

Standard Summary Project Fiche – IPA centralised project under TR National Programme

1 GENERAL INFORMATION

- 1.1 CRIS Number:** TR2010/0301.02 (under IPA 2010/022-565)
- 1.2 Title:** Improving chemical and ionizing radiation metrology II, using the acronym "Europe and Metrology in Turkey II" (EMIT II).
- 1.3 Sector:** 1 - "Free Movement of Goods"
- 1.4 Location:** TURKEY and DG JRC-IRMM site in Geel, Belgium

Implementing arrangements:

1.5 Contracting Authority:

The European Union represented by the European Commission's Directorate-General for Enlargement (DG ELARG) for and on behalf of Turkey.

1.6 Contracting Authority:

DG ELARG will entrust the execution of the project to the EC JRC-IRMM which will implement it through an administrative arrangement.

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Joint Research Centre
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1.7 Beneficiary (including details of SPO):

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Participation in various project activities will be open to laboratories, universities, research institutes, public institutions and industrial operators. TÜBİTAK UME and TAEK will benefit from the competence existing in the country collaborating with leading institutes such as TÜBİTAK Marmara Research Centre institutes; Food Institute, and Chemistry and Environment Institute and the national reference laboratories.

1.8 Overall cost: € 1,600,000.00

1.9 EU contribution: € 1,600,000.00

1.10 Final date for contracting: 2 years after the signature of the FA

1.11 Final date for execution of contracts: 2 years following the end date for contracting

1.12 Final date for disbursements: 1 year following the end date for execution of contracts

2 Overall Objective and Project Purpose

2.1 Overall Objective: The overall objective is to contribute to the better functioning of the EU-Turkey Customs Union Agreement regarding the free movement of goods as well as to facilitate the implementation of *acquis communautaire* in quality of life related areas such as environmental, health and consumer protection and food safety

2.2 Project purpose: The main purpose is to consolidate and further enhance the institutional and measurement capacity in chemical and ionizing radiation metrology to ensure that Turkish laboratories are able to produce traceable and comparable measurement results, leading to improvements in quality of life, and facilitating the adoption of *acquis* related to free movement of goods. This project is the continuation of the TR080209 “Improving chemical and ionizing radiation metrology” (EMIT I) project. The project also aims to disseminate the knowledge and experience gained in EMIT I to a wider target group in order to make its results more sustainable and visible in academic, research and technical communities which are either providers or recipients of metrology services.

2.3 Link with AP/NPAA/EP/SAA

AP

As regards the Accession Partnership (AP) document for 2008 and its part on **Chapter 1: Free movement of goods, two short-term priorities have an indirect relation to the purposes of the project as the project aims at facilitating free movement of goods by introducing compatible measurement and certification requirements:**

- Abolish import permits or license requirements, as well as disproportionate requirements for certificates in respect of products other than used motor vehicles,
- complete the identification of measures contrary to Articles 28 to 30 of the EC Treaty, draw up a plan for their removal and introduce the mutual recognition clause into the Turkish legal order,

The 2006 AP priorities had direct relevance for the project: i.e. facilitation of the wider application of scientific and industrial metrology are indicated as short-term priority that complements completion of the removal of technical barriers to trade and the establishment of effective in-market control.

Other AP 2008 relevant priorities, which are related to **Chapter 12: Food safety, veterinary and phytosanitary policy** and **Chapter 27: Environment**, consist of the following:

Medium-term priority (chapter 12):

- enhance laboratory and control capacities in the food safety, veterinary and phytosanitary domain, in particular as regards reference laboratories, residue testing (including control plans) and sampling procedures,

Short-term priority (chapter 27):

- continue transposition, implementation and enforcement of the *acquis*, in particular horizontal and framework legislation, such as the environmental impact assessment, including transboundary aspects, as well as strengthening of administrative capacity

Medium-term priority (chapter 27)

- Continue to transpose and implement the *acquis* related to the framework legislation, international environmental conventions and legislation on nature protection, water quality, chemicals, industrial pollution and risk management and waste management,

