyum Satış
- ☐ Ürün Geliştirme
- ☐ Yeterlilik Testi
- ☐ Karşılaştırma Hizmetleri
- ☐ Yeterlilik Testi

Communication Channels

Website	• www.ume.tubitak.gov.tr
Interactive system	• ume.intspr@tubitak.gov.tr
Phone	• +90 262 679 50 00
Fax	• +90 262 679 50 01
Twitter	• Twitter.com/tubitakiletisim
Facebook	• Facebook.com/tubitak
Youtube	• Youtube.com/user/tubitaktv

Service and Information Management System – SIMS (created by UME)

Using Materials for Communication

Service and Information Management System – SIMS (created by UME)

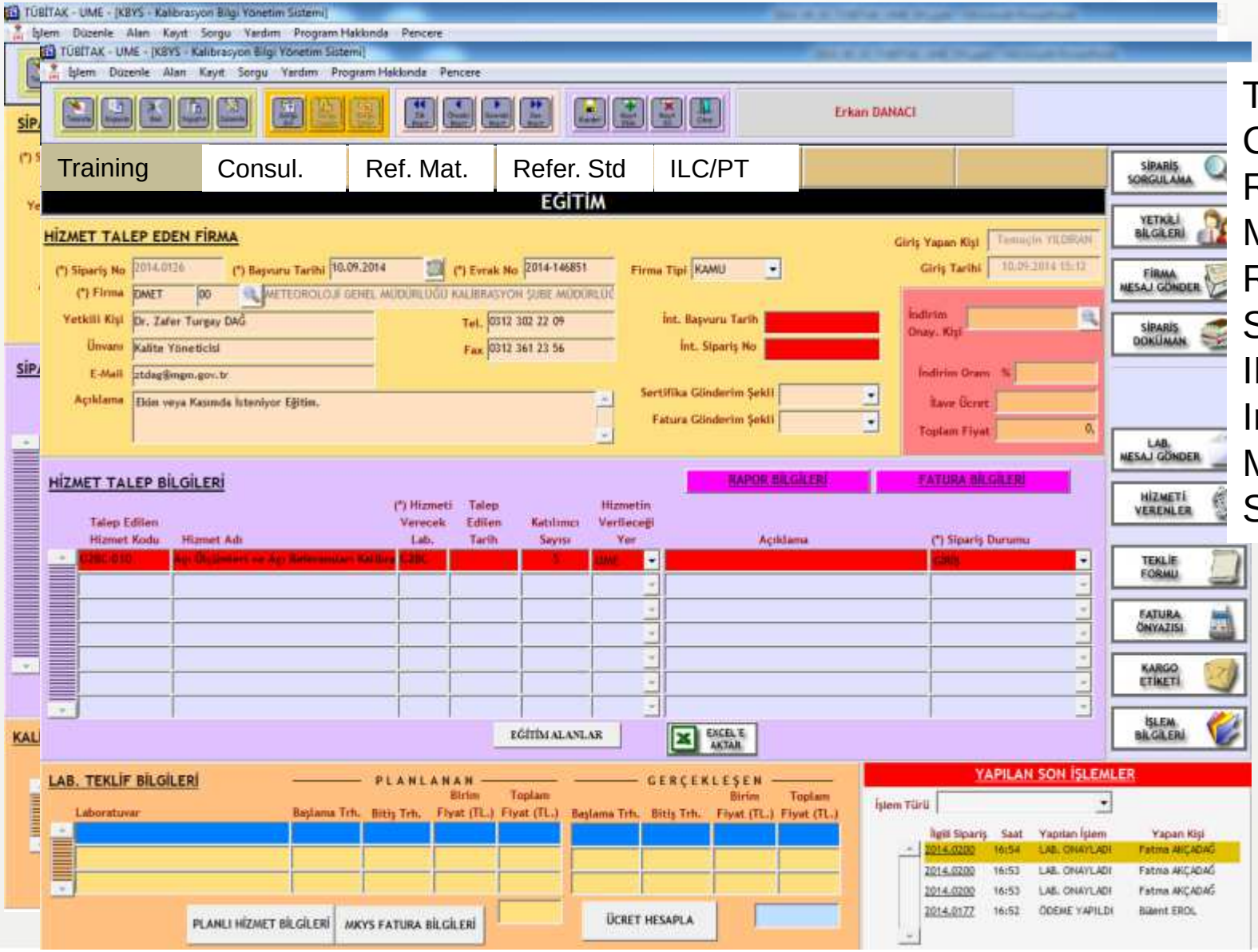
Modules of SIMS:

- **Calibration**
- **Training**
- **Consultancy**
- **Inter Laboratory Comparisons**
- **Reference Materials/Standards**

5 full time staff for all services

Info Systems for Communication

Service and Information Management System – SIMS (created by UME)

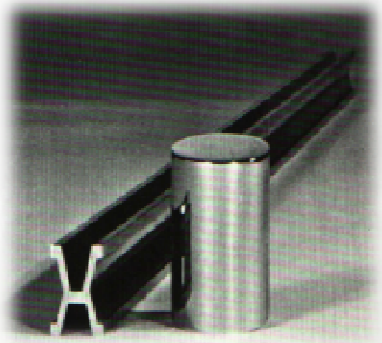


Training, Consultancy, Reference Materials Reference Standard, ILC/PT Information Management System

Services

Capability to measure **89 different measurement quantities**

based on **116 primary level reference standards**



3500 calibrations performed per year on average

Training offered in **70 different areas** of metrology

A diverse customer portfolio consisting of over **700 establishments** in Turkey and abroad

Physical Infrastructure

- 38 500 m^2 enclosed area
- 21 laboratories on 12 500 m^2
- 126 separate laboratory spaces

Communication Statistics

In 2013;

- Number of surveys sent : **1928**
- Number of replies received : **396**
- Rate of return : **20 %**
  - From Companies : **24 %**
  - From Individuals (Representatives) : **18 %**
- Number of all services provided : **3810**
- Number of complaints : **22**
- Rate of complaints : **0.57%**
- Number of Corrective and preventive actions : **2**

Communication Activities

Activity	Outcome	Action
Questionnaire form for each service provided	Collection of information needed to identify problems and improve service quality	Corrective and preventive actions
Board of Advisors Meeting & Stakeholders Meeting	Feedback from customer base and stakeholders	Institutional planning for service delivery
Information Days & Workshops & WMD	Increasing public awareness for metrology	Service delivery to new customers
Lab Visits	New customers and new projects,	Service delivery to new customers
Trade Fair P		Service delivery to new customers
Career Days	new staff	Staff Hiring, Internships
Publishing the books and translating the BIPM and EURAMET documents on metrology	Increasing the knowledge level of beneficier of our services	Printing the materials and Publishing on web site
Lectures in Universities	Increasing awareness of metrology in the university stage	Staff Hiring, Internships
News for magazines, Promotional film	Transfering the true information to the audience	Recording the all kind of activities
Contests	Increasing awareness of metrology in all educational stages	Determinig the subject and orginizing them

