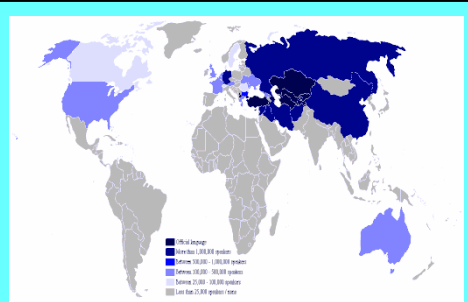


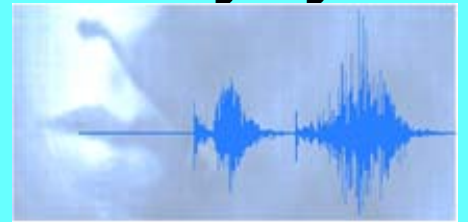


TUBITAK

UEKAE



**Understanding  
Spoken Turkish  
language**



**MULTISAUND**  
(**MULT**ilingualism **I**ntegrated to **S**peech and  
**A**udio **UND**erstanding)

**SUCCESS STORY**

**MTRD**

**MULTIMEDIA TECHNOLOGIES**

**RESEARCH & DEVELOPMENT LABORATORY**

*Alper Kanak*  
*Senior Researcher*  
**TUBITAK-UEKAE**

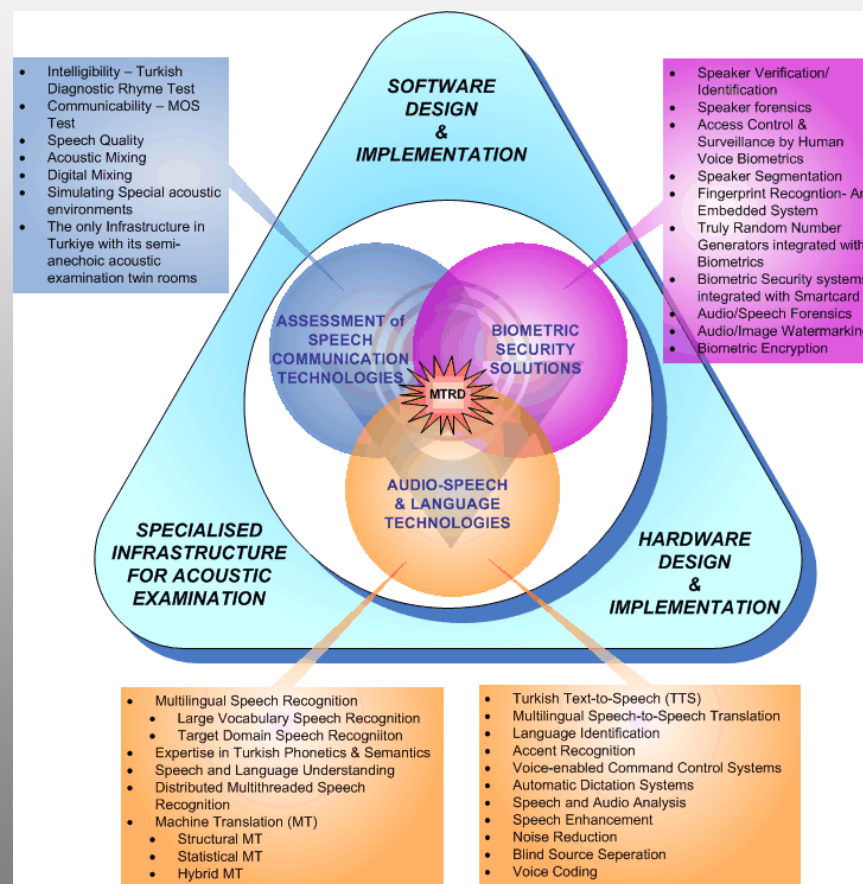
# Outline

- Who are we? → MTRD!
- Milestones
- MULTISAUND Strategy
- MULTISAUND vs. LS-PRO-BIOSEC
- Acknowledgement

# Who are we?

- MTRD, TÜBİTAK-UEKAE has been an active R/D group since 1999.
- Initial Vision: to assess quality and intelligibility of every kind of speech communication systems

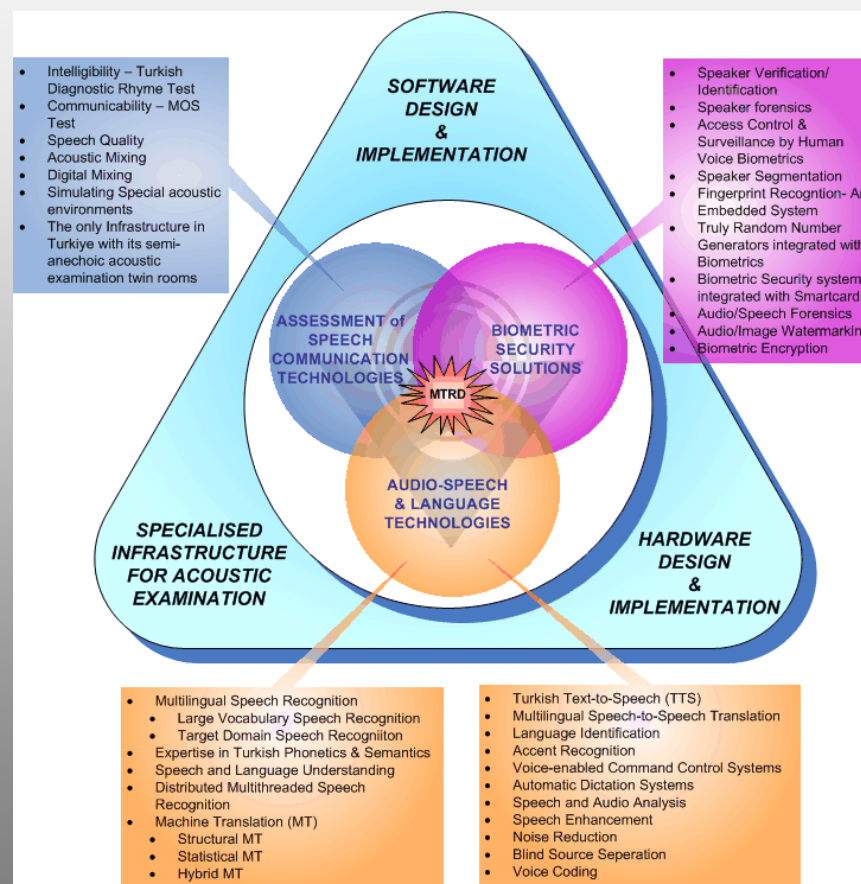
## MTRD MULTIMEDIA TECHNOLOGIES RESEARCH & DEVELOPMENT LABORATORY



# Who are we?

- Renewed Vision:
  - To assess speech enabled human-computer interfaces and speech communication devices
  - Producing practical tools for voice activated and speech enabled tools including TURKISH
  - To improve the existing RTD capacity of MTRD in the fields of Biometrics