NPAA

Chemical metrology and ionizing radiation can be linked to the *acquis* based on the following NPAA 2008 priorities:

Chapter 1 - Free movement of goods:

Priority 1.1 Abolishment of import permits or licence requirements, as well as disproportionate requirements for certificates in respect of products other than used motor vehicles

Priority 1.3 Completing the identification of measures contrary to Articles 28 to 30 of the EC Treaty, drawing up a plan for their removal and introducing the mutual recognition clause into the Turkish legal order

Chapter 12 - Food safety, veterinary and phytosanitary policy:

Priority 12,6 Enhancing laboratory and control capacities in the food safety, veterinary and phytosanitary domain, in particular as regards reference laboratories, residue testing (including control plans) and sampling procedures

Chapter 27 Environment:

Priority 27.3 Whilst strengthening the administrative capacity, continuing transposition of particularly horizontal legislation involving transboundary issues, such as Environmental Impact Assessment, framework legislation, international framework conventions, as well as legislation of Nature Protection, Water Quality, Chemicals, Industrial Pollution, Risk Management and Waste Management, to domestic law and their implementation

2.4 Link with MIPD

It is stated in the Multi-annual Indicative Planning Document (MIPD) 2008-2010 for Turkey that “the priority areas for support will be agriculture (particularly meeting veterinary and phytosanitary norms); environment; justice, freedom and security; and obligations stemming from the Customs Union agreement”.

This is further complemented by the following statements given in relation to areas to be supported by EU funds:

“Implementation of EU health and food safety related standards in food production and food-processing establishments”;

“Transposition of framework legislation, international environmental conventions, and legislation on nature protection, water quality, air quality, Industrial Pollution Control and waste management, environmental impact and strategic impact assessment, chemicals and GMOs, climate change, strengthening of the relevant institutions/...”

“In addition to the above priorities, Institution Building support may also be provided in the following areas of the acquis, with more modest budgetary allocations: Free Movement of Goods (support for quality assurance at testing and calibration laboratories)”

These areas are also repeated in the MIPD 2009-2011 document.

2.5 Link with National Development Plan (where applicable)

Improvement in food is included in 9th National Development Plan 2007-2013 as a major priority under the EU Accession Process heading. It has been reported that implementation of EU norms and standards for food safety will increase the quality of life of Turkish people (Please refer to list number 458 - Development of integrated and accurate information systems related to Environment and improvement of surveillance, control and reporting infrastructure).

2.6 Link with national / sectoral investment plans (where applicable)

N/A

3. Description of project

3.1 Background and justification:

Turkey as a candidate for membership to the European Union has to adopt and implement the *acquis communautaire*. In the field of free movement of goods, the process relies on the capacity of Turkish quality infrastructure for which metrology is of importance. Metrological activities enable laboratories and economic operators to carry out traceable and comparable measurements. Thus metrology has a horizontal impact on the process of alignment of national legislation and the development of institutional infrastructures.

The implementation of the Turkey - EU Customs Agreement of 1995 is facilitated by mutual recognition of testing and conformity assessment certificates for industrial goods. Similarly, free trade of agricultural products within the EU-Turkey Agricultural Agreement is possible under the condition of acceptance of measurements and certificates.

The metrology system in Turkey comprises of fundamental, industrial and legal metrology. TÜBİTAK UME is the national metrology institute of Turkey. It maintains the national measurement standards, provides metrological services to laboratories and industrial operators and supports testing, conformity assessment and accreditation activities in the country. TÜBİTAK UME is well advanced in the area of classical physical measurements where TÜBİTAK UME is in a position to provide a wide range of traceable and internationally recognized calibration and measurement services. Unfortunately, metrological capacity in the field of chemical metrology lags behind, weakening the potential of testing laboratories, and by extension, handicapping export-oriented industries that require internationally recognized measurement and testing services in the fields of food safety and environmental control. TÜBİTAK UME is a member of the European Association of National Metrology Institutes, EURAMET, and a representative of Turkey in the European analytical chemistry network (EURACHEM). TÜBİTAK UME has achieved recognition of 351 calibration and measurements capabilities (CMCs) under the terms of the Mutual Recognition Arrangement of the International Committee for Weights and Measures (CIPM MRA) in all fields of physical measurements however CMC entries for chemical measurements are still under preparation.