80,000 Euros/year
0.24 % of total budget of a year

Communication Activities

Measurement Park

Awarded outputs of Contests

Communication Activities

www.ume.tubitak.gov.tr

Tanıtım Materyalleri

TÜBİTAK UME Hakkında Sunum

2005

2012

Annual Reports

Metrology

Metrology in Short

Lab Promotion Book

Services Cataloge

Listenning of Costumers & Stakeholde

All communications activities

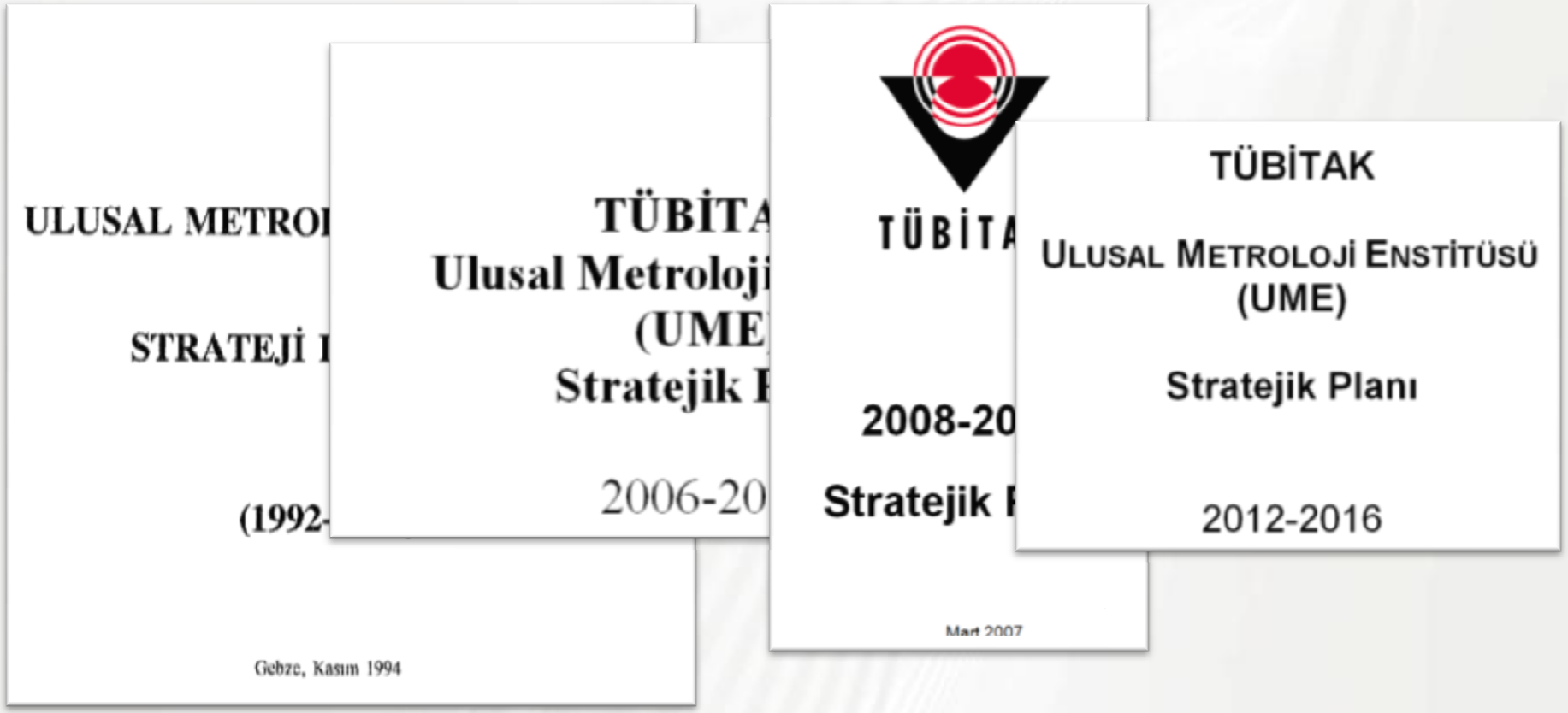
contribute

to

strategic planning process

TÜBİTAK UME and Strategic Planning

- **1992** 1st Strategic Plan was preperated
- **2003** Nr. 5018 Public Financial Management And Control Law was published
- **2005** Strategic Plan was Revised and updated each year for 5 years.



TÜBİTAK UME's SP Process

- The first strategic plan was prepared in 1992 & Each year the strategic plan is updated for 5 years.

- 1 Coordinator, 4 Researchers, 4 Support Staff
- The strategic planning process involves TÜBİTAK UME staff in determining the vision, strategic aims, targets and planned actions of the institute and provides guidance and a rational basis for activities.

STRATEGIC MANAGEMENT PROCEDURE

STRATEGIC MANAGEMENT PROCEDURE

TÜBİTAK

Steps

Analysis	• Where you are • Diffirence Analisys • PEST(S) Analysis • SWOT Analysis
Planning	• Determination of the Aims • Determination of the Targets • Determination of the Actions
Application	• Apply your plan
Measure	• Determination of the Performance Criterias and Measure them
Evaluation	• Evaluation

TÜBİTAK UME Vision

Vision

To become a worldwide solution provider in the area of metrology.

TÜBİTAK UME's Strategic Aims' Inputs

- National Strategies on Science, Technology and Innovation
- EURAMET's Strategic Road Maps
- Customer & Stakeholder Feedback

TÜBİTAK UME's Strategic Aims

IN ORDER TO REACH THE UME'S VISION,
IDENTIFIED STRATEGIC AIMS GIVEN BELOW;

SA1.	Realization and development of national measurement standards for national sufficiency in accordance with international definitions
SA 2.	Increasing R&D activities for the contribution to the world metrological developments,
SA 3.	To support development of national economy and facilitate the reducing its dependence to other countries by extensive R&D activities in parallel with national demands and current scientific developments
SA 4.	To realize the integration of national measurement system with international system and its world wide recognition
SA 5.	To support a development of national metrological infrastructure for the purpose of contributing to economic competitiveness of national products
SA 6.	To promote and conduct activities for the purpose of contributing to nation's quality of life through an increasing of awareness of metrology and metrological culture in society

TÜBİTAK UME's Targets

- Research and establishement of measurement systems and standards
- Improvement and maintenance of measurement systems and standards
- Increasing the capacity of measurement systems and standards
- Increasing the value added to international projects
- R&D on industrial measurement problems and measurement technologies, development of measurement instrument and system prototypes
- Development of metrology infrastructure in areas that are new or for which there is a need
- Conducting R&D to meet the needs of national industry
- Calibration/testing/measurement services to support the development of the national quality infrastructure
- Training services to support the development of the national quality infrastructure
- Consulting / Assessor services to support the development of the national quality infrastructure

TÜBİTAK UME's Targets

- Activities to support the international integration of the national measurement system (comparison, technical committee activities, international relations, etc.)
- Activities to improve service quality (quality, strategic planning, repair and maintenance, data acquisition, etc.)
- Awareness raising and promotional activities (trade fairs, exhibitions, business development, visits, etc.)
- Dissemination of scientific knowledge (publications, conferences, workshops, seminars, symposiums, technical reports, etc.)

TÜBİTAK UME's Actions

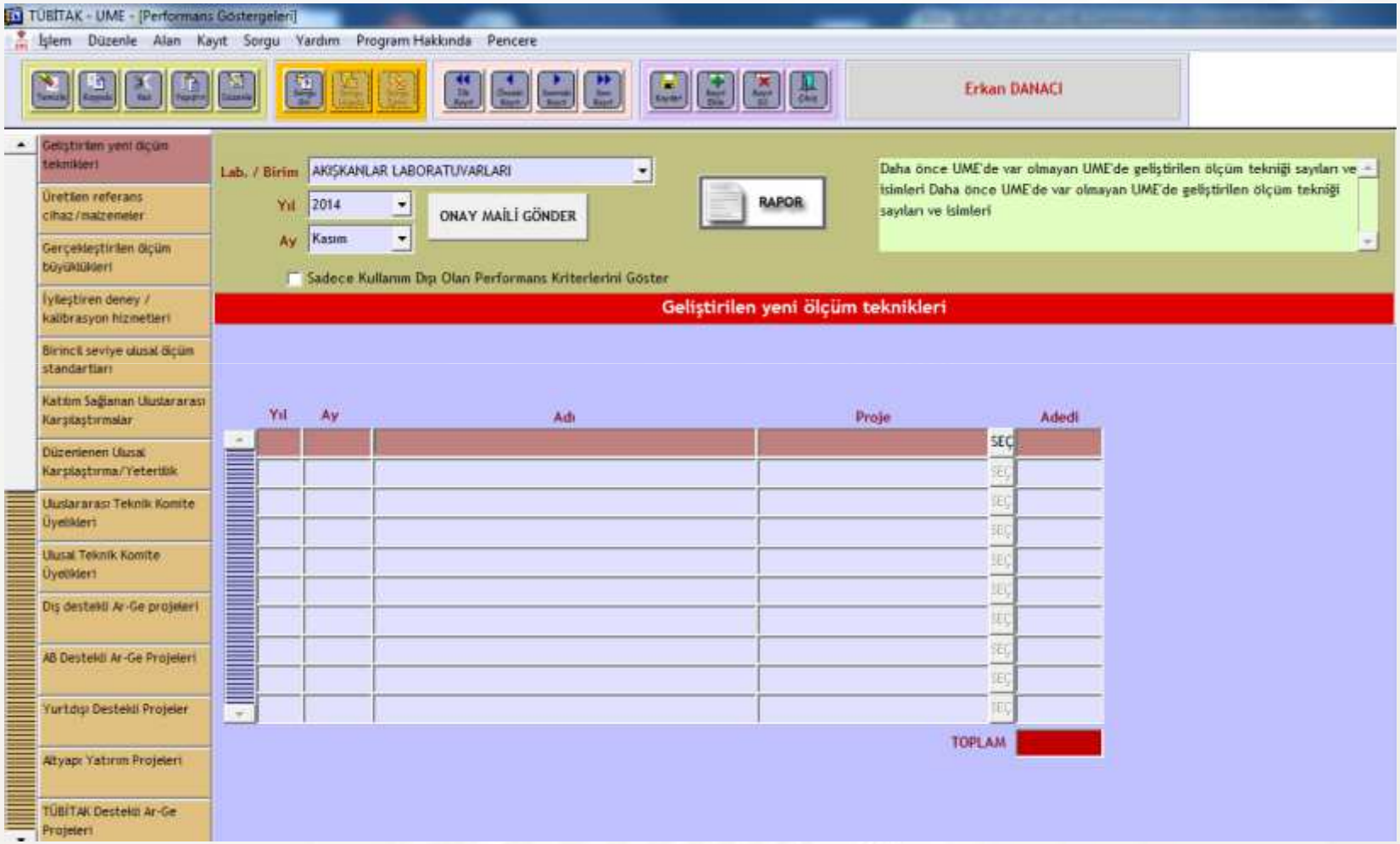
	Actions towards Strategic Aims		
Strategic Aim No	Action No	Action	
1	1	Realization and characterization of UME measurement standards and systems	
	2	Maintenance and development of UME measurement standards and systems	
	3	Extension of capacity of UME measurement standards and systems	
2	1	Realization and characterization of UME measurement standards and systems	
	2	Maintenance and development of UME measurement standards and systems	
3	9	Externally supported Research & Development projects	
4	4	Integration of UME Measurement systems and Standards to international measurement systems	
5	5	Calibration and Testing Services	
	6	Consultancy and training services	
	8	Activities for increasing of quality of provided services	
6	7	Organization of congresses, symposia, workshops and other promotional activities	