## **MTRD** **MULTIMEDIA TECHNOLOGIES** **RESEARCH & DEVELOPMENT LABORATORY**



# Outline

- Who are we? → MTRD!
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## On the road to EC

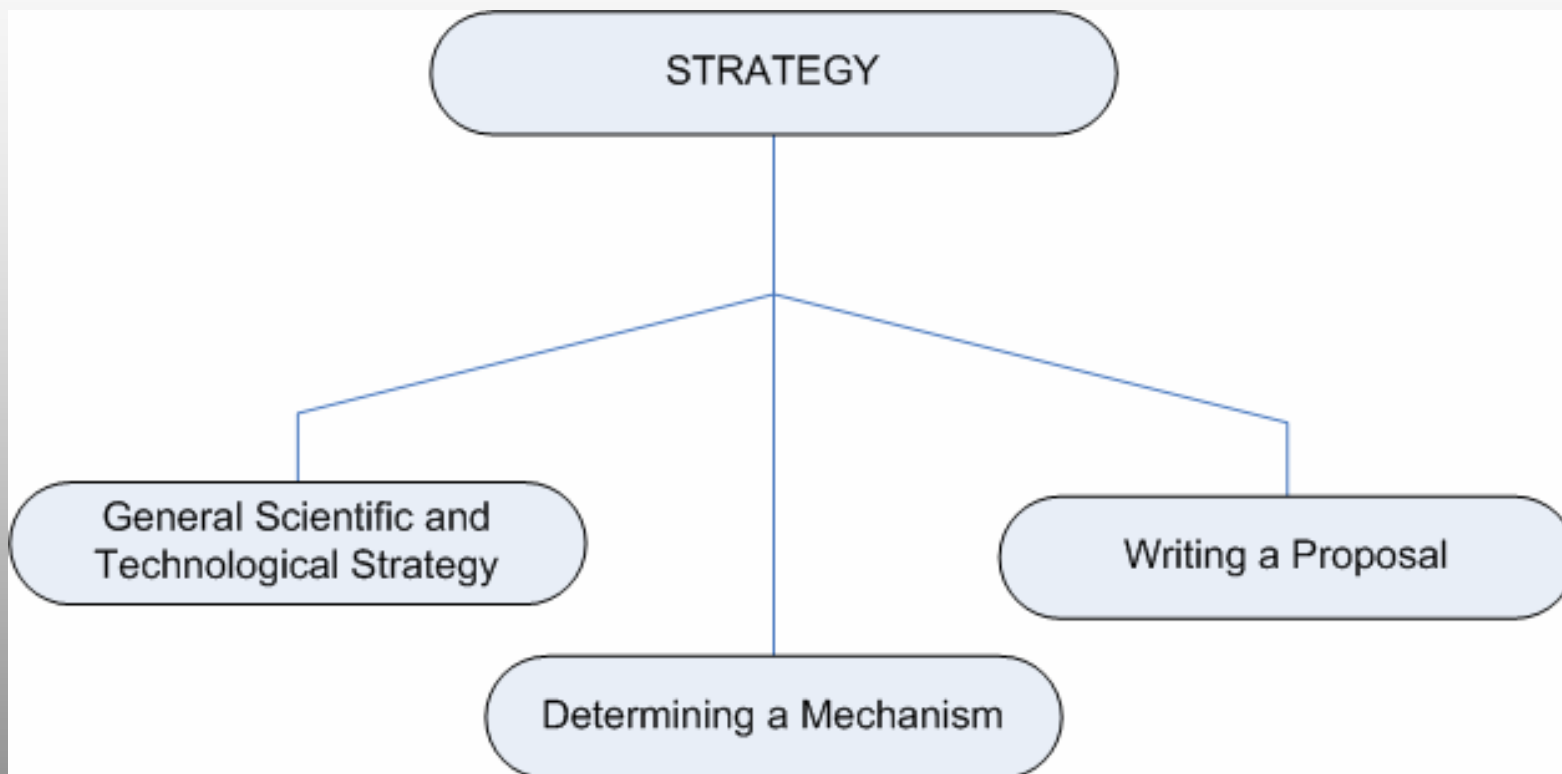
- Between 1999-2005 the lab infrastructure was established and become active.
- Various in-house and national projects are coordinated and finished in speech and biometric related issues and some required tools are developed.
- Turkish Speech Processing Platform (TSIP) received from TARAL.
- TSIP enlarged our vision in the following fields
  - Turkish English speech translation
  - Speaker verification identification
  - Speech synthesis
  - Natural language processing and understanding
  - Machine translation
  - Voice coding and speech enhancement

## On the road to EC

- We are now participating in large-scale Turkish e-ID project by presenting our biometric capabilities.
- Turkish-German Research Strategy Workshop (TAIK-14.12.2006)
- Interest on Capacity Building projects
- FP7-REGPOT-2007-1, LS-PRO-BIOSEC got 7.5/15.00
- FP7-REGPOT-2008-1, MULTISAUND FULL BRICK

# Outline

- Who are we? → MTRD!
- Milestones
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# MULTISAUND's Strategy

## I- General Scientific and Technological Strategy

- **Step 0:** Clarifying the unit's research area (must be already determined)
- **Step 1:** Analyzing the existing RTD capabilities of the unit (Who are we and what is our capacity)
- **Step 2:** Analyze the state-of-the-art (To see the capabilities of our rivals)
- **Step 3:** Analyse the trend of RTD in unit's research area (to see the gaps in literature)
- **Step 4:** Decide in which way the unit will contribute (To specify the future works, more or less)
- **Step 5:** Plan all the RTD activities in a scientific level (Which techniques must be covered in future and how will the related activities be realized?)
- **Step 6:** Determine the requirements for the RTD activities

## II- Determining the appropriate mechanism

- **Step 7:** Determine the specific project idea
- **Step 8:** Determine the project type (Support, RTD, integration, proof of concept...)
- **Step 9:** Find an appropriate programme (International: FP7, ARTEMIS, EUREKA...; National: TARAL, DPT,...)
- **Step 10:** Find a relevant project call (REGPOT, ICT, Security, ARTEMIS-Embedded systems, Networking and Cooperation, vs.)