TAEK has been designated in 2007 by TÜBİTAK UME as a national laboratory for ionising radiations metrology. It is a governmental organization under the direct supervision of the Prime Minister which is responsible for monitoring and research activities in the ionizing radiation field. TAEK research centres are specialised for services with nuclear applications which have to be extended and improved to a metrological level suitable to satisfy country needs and international requirements. TAEK has a long cooperation with the International Atomic Energy Agency (IAEA). It has recently started to participate in EURAMET activities; therefore, it needs support to better integration into the metrology community. In addition, TÜBİTAK UME and TAEK shall operate in coordination and extend their relationships to other metrology stakeholders.

Deficiencies in national capacity in chemical and ionising radiations metrology limit the ability of testing laboratories to produce traceable and comparable results needed for the implementation of the *acquis*. Thus, inadequate quality control systems and lack of acceptable certificates result in technical barriers to trade of industrial and agricultural products.

For example, Turkey is an important exporter of foodstuff of non-animal origin, such as fruits and vegetables, to the EU. The quality compliance of country specific export food (e.g. dried vegetables, hazelnut, pistachio, etc.) should be proved in respect to relevant EU legislation. Since 2002, due to a number of problems being encountered especially to prove food quality and safety, figs, hazelnuts, pistachios and certain derived products originated in or consigned from Turkey have been subjected to safeguard control when imported into the EU.

Another example linked to the ionizing radiations metrology is the need of measurement compatibility experienced after Chernobyl. It is not only important to measure the radioactivity in food and in environment precisely, it is also to produce continuous and comparable data in a standard systematic and easily reached on line when needed and to feed data to the same system periodically. Therefore strengthening the radionuclide metrology infrastructure in Europe and all neighbouring countries is an inevitable need in terms of radiation safety in addition to being able to remove technical barriers to trade when radiological emergency is present at any time.

There is a strong demand in enhancing quality control systems in Turkey. The availability of institutional and measurement capacity in chemical and ionising radiation metrology will respond to testing laboratories' needs. TÜBİTAK UME and TAEK research centres could provide certified reference materials (CRM) and reference measurements to secondary level laboratories which on their term make available quality assurance tools for field laboratories. In order to satisfy quality requirements for method validation and internal and external quality control, individual laboratories need reference materials, CRMs and PT schemes. For some tests, CRMs are available from other countries. However, it is not possible to find CRMs for a number of food samples of products produced in Turkey and exported to the EU. Other environmental samples such as soils and sediments have specific matrices and shall be locally developed. The TR0802.09 "Improving chemical and ionizing radiation metrology" project is helping to make CRMs available in Turkey in a number of selected areas important for Turkish exports and production.

TAEK issues certificate of radioactivity analysis for foodstuff to be exported and carries out calibration of dosimetry equipment. However confidence in measurements goes through linking TAEK services to the national and international metrology systems and further developing secondary and primary standardisation. Existing capacity in dosimetry calibrations shall be enhanced to a level to anticipate increasing needs in development of nuclear sector. Another aspect is the improvement of the radionuclide metrology infrastructure of TAEK laboratories, which will have very important consequences both in terms of food radioactivity measurements and environmental radioactivity monitoring (in relevance to 1621/2001/EC export certificate for agricultural products; 2000/473/Euratom for environmental radioactivity monitoring). The TR080209 "Improving chemical and ionizing radiation metrology" project is already contributing to further enhancement of TAEK's capacity.