TÜBİTAK UME's SP Interfaces

Information Access System for SPs

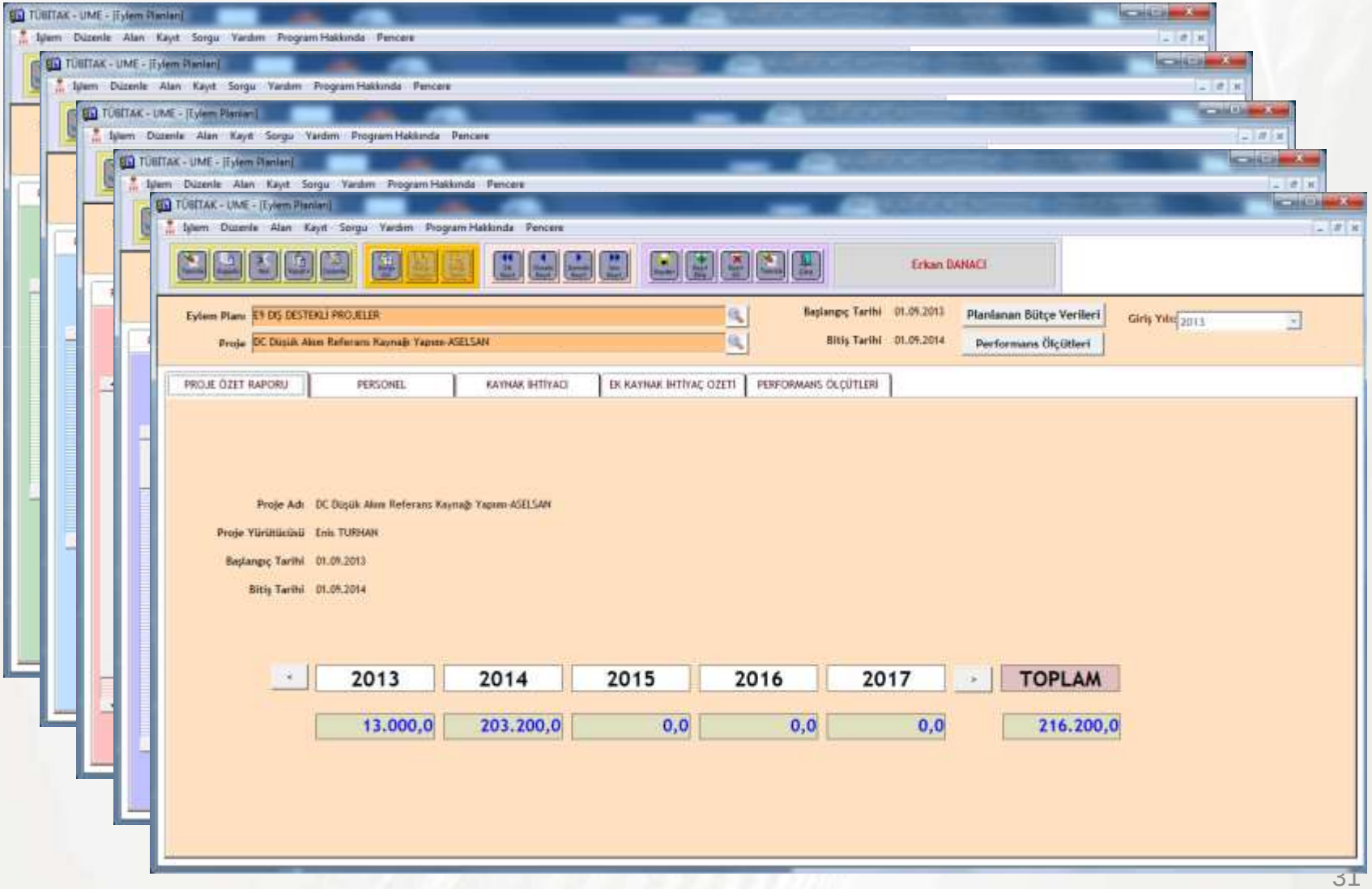
UMEPORTAL Applications for SP

- To collect the performence criteria data



UMEPORTAL Applications for SP

- To collect data on projects to be started in the fiture



Performance Criteria for SP

- **Primary Level Metrological Activities**
- **Industrial Services**
- **Integration with International Measurement System**
- **R&D and Investment Projects**
- **Public Awareness / Knowledge Dissemination Activities**
- **R&D Technology and Management Affairs**

Performance Criteria for SP

- **Primary Level Metrological Activities**

New Measurement Techniques Developed (number/year)
Types of Reference Instruments/Materials Produced (number)
Quantitites Measured (number)
….

- **Industrial Services**

Types of Primary Level Calibrations (number)
Types of Secondary Level Calibrations (number)
Training (person.day/year)
Accreditation Assessments for TURKAK (person.day/year)
…….

- **Integration with International Measurement System**

International Comparisons (number/year)
National Measurement Comparisons/PTs Organızed (number/year)
…..

Performance Criteria for SP

- **R&D and Investment Projects**

Customer Funded R&D Projects (number) & Total Budget (TL)
EU Funded R&D Projects (number) & Total Budget (TL)
Infrastructure Investment Projects (number) & Total Budget (TL)
Self Funded R&D Projects (number) & Total Budget (TL)
……

- **Public Awareness / Knowledge Dissemination Activities**

SCI Publications (number/year)
National Publications (number/year)
National Conferences Organized (number)
Participation in Trade Fairs / Congresses / Exhibitions(number)
……