## III-Writing the Proposal

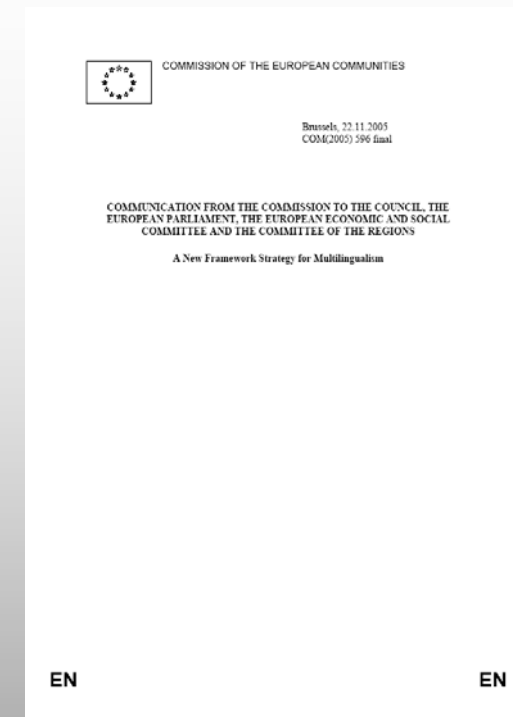
- **Step 11:** Define the Scope of the project
- **Step 12:** Define the Specific Objectives
- **Step 13:** SWOT
- **Step 14:** define the work packages in parallel with the specific objectives
- **Step 15:** Establish a multinational consortium or collaborators not only from EU but also other developed countries
- **Step 16:** Write down the CV of the unit and the collaborators
- **Step 17:** Impact analysis both in national and international extent (PEST)
- **Step 18:** Add all auxiliary information in the ANNEX( publications, letter of intents, snapshots of the unit's facilities)

# Outline

- Who are we? → MTRD!
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# MULTISAUND vs. LS-PRO-BIOSEC

- **Step I I:** MULTISAUND Scope: *Interactive and secure language and speech processing*
- *Determine a center of gravity related to the MTRD's research activities*
- *Analyse EC's interest in these fields*
  - *EC's Relevant strategy documents*
  - *Call WPs (Trace all other programs as well, ICT, SEC, Health,...)*
  - *Reports of strategic meetings and workshops which are held in EU*
  - ...
- *Analyze Cordis!!!*
  - *How many projects in the related ERA are supported?*
  - *What are the open issues?*
  - *Search with specific keywords (no hit when you search "Turkish Speech")*



- *In the first few pages briefly explain:*
  - *Projects general objectives and the related action plan*
  - *Explain the scope briefly and visually*
  - *Emphasize the unit's capabilities*
  - *Emphasize the benefits of EU and Turkey with the help of this project*

# Seeing sometimes might be better than reading...

Table 1. Relevance of MULTISAUND to the EU Themes.

Technology and Research Fields in MTRD	SPEECH TECHNOLOGIES						MULTILINGUALISM				MULTIMODAL INTERFACES				
	Speech Recognition	Speaker Recognition	Speech Coding	Speech Enhancement	Speech Synthesis	Speech Communication	Speech Assessment	Machine Translation	Natural Language Processing	Language Portability	Intelligent Agents	Human-Computer Interaction	Tactile Interfaces	Interactive User Interfaces	Ambient assisted living
European Framework and Challenges															
COM(2005), 596 Final, A new Framework Strategy for Multilingualism	♦	♦			♦	♦	♦	♦	♦	♦	♦	♦			♦
ICT-2007.2.1(2.2), Cognitive Systems, Interaction, Robotics.	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦	♦
ICT-2007.4.1.: Digital Libraries and Tech-Enhanced Learning.	♦		♦	♦	♦			♦	♦	♦	♦			♦	
ICT-2007.4.2.: Intelligent Content & Semantics	♦				♦			♦	♦	♦	♦			♦	
ICT-2007.5.1.: Pers. Health Sys. for Mon. & Point-of-Care Diagnostic	♦			♦	♦			♦	♦	♦	♦	♦	♦	♦	♦
SEC-2007-3.2-03 Integrated check points security		♦										♦	♦	♦	
SEC-2007-4.2-02 Integrated specialist search and rescue s															