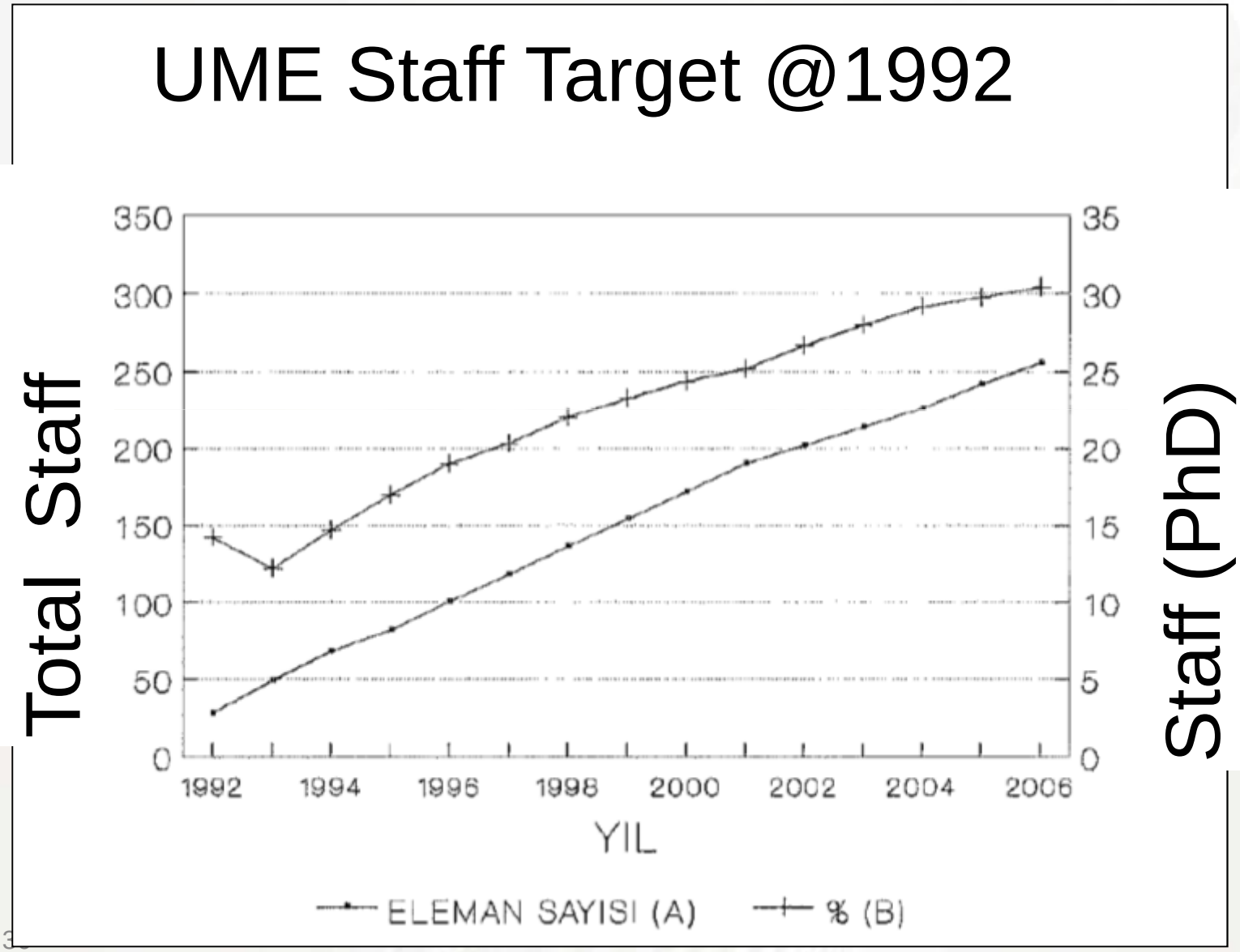
- **R&D Technology and Management Affairs**

R&D Customers (number)
Industrial Services Customers (number)
IPR Applications (number)

Summary of Services

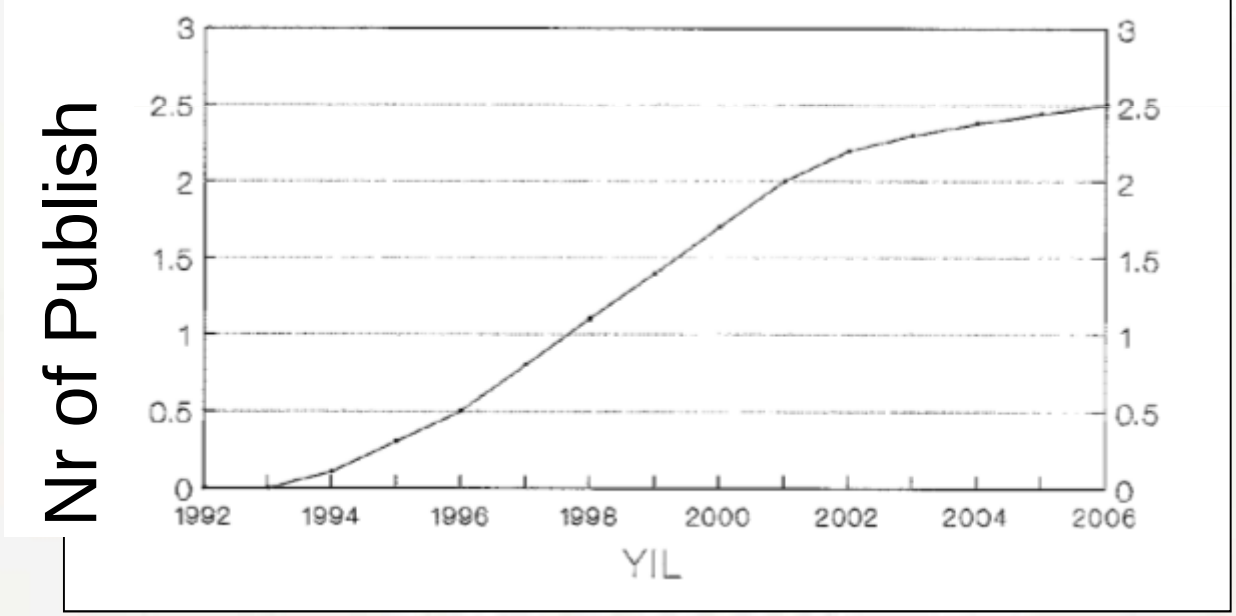
Year	# of Calibrations /Tests	# of visitors from abroad	# of travels abroad	# of intl. trainings given	# of trainings recvd. by Turkey	# of TÜRKAK Assesment	# of SCI Articles	Patents
2012	3 900	297	150 (61 prsn)	212 man.day	884 man.day	93 man.day	91	-
2013	3 500	395	218 (86 prsn)	450 man.day	597 man.day	128 Man.day	43	4 National 6 International
2014	2969	699	160 (69 prsn)	1070 man.day	637 man.day	148 man.day	22	4 International

Numbers in Strategic Plan (@1992)



Numbers in Strategic Plan (@1992)

Nr of Publishing per PhD Staff @1992



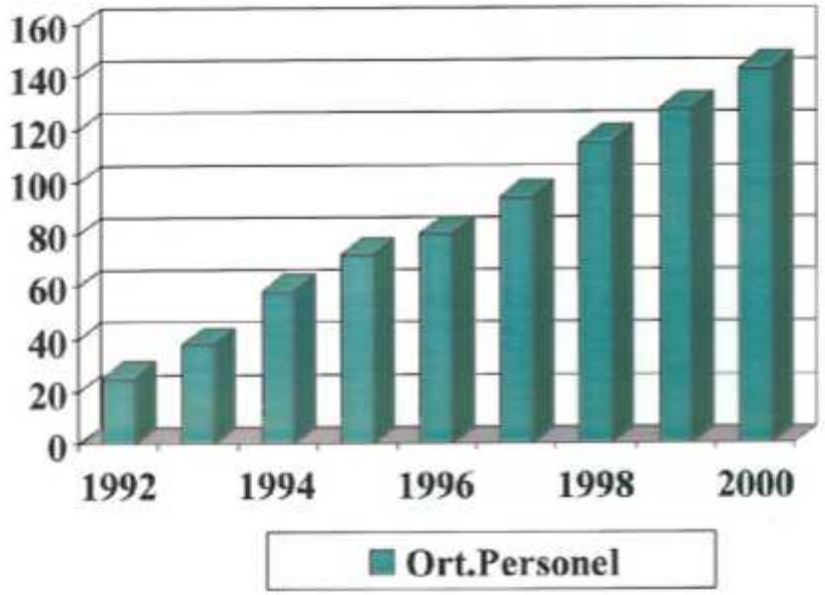
Numbers in Strategic Plan (@2000)

TÜBİTAK

ULUSAL METROLOJİ ENSTİTÜSÜ

"Ülkede yapılan her türlü ölçüme referans oluşturan, en üst seviye uzman kuruluş"