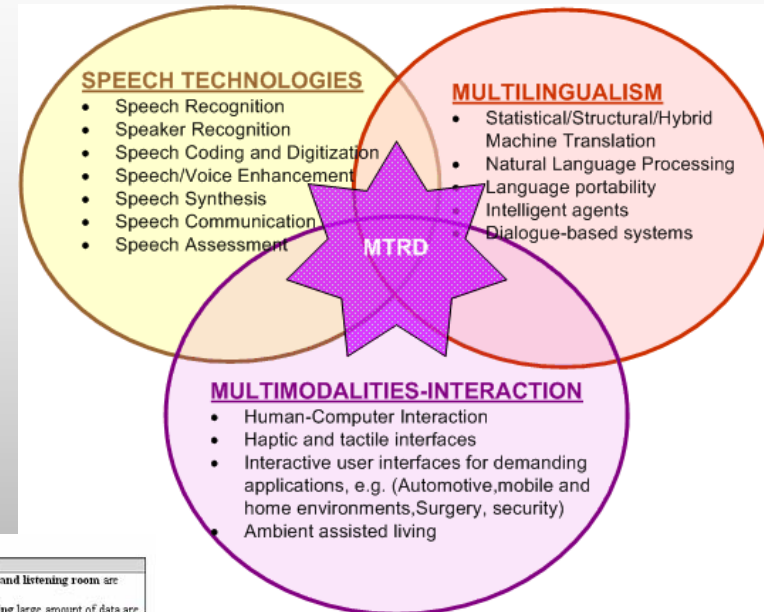


Table 2. SWOT Analysis of MTRD.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• A leader and well-known research group in Turkish language and speech processing, diagnostic speech quality tests and security in Turkey.</li> <li>• Strong academic background, contribution to literature and extensive know-how on the design and implementation.</li> <li>• Strong academic relationship with national and international research groups in the relevant fields.</li> <li>• High relevance of research direction to FP7 challenges.</li> <li>• Experience in national R&amp;D projects in speech and language with 2 active projects: (1) Turkish Speech Processing Platform for Turkish Government and (2) Automatic Autopsy Dictation System for National Forensic Institute.</li> <li>• Member of NATO Speech Group - RTG-IST-078</li> <li>• International recognition in translation systems and speech intelligibility/communicability/quality assessment.</li> <li>• Best performance in the IVSLT 2007 international translation workshop.</li> <li>• Unique infrastructure for speech communication assessment in Turkey and one of the most modern infrastructures in the EU. There exist 2 semi-anechoic RW-TUV certified recording rooms and a 16 people subjective test room.</li> <li>• Large speech and text databases.</li> <li>• A good mechanism to disseminate the current potential to Turkish citizens.</li> <li>• Participation of TUBITAK-UEKAE in FP6 and FP7.</li> <li>• Having the certificates proving the quality of TUBITAK-UEKAE.</li> </ul>	<ul style="list-style-type: none"> <li>• The equipments in semi-anechoic rooms and listening room are lacking.</li> <li>• More equipment for storing and processing large amount of data are needed.</li> <li>• The academic background in very advanced topics in relevant research fields must be enhanced.</li> <li>• The number of researchers in the team is still lacking.</li> <li>• Automation of test procedures is required.</li> <li>• The number of female personnel is less than satisfactory.</li> <li>• Technical personnel are lacking who will design interactive user interfaces, manuals and other documents.</li> <li>• The dissemination activities in the EU level are lacking.</li> <li>• More multilingual text, speech and voice databases are required to improve the existing engines.</li> <li>• Experienced Turkish scientists in the advanced topics related to the MULTISAUND's fields must be hired.</li> <li>• Auxiliary software and hardware tools are required for acquiring and processing new research data.</li> <li>• A better mechanism to disseminate the current potential and exploit the results and improve promotional activities to the EU is required.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Expand international collaborations.</li> <li>• To make Turkish people attune to European life by interactive systems.</li> <li>• Develop technology both in national and international level.</li> <li>• Expand data resources via new equipment, personnel and funding.</li> <li>• Accelerate the preparation of new FP7/FP8 project proposals.</li> <li>• Advertise the existing physical infrastructure and capacity.</li> <li>• To become the prominent research group studying on Turkish.</li> <li>• To enhance the collaboration with research entities in priority areas (growth centres in Turkey) by complementing the activities stated in IPA programme.</li> </ul>	<ul style="list-style-type: none"> <li>• Rapid changes in the technology network environment.</li> <li>• Falling behind the state-of-art technology.</li> <li>• Loss of key personnel.</li> <li>• Latency in setting up the infrastructure and other organisations.</li> <li>• Difficulties in finding new experts and research groups.</li> <li>• Broken collaborations due to any disharmony between MTRD and other experts.</li> <li>• Scientific limitations (theoretical and practical limitations of algorithms).</li> </ul>

Some figures and tables used in MULTISAUND proposal

## Specific Objectives

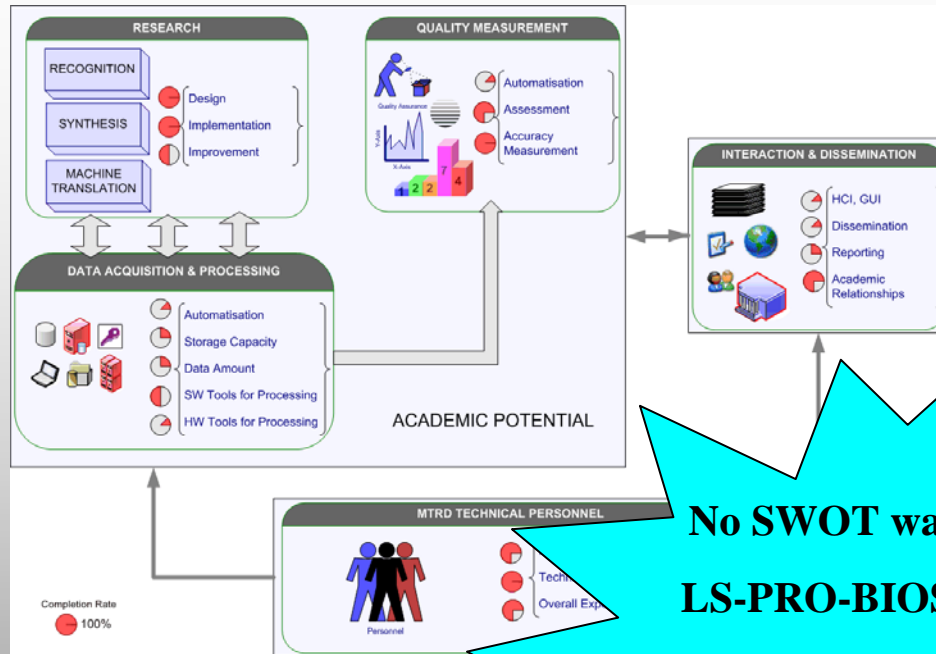
- ***Specific Objective 1: Upgrading of S&T Infrastructure (equipments, lab materials, software, hardware,...)***
- ***Specific Objective 2: Acquisition and Improvement of Research Material (acquiring and processing voice, speech and text data)***
- ***Specific Objective 3: Recruitment of New Personnel and Hiring Experienced Scientists (a proactive method to produce scientific results)***
- ***Specific Objective 4: Dissemination Activities (web page, brochures, media activities, organizing conferences)***
- ***Specific Objective 5: Maximisation of Potential Research Benefits (Advisory Board, Scientific Steering Committee)***
- ***Specific Objective 6: Improvement of S&T Capacity of Researchers (Training courses, short visits, participation to conferences)***

## • Step 13: SWOT

Table 2. SWOT Analysis of MTRD.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• A <b>leader and well-known research group</b> in Turkish language and speech processing, diagnostic speech quality tests and security in Turkey.</li> <li>• Strong <b>academic background, contribution to literature</b> and <b>extensive know-how</b> on the design and implementation.</li> <li>• <b>Strong academic relationship</b> with national and international research groups in the relevant fields.</li> <li>• High <b>relevance</b> of research direction to FP7 challenges.</li> <li>• <b>Experience</b> in national R&amp;D projects in speech and language with <b>2 active projects</b>: (1) Turkish Speech Processing Platform for Turkish Government and (2) Automatic Autopsy Dictation System for National Forensic Institute.</li> <li>• <b>Member of NATO Speech Group – RTO-IST-078</b>.</li> <li>• <b>International recognition</b> in translation systems and speech intelligibility/communicability/quality assessment.</li> <li>• <b>Best performance</b> in the <b>IWSLT 2007</b> international translation workshop.</li> <li>• <b>Unique infrastructure</b> for speech communication assessment in Turkey and one of the most modern infrastructures in the EU. There exist <b>2 semi-anechoic RW-TÜV certified recording rooms</b> and a <b>16-people subjective test room</b>.</li> <li>• <b>Large speech and text databases</b>.</li> <li>• A good <b>mechanism to disseminate</b> the current potential to Turkish citizens.</li> <li>• <b>Participation</b> of TUBITAK-UEKAE in FP6 and FP7.</li> <li>• Having the <b>certificates</b> proving the quality of TUBITAK-UEKAE.</li> </ul>	<ul style="list-style-type: none"> <li>• The <b>equipments in semi-anechoic rooms and listening room</b> are lacking.</li> <li>• More <b>equipment for storing and processing</b> large amount of data are needed.</li> <li>• The <b>academic background in very advanced topics</b> in relevant research fields must be enhanced.</li> <li>• The <b>number of researchers</b> in the team is still lacking.</li> <li>• <b>Automatisation</b> of test procedures is required.</li> <li>• The <b>number of female personnel</b> is less than satisfactory.</li> <li>• Technical personnel are lacking who will design <b>interactive user interfaces</b>, manuals and other documents.</li> <li>• The <b>dissemination activities</b> in the EU level are lacking.</li> <li>• <b>More multilingual text, speech and voice databases</b> are required to improve the existing engines.</li> <li>• <b>Experienced Turkish scientists</b> in the advanced topics related to the <b>MULTISAUND's</b> fields must be hired.</li> <li>• <b>Auxiliary software and hardware tools</b> are required for acquiring and processing new research data.</li> <li>• A better <b>mechanism to disseminate</b> the current potential and <b>exploit the results</b> and improve <b>promotional activities</b> to the EU is required.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• <b>Expand</b> international collaborations.</li> <li>• To make Turkish people <b>attune to European life</b> by interactive systems.</li> <li>• <b>Develop technology</b> both in national and international level.</li> <li>• Expand data resources via new equipment, personnel and funding.</li> <li>• Accelerate the <b>preparation of new FP7/FP8 project proposals</b>.</li> <li>• <b>Advertise</b> the existing physical infrastructure and capacity.</li> <li>• To <b>become the prominent research group</b> studying on Turkish.</li> <li>• To <b>enhance</b> the collaboration with research entities in <b>priority areas (growth centres in Turkey)</b> by complementing the activities stated in IPA programme.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Rapid changes</b> in the technology network environment.</li> <li>• <b>Falling behind</b> the state-of-art technology.</li> <li>• <b>Loss of key personnel</b>.</li> <li>• <b>Latency</b> in setting up the infrastructure and other organisations</li> <li>• Difficulties in <b>finding new experts</b> and research groups.</li> <li>• <b>Broken collaborations</b> due to any disharmony between MTRD and other experts.</li> <li>• <b>Scientific limitations</b> (theoretical and practical limitations of algorithms).</li> </ul>