Number of Staff



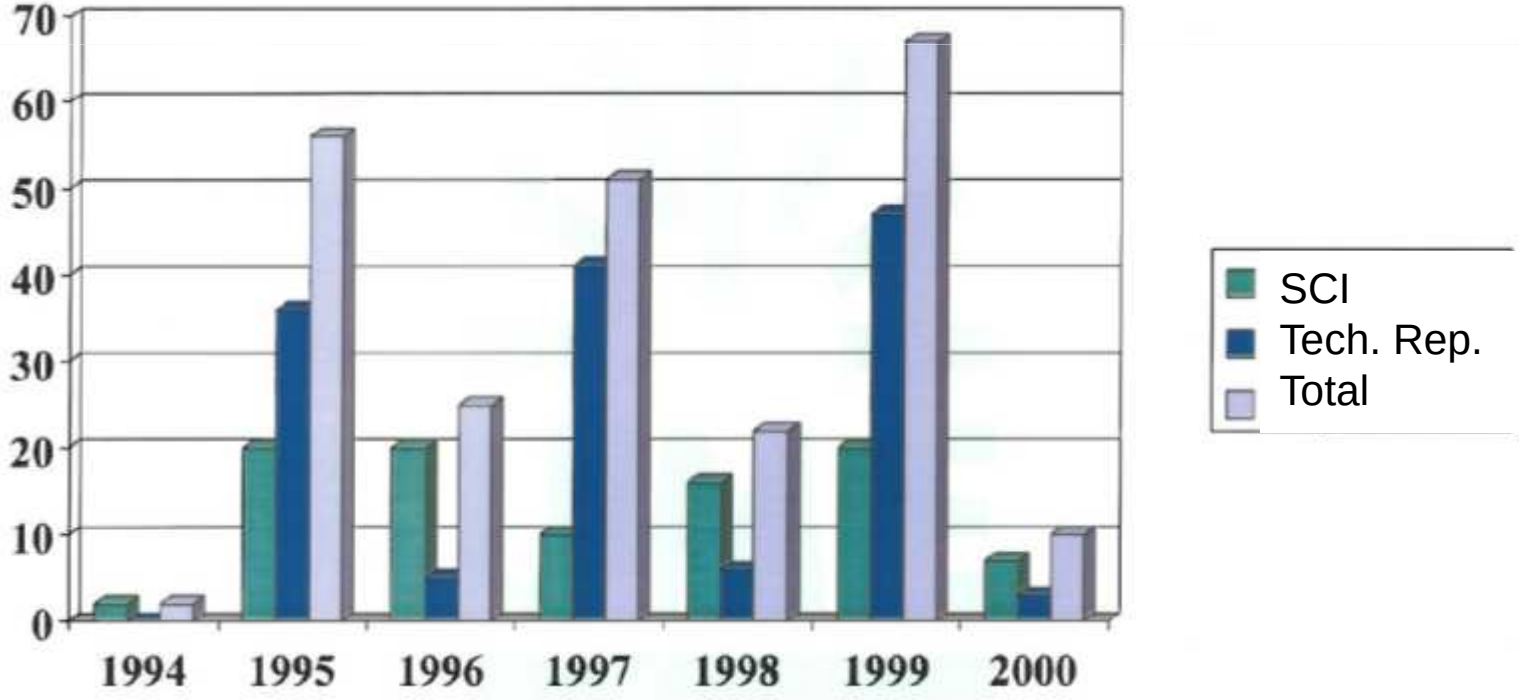
1992	25
1993	38
1994	58
1995	72
1996	80
1997	94
1998	115
1999	128
2000	143

Numbers in Strategic Plan (@2000)

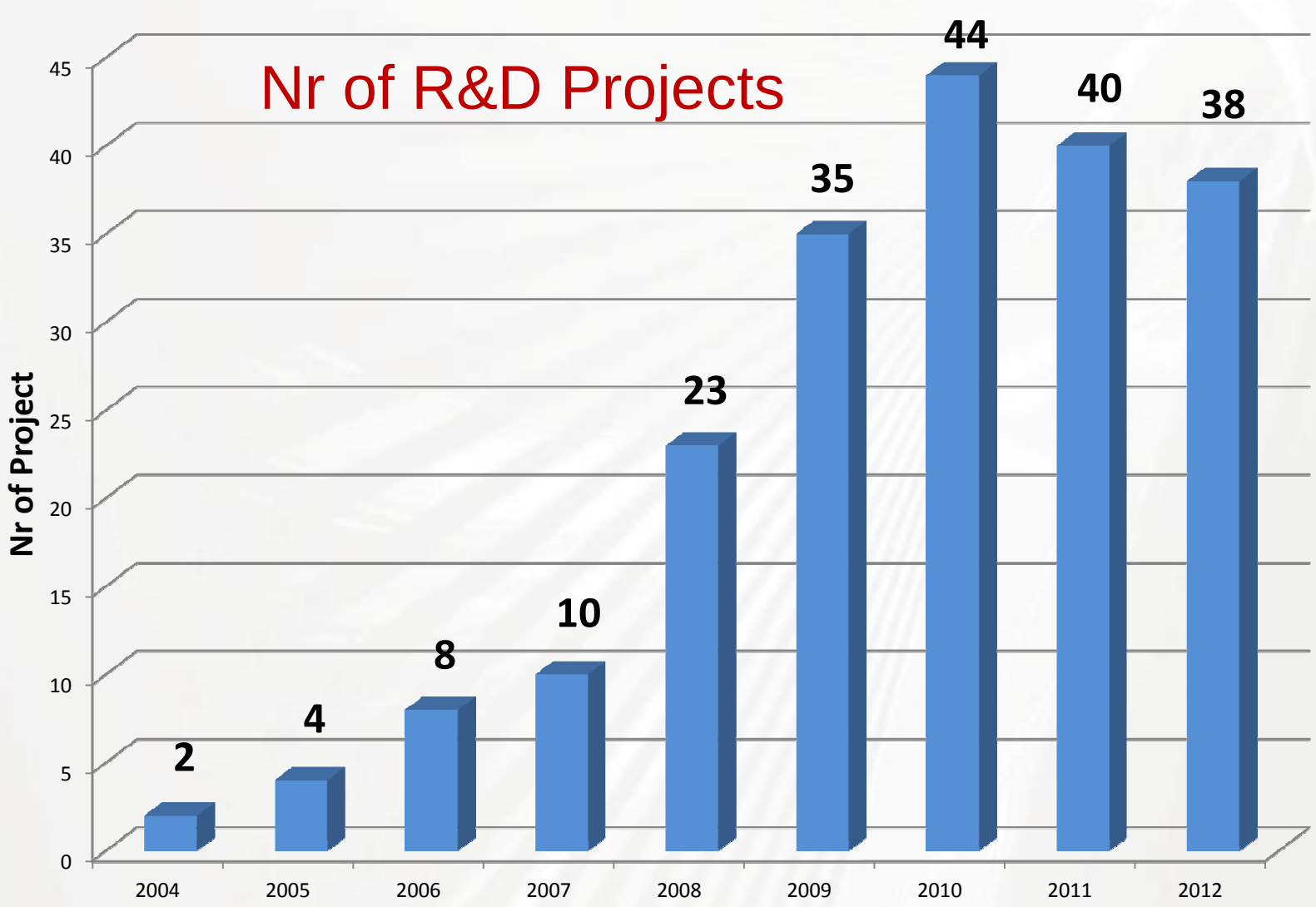
TÜBİTAK

TÜBİTAK
ULUSAL METROLOJİ ENSTİTÜSÜ
"Ülkede yapılan her türlü ölçüme referans oluşturan, en üst seviye uzman kuruluş"

Number of Scientific Paper



Numbers in Strategic Plan (@2013)



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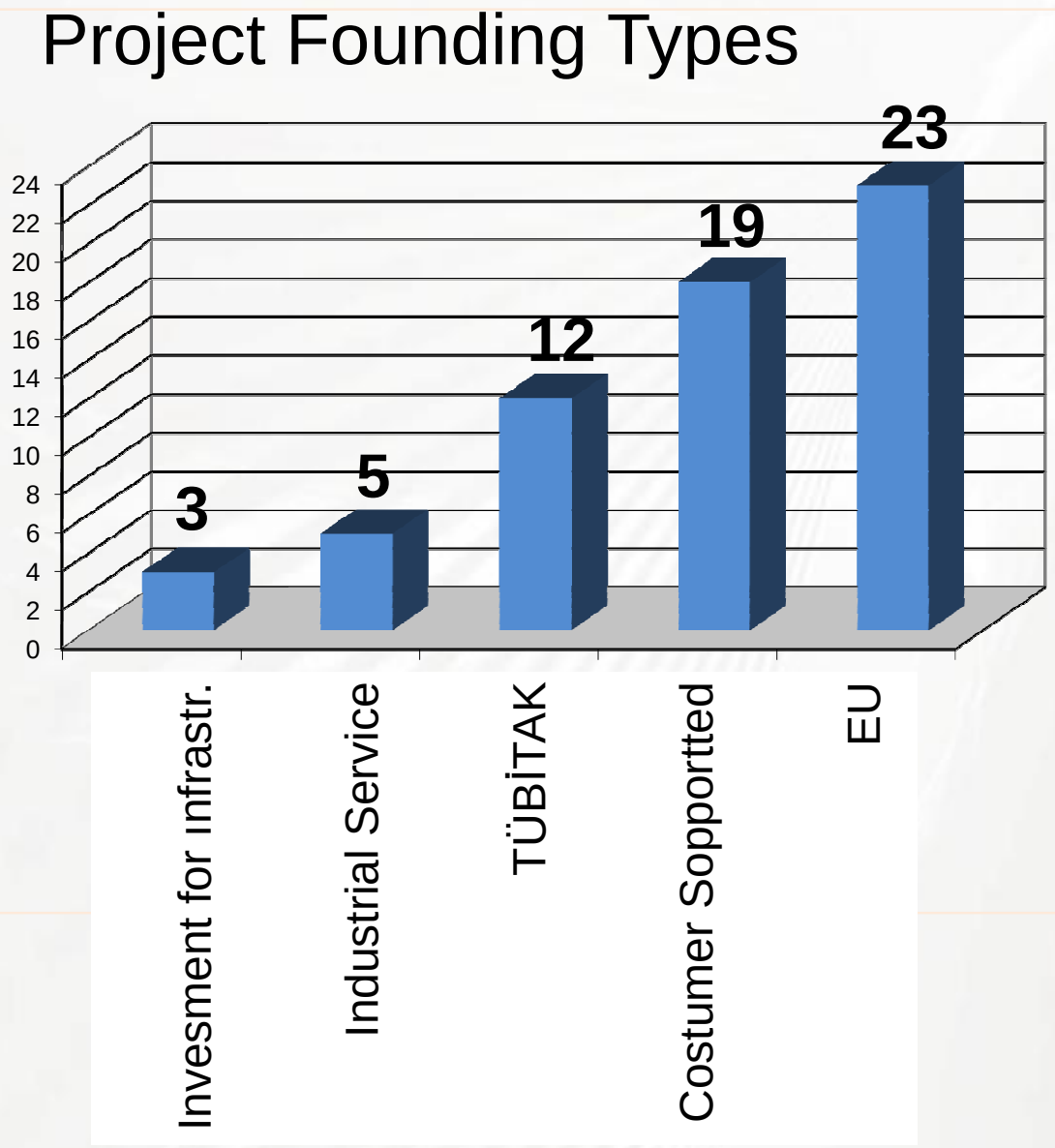
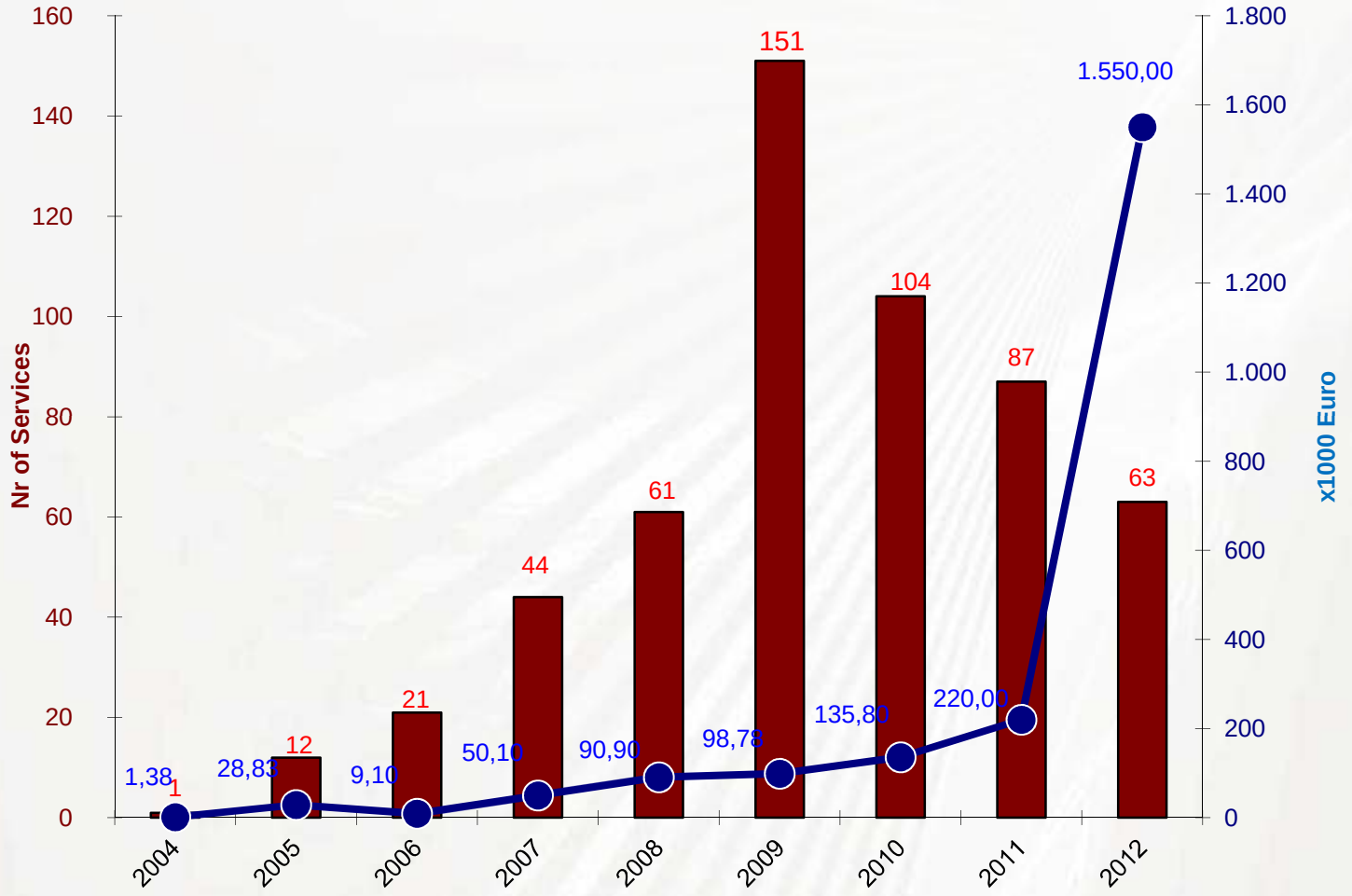


Numbers in Strategic Plan (@2013)

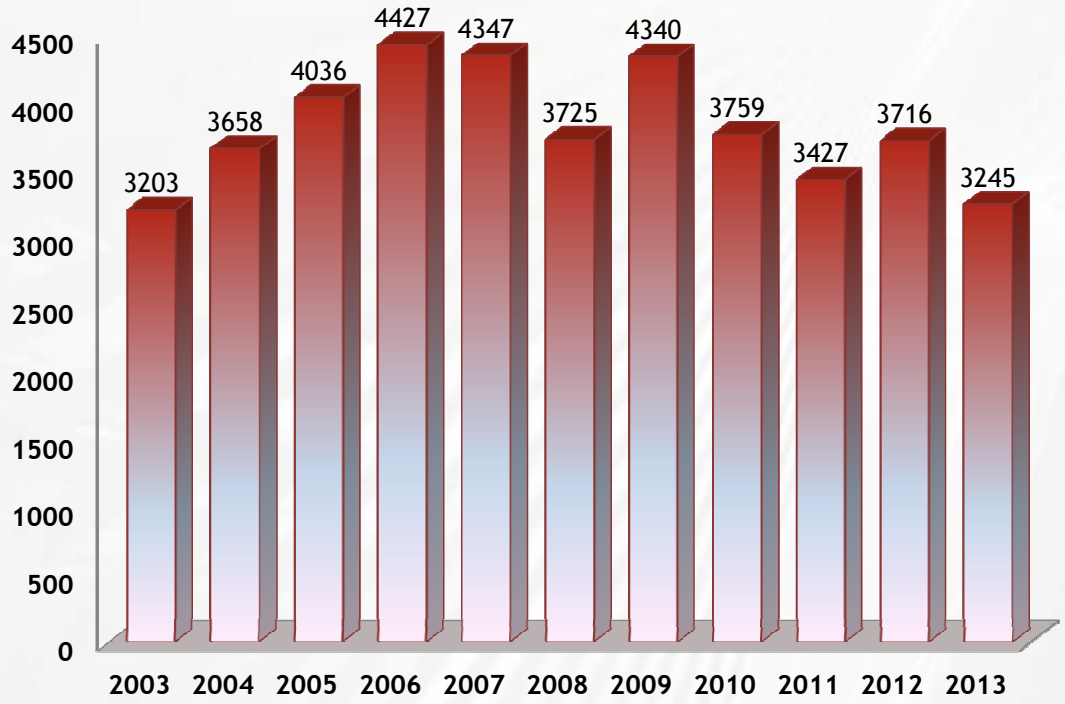
Nr. of International Services



Numbers in Strategic Plan (@2014)