# SWOT in visual form

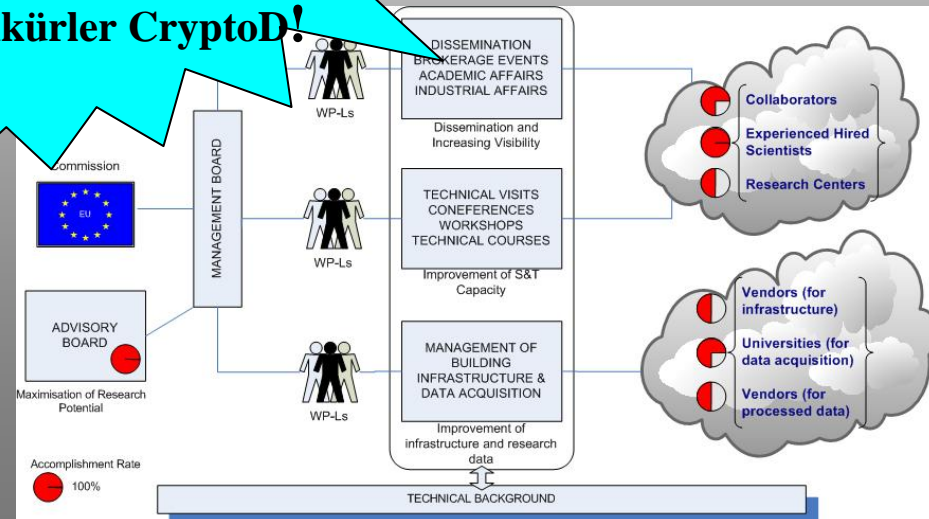


**SWOT by means of technical issues**

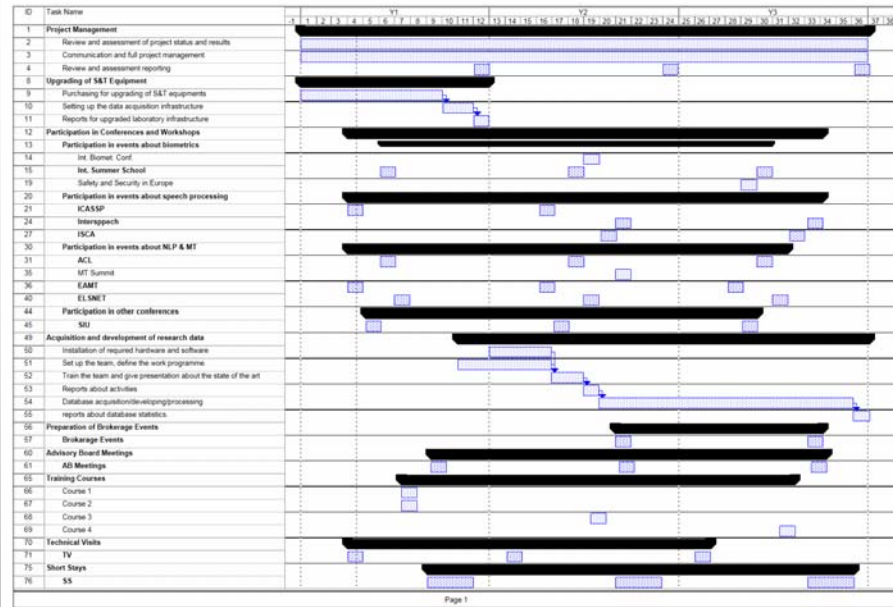
**No SWOT was in LS-PRO-BIOSEC**

**Teşekkürler CryptoD!**

**SWOT by means of management issues**

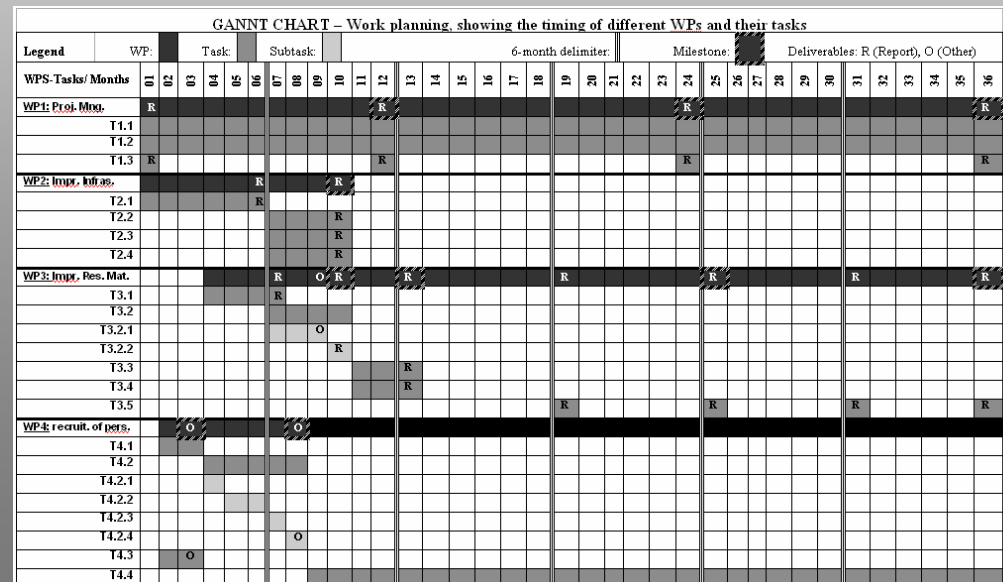


# Planning, Time issues



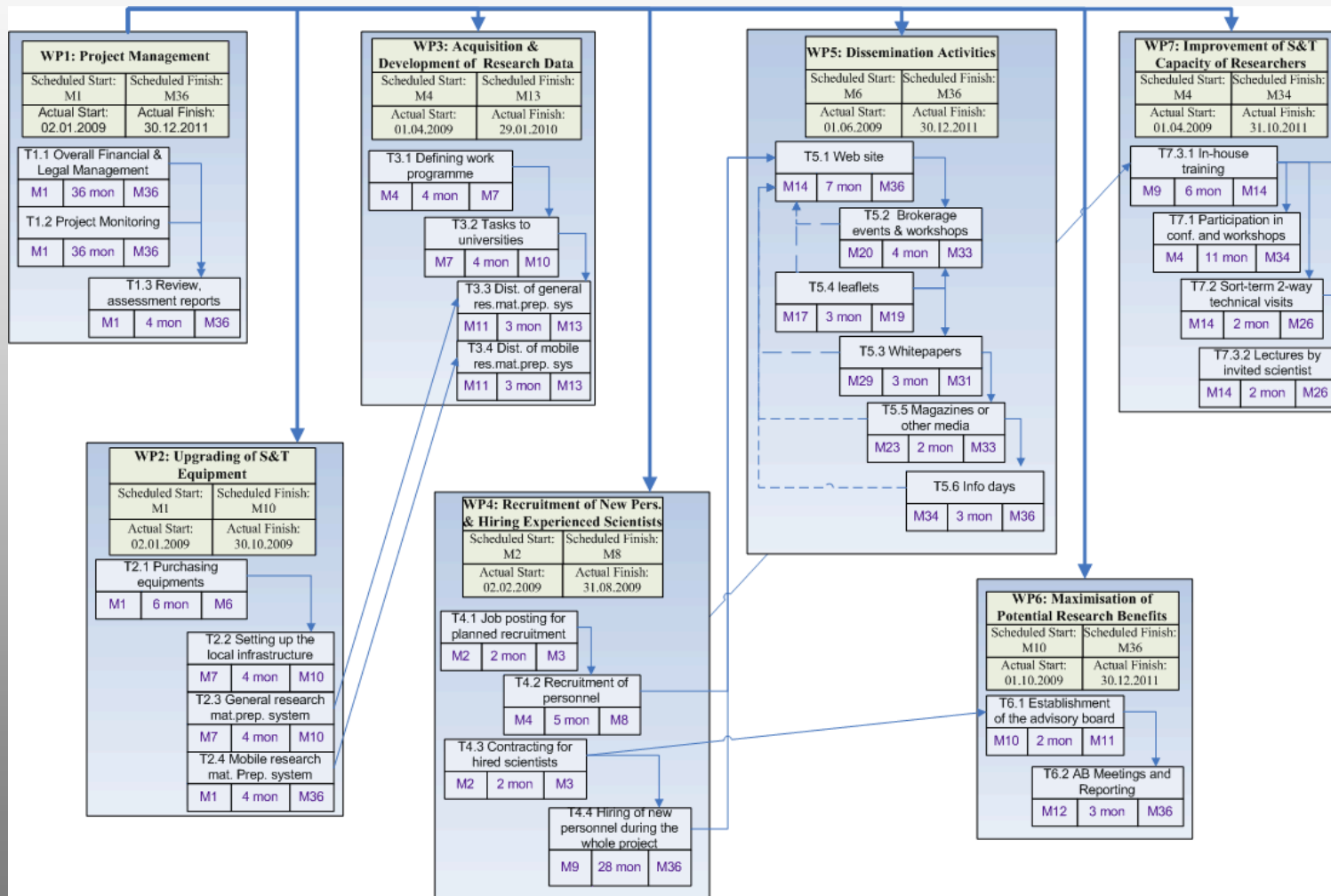
Upro-biosec

Multisound



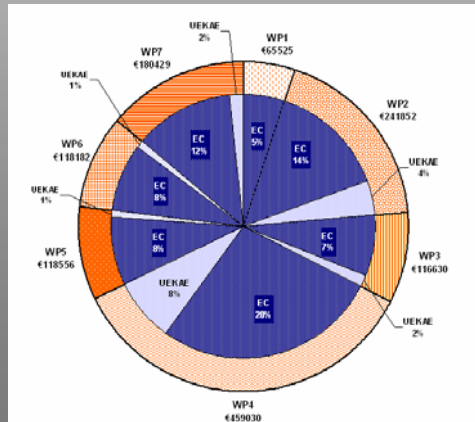
# Planning, parallelism with the WPs

- PERT diagram (Lacking in **USPRO-BIOSEC** 😞)



# Budget

- Budget must be detailed enough by considering the whole action plan in 2 pages.
- Use tables and pie diagrams if necessary



## Upro-biosec

Expenditure	EC Contribution				TUBITAK-UEKAE Contribution
	Direct Costs		Other Direct Costs		
	Person-Month	Cost(€)	Equipment	Cost(€)	
<b>WP1: Project Management</b>					
Personnel Cost	12	40.800 €	0 €	25.000 €	
<b>WP2: Upgrading of S&amp;T Equipment</b>					
Personnel Cost	12	40.800 €			
Workstations and Data Storage Systems			55.360 €		
Subjective Test equipments			25.169 €		
Audio equipments			24.483 €		
Biometric data acquisition			35.207 €		
Other office equipments (PCs, PDAs, printers)					53.684 €
Consumable (books, periodicals and other expenses)				26.235 €	
<b>WP3: Participation in Conferences, summer schools and Workshops</b>					
Personnel Cost	37	105.400 €			
International conferences (registration, travelling expenses, accomodation)				56.250 €	
National conferences (registration, travelling expenses, accomodation)					8.100 €
Summer Schools (registration, travelling expenses, accomodation)				43.020 €	
<b>WP4: Acquisition and development of research data</b>					
Personnel Cost	68	231.200 €			
Activity and personnel (supervisor + assistants) Costs				30.000 €	
Data acquisition system installation and other expenses				23.190 €	
Accommodation & Transportation				5.000 €	
<b>WP5: Preparation of Brokerage Events</b>					
Personnel	4	13.600 €			

## Multisound

WORK PACKAGES Expenditure	EC Contribution				TUBITAK-UEKAE Contribution			TOTAL COST with OVERHEAD
	Direct Costs		Costs with OVERHEAD		Direct Costs			
	PM	Cost	Other Direct Costs	Costs with OVERHEAD	PM	Cost	Other Direct Costs	
<b>WP1: Project Management</b>								
Personnel	75	52.500 €		56.175 €				56.175 €
Activity Cost (Meetings with EC)			5.000 €	5.350 €				5.350 €
Subcontracting (Financial Audit)			4.000 €	4.000 €				4.000 €
<b>SUBTOTAL</b>	<b>75</b>	<b>52.500 €</b>	<b>9.000 €</b>	<b>65.525 €</b>				<b>65.525 €</b>
<b>WP2: Upgrading of S&amp;T Equipment</b>								
Personnel	74	49.000 €		52.430 €	4	14.000 €		67.410 €
16-people Subjective Test Room (STR)			14.760 €	15.793 €			4.120 €	20.202 €
Equipments							5.000 €	5.350 €
2 semi-anechoic recording and listening room			30.000 €	32.100 €			9.110 €	9.748 €
Equipments							9.260 €	9.908 €
Processing and Storage Unit Equipments							3.160 €	3.381 €
Other Equipments			9.820 €	10.507 €				
Software Requirements								
Consumable (books, periodicals and other expenses)		8.740 €		9.352 €			7.780 €	8.325 €
<b>SUBTOTAL</b>	<b>74</b>	<b>49.000 €</b>	<b>124.600 €</b>	<b>185.752 €</b>	<b>4</b>	<b>14.000 €</b>	<b>38.430 €</b>	<b>241.852 €</b>
<b>WP3: Acquisition &amp; Development of Research Data</b>								
Personnel	70	35.000 €		37.450 €	4	14.000 €		52.430 €
Outsourcing the data acquisition and processing tasks to universities			55.000 €	58.850 €			5.000 €	64.200 €
<b>SUBTOTAL</b>	<b>70</b>	<b>35.000 €</b>	<b>55.000 €</b>	<b>96.300 €</b>	<b>4</b>	<b>14.000 €</b>	<b>5.000 €</b>	<b>116.630 €</b>
<b>WP4: Recruitment of New Personnel and Hiring Experienced Scientists</b>								
Personnel	87	283.500 €		303.345 €	73	45.500 €		352.030 €
Contracting for hired scientists			50.000 €	53.500 €			50.000 €	57.000 €

# Collaboration

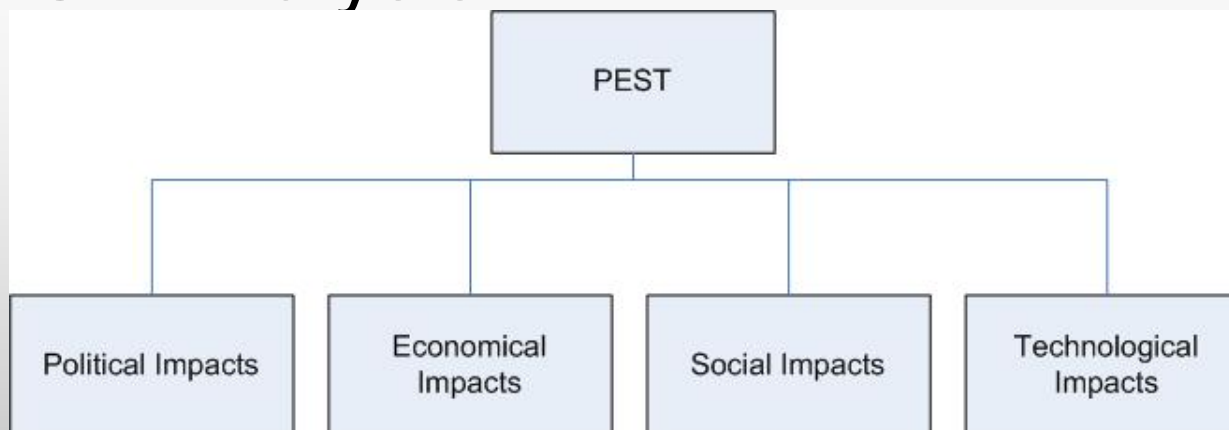
- **Step 15:**  
Multinationality and relevance to the objectives in the action plan
  - Training courses, short visits, participation to scientific steering committee



# Impact Analysis

- **Step 17:** Relevance to EU themes and national strategic plans and brainstorm to clear out the impacts both in national and international extent (PEST)
  - Detail the impacts and itemize them to increase readability
  - Refer to EC documents, conclusion reports of the related conferences and meetings,...
  - A detailed PEST and relevance analysis must be performed
  - What kind of future project ideas must be presented to EC to solve the current challenges of EU

- PEST Analysis



## Political Issues (PEST)

- European Commission officially announced to support language and speech technologies and published the needs and challenges in these fields in the following FP7 work programmes:
  - ICT-2007.2.1(2.2): Cognitive Systems, Interaction, Robotics
  - SEC-2007-3.2-03 Integrated check points security
  - ...
- According to the published framework strategy of EC (COM(2005) 596 final, Brussels, 22.11.2005), multilingualism is accepted as a EU value and related technologies will be supported.
- Turkish Government's R&D strategy covers the research scope of MULTISAUND:
  - According to the published plans of "Specific Expertise Commission of Science and Technology", which is an official commission of Turkish Government's Planning and Strategies Organisation, the research on informatics and security must urgently be supported.
  - National Foundation of Turkish Language, which has a great research effort on Turkish language processing, supports research attempts on related topics.
  - TUBITAK (The Scientific and Technological Research Council of Turkey) has officially announced the speech and language driven technologies as one of the most important components of next-generation interactive systems.
  - ...