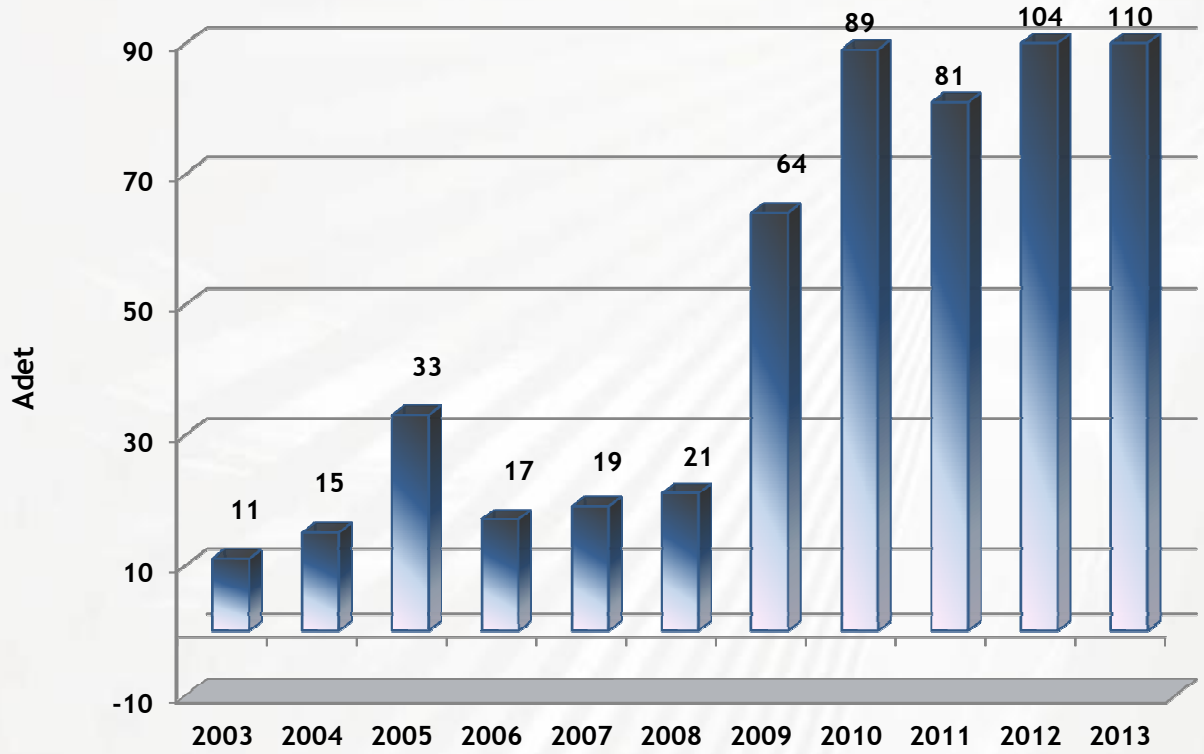
Kalibrasyon/Deney Sayısı

Number of Calibration/Test Services

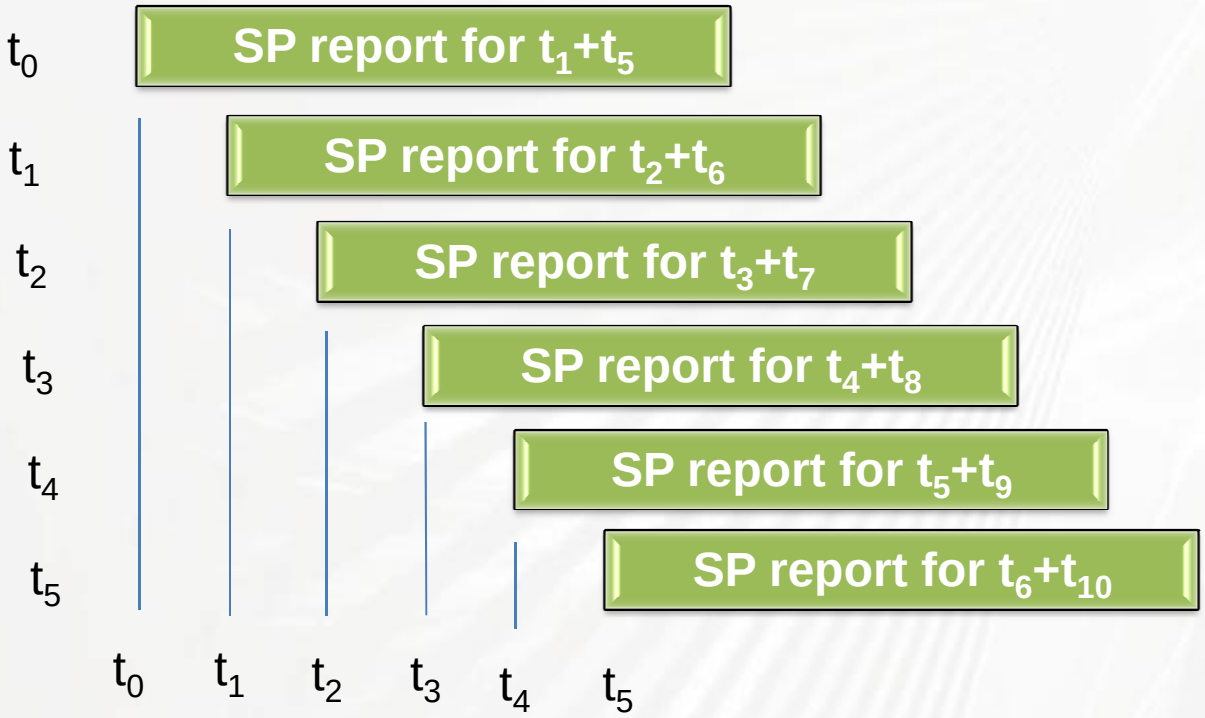


Numbers in Strategic Plan (@2014)

Danışmanlık Sayısı/Nr of Consultancy Services



Periodic Updating of Strategic Plan



Methods for SP Preparation

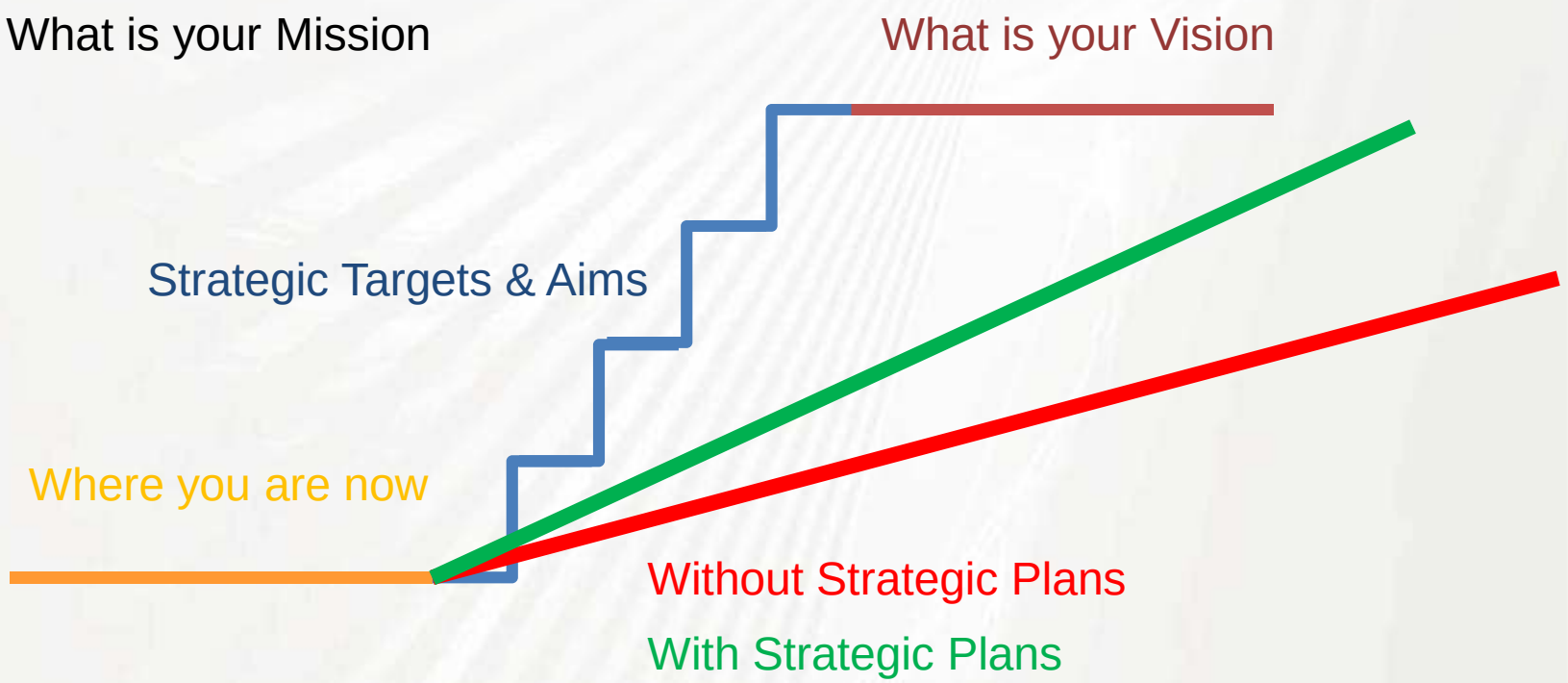
Top Down (Deduction)

For Developing NMIs

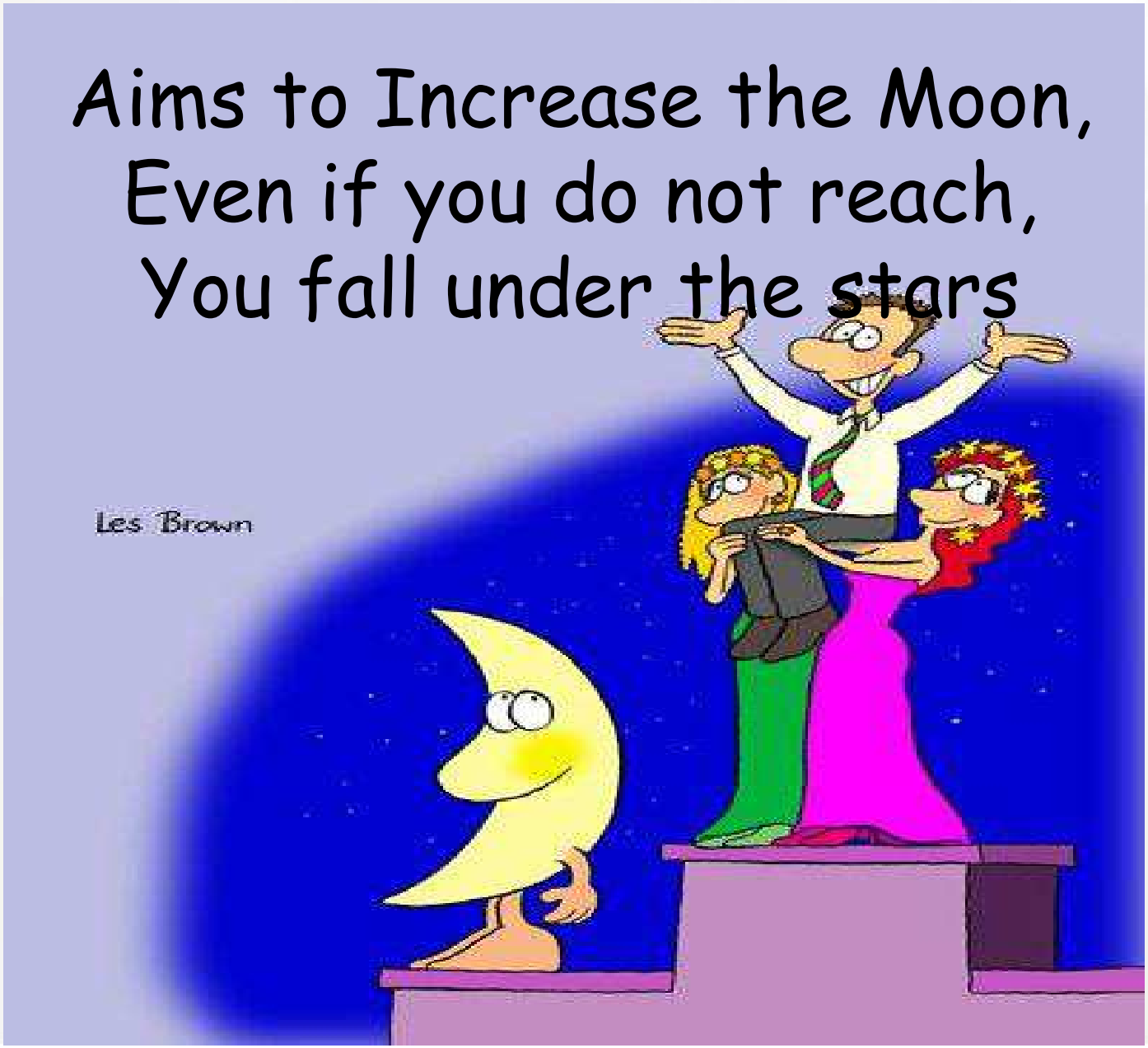
Bottom Up (Induction)

For Developed NMIs

Lessons Learnt for SP



Lessons Learnt for SP



Thank You for Your Attention

TrUe
Measurement
Excellence

www.ume.tubitak.gov.tr
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ume@tubitak.gov.tr

Performance Criteria for SP

- **Primary Level Metrological Activities**

New Measurement Techniques Developed (number/year)
Types of Reference Instruments/Materials Produced (number)
Quantitites Measured (number)
Improved Calibration/Test Systems (number/year)
Primary Level National Measurement Standards (number)

- **Industrial Services**

Types of Primary Level Calibrations (number)
Types of Secondary Level Calibrations (number)
Types of Tests (number)
Types of Primary Level Chemical Tests (number)
Types of Accredited Primary Level Calibrations (number)
Types of Accredited Secondary Level Calibrations (number)
Types of Accredited Tests (number)
Primary Level Calibrations (number/year)
Secondary Level Calibrations (number/year)
Tests (number/year)
Training (person.day/year)
Accreditation Assessments for TURKAK (person.day/year)
Consulting Services (person.day/year)

Performance Criteries for SP

- **Integration with International Measurement System**

International Comparisons (number/year)
National Measurement Comparisons/PTs Organızed (number/year)
Intl. Technical Committee Memberships (total number/year)
Natl. Technical Committee Memberships (total number/year)

- **R&D and Investment Projects**

Customer Funded R&D Projects (number)
Total Budget of Customer Funded R&D Projects (TL)
EU Funded R&D Projects (number)
Total Budget of EU Funded R&D Projects (TL)
R&D Projects Funded from Abroad (number)
Total Budget of R&D Projects Funded from Abroad (TL)
Infrastructure Investment Projects (number)
Total Budget of Infrastructure Investment Projects (TL)
TUBITAK Funded R&D Projects (number)
Total Budget of TUBITAK Funded R&D Projects (TL)
Self Funded R&D Projects (number)
Total Budget of Self Funded R&D Projects (TL)

Performance Criteria for SP

- **Public Awareness / Knowledge Dissemination Activities**

SCI Publications (number/year)
Other International Publications / Conference Proceedings (number/year)
National Publications (number/year)
Technical Reports (number)
National Conferences Organized (number)
International Conferences Organized (number)
Participation in Trade Fairs / Congresses / Exhibitions(number)

- **R&D Technology and Management Affairs**

R&D Customers (number)
Industrial Services Customers (number)
IPR Applications (number)