# Impact Analysis

<u>Economic Issues (PEST)</u>	<u>Socio-Cultural Issues (PEST)</u>
<ul style="list-style-type: none"> <li>• Since language related industries are rapidly evolving in most EU countries, the related sectors are assuming a critical role in global marketing and sales strategies.</li> <li>• To trade with companies in other countries need skills in the languages of other trading partners.</li> <li>• With the spreading globalisation to the EU-level organisations and with the EU citizens by the help of increasing demand. With this marketing plan, setting up collaborations are required.</li> <li>• The economic impact of development systems and translation systems productivity but also reduce many problem in the EU.</li> <li>• Turkish army and police department amount of fund for voice-based tracking systems.</li> <li>• The government and private companies activities to get closer to customer EU by enhancing the multi-lingual.</li> <li>• The research funds in Turkey have decade. High-technology research are supported not only by Turkish private companies (especially by millions of Turkish people countries of the EU constitute systems including Turkish. This millions of Turkish citizens still living in their mother land.</li> </ul>	<ul style="list-style-type: none"> <li>• Intercultural communication skills are assuming an ever-larger contribution to the social life competitiveness of the</li> </ul> <p>urgently required during the with other European societies. required for enhancing the people and other citizens of and European countries. en edutainment (education + ve a great impact on language l help especially children and er nations. on in security will be a great ct on terrorism. ol systems and speech driven and ease the daily life of aged migrants, and workers in harsh scue teams, etc.).</p>
<h3><u>Technological Issues (PEST)</u></h3> <ul style="list-style-type: none"> <li>• The speech and language processing technologies in the EU do not cover Turkish language sufficiently. A prominent research centre focusing on these subjects is thought to be an urgent need.</li> <li>• The embedded technologies focusing on these fields also require new research and development centres which are lacking especially in Turkey.</li> <li>• High quality GUI driven Commercial-Off-The-Shelf (COTS) tools and well-designed human computer interaction mechanisms are required for next-generation technological aspects.</li> <li>• Integration of speech-driven technologies with multi-lingual research activities is a new trend in smart-home applications, edutainment solutions, joint multinational works, interactive systems, etc.</li> <li>• By the increasing possibilities of new collaborations, new networks of research centres will present a great opportunity to contribute to standardization and common methods in the relevant fields.</li> <li>• The dissemination of knowledge, sharing data and exchange of know-how will have a great impact on the improvement of technology in the relevant fields.</li> <li>• To carry the scientific capacity and know-how to the EU and benefit from existing capacity of research centres in the EU will have a great impact on technological improvement.</li> </ul>	

# Annex

**Step 18:** We put snapshots from our laboratory and emphasize the importance of this facility.

We put some certificates related to our organization.

Letter of intents



<b>MULTISAUND</b>	<b>LSPRO-BIOSEC</b>
Scientific and/or technological Excellence	
5.00/5.00	2.00/5.00
<ul style="list-style-type: none"> <li>• <i>The proposal clearly indicates that its proposer, MTRD is a qualified RTD organisation.</i></li> <li>• <i>The strategic objective is to improve the existing scientific and technological capacity of MTRD.</i></li> <li>• <i>A SWOT analysis is given shows MTRD is already a leading organisation.</i></li> <li>• <i>International universities and 2 USA based companies show their interest to participate in the advisory board.</i></li> <li>• <i>Risk analysis and contingency plan is given.</i></li> <li>• <i>Resources will be supported out of EC and UEKAE contribution.</i></li> <li>• <i>Interdependencies between WPs are presented by PERT diagram.</i></li> <li>• <i>Proposers have a deep understanding of the existing organization and their future needs</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>“Work plan is well defined.”</i></li> <li>• <i>“Research capacity is clear.”</i></li> <li>• <i>“It is not obvious what technology they need to improve, what is the basis for equipment selection.”</i></li> <li>• <i>“Training courses seem to be toward education of young scientists, not experienced researchers”</i></li> <li>• <i>“Proposal aims at providing scholarships to students not aiming at recruiting experienced reserarchers.”</i></li> </ul>

# ESR Karşılaştırma

MULTISAUND	LSPRO-BIOSEC
5.00/5.00	2.50/5.00
Quality and Efficiency of the Implementation and the Management	
<ul style="list-style-type: none"><li>• Management structure and procedures are clearly defined and well thought of for all roles.</li><li>• Persons involved are excellent researchers.</li><li>• Quality of the project partners as a whole is excellent.</li><li>• All the roles are specified.</li><li>• CVs and LOIs of collaborators are included.</li><li>• Budget allocation is detailed and related to WPs.</li><li>• <b>Some additional detail can be included to clarify travel costs.</b></li><li>• Total budget is shared between EC and UEKAE.</li></ul>	<ul style="list-style-type: none"><li>• No problem with the management.</li><li>• <b>Strong academic background is lacking</b></li><li>• <b>It is not obvious from the proposal that how will the budget shared for the objectives.</b></li><li>• <b>Budget unbalanced...</b></li><li>• <b>No sustainability plan.</b></li></ul>

# ESR Karşılaştırma

<b>MULTISAUND</b>	<b>LSPRO-BIOSEC</b>
5.00/5.00	3.00/5.00
Potential Impact Through the Development, Dissemination and Use of Project Results	
<ul style="list-style-type: none"> <li>• Actipn plans would clearly enhance the RTD capability of MTRD.</li> <li>• The collaboration with European and international partners is realistic and feasible and show proper commitment.</li> <li>• Hiring of both experienced and young researchers will improve human resource capacity.</li> <li>• The proposal clearly indicates the impact of the action plan in each of the research areas.</li> <li>• Dissemination plan is comprehensive using a variety of mechanisms to spread information and bring visibility to the organisaiton.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>“The work result and the outcome of the work is not obvious from the proposal”</i></li> <li>• <i>“Actual impact at the European/International level is not evident from the proposal”</i></li> </ul>
<b>RESULT</b>	
• <b>15.00 FULL BRICK</b>	• <b>7.50 + EXPERIENCE</b>

# Outline

- Who are we? → MTRD!
- Milestones
- MULTISAUND Strategy
- MULTISAUND vs. LS-PRO-BIOSEC
- Acknowledgement

# Acknowledgement

- We are very grateful to
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    - SAFETechnoPACK
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  - Our Project Officer Stefan Weiers and his collagues .

- **MTRD**  
**Multimedia Technologies**  
**Research & Development**  
**Laboratory**

[www.uekae.tubitak.gov.tr/mtrd](http://www.uekae.tubitak.gov.tr/mtrd)

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**Understanding Spoken  
Turkish language**