The current project is the continuation of the TR0802.09 "Improving chemical and ionizing radiation metrology" project and aims at consolidating its achievements as well as further

enhancing its results. The 2008 project has finished its inception phase with a detailed planning for the years 2010-2012. The first short-term technical assistance activities have been completed. It has already reached out to various stakeholders, such as universities, laboratories, specialised institutions on food safety and on ionising radiation through its Programme Advisory Committee (PAC). On one hand, the reactions and expectations of the stakeholders have been overwhelming, pointing to a real need in the sector for the project. The JRC-IRMM, on the other hand, has limited capacity to address the needs of the sector and the beneficiaries particularly in terms of long-term training at the JRC-IRMM premises and in terms of out-reach activities to be organised in Turkey. The planning at the inception phase made it clear that a follow-up project would be necessary in order to complement the 2008 action (TR0802.09) and make its results more sustainable and visible in the academic, research and technical community, either providers or recipients of metrology services. This would also contribute to a more solid dissemination of information and technical know-how for the use of economic operators. On a specific note, EMIT II would host 4 (more) long term trainees from TÜBİTAK UME and MRC and carry out more short term trainings so as to be confident that the overall objective would be fully met. On the other hand, EMIT II would correct for a TÜBİTAK UME flagged problem of not having had an LTT in the Food Safety and Quality Unit of IRMM during EMIT I.

3.2 Assessment of project impact, catalytic effect, sustainability and cross border impact (where applicable)

a) Project Impact:

The proposed project will establish further capabilities of TÜBİTAK UME and TAEK enabling them to provide metrological services not available in the country. For example, food CRMs and the improved radioactivity traceability will support national food laboratories to overcome difficulties that they are facing now when they issue export oriented testing certificates. Similarly, the environmental control system will benefit by the development of Turkey specific materials (starting with soils) which would, most likely, never be included in the production list of foreign producers.

The project will raise the awareness about metrology in Turkey, making TÜBİTAK UME and TAEK network actively and become more visible to public institutions, universities, research community and industrial operators.

Finally, the project will raise the awareness about TÜBİTAK UME and TAEK capabilities among the international metrology community.

b) Catalytic effect:

Direct users of these services are Turkish laboratories and economic operators which are concerned by the implementation of the harmonised legislation. Many practitioners will be trained and the knowledge will be transferred. Moreover, the project will contribute to the improvement of university metrology education.

The project will help metrology stakeholders to cooperate and contribute to TÜBİTAK UME, TÜBİTAK MRC Chemistry, Food and Environment Institutes, and TAEK strategic orientation.

The project will have a catalytic effect on the accreditation. It will increase the number of available PT schemes and extend the scope of test parameters. Turkish Accreditation

Agency TURKAK will be in a position to organise/request more interlaboratory comparisons for accredited laboratories.

Finally, the project will facilitate the removal of technical barriers to trade to EU countries. Confidence in Turkish certificates will increase when the quality of measurement results is improved. If it is proven that Turkish test results are comparable with results produced in the EU, additional control and safeguard clauses shall be withdrawn.

c) Sustainability:

Sustainability of the project results is ensured by:

- Increasing demand for metrological services due to harmonisation of legislation, higher laboratories' interest in accreditation, export requirements to the EU,
- Large number of customers and end users (laboratories, universities, research institutes, industrial operators). The number of national test and analysis laboratories serving in the field of quality of life excluding universities and clinical analysis laboratories is 781 (Ref. Consultative Document, Regulations on the framework of governmental laboratories in Turkey),
- Availability of university education and life-long training in the field of chemical and ionising radiation metrology in the country,
- The networking while making the best use of various competencies that exist in the country.

d) Cross Border Impact:

N/A.

Laboratories of all countries - trade partners of Turkey could benefit from the availability of new reference materials with Turkey-specific matrices. TÜBİTAK UME is a potential CRM provider for neighbouring Middle Eastern and North African countries as well as the European countries for the CRMs which are not available from other producers. Moreover, the development in the TÜBİTAK UME infrastructure will promote its metrological activities at the international arena. New metrological capabilities will result in providing services to neighbouring countries in the region especially Balkan countries and Middle Eastern countries in the field of chemical metrology.

3.3 Results and measurable indicators:

Component 1: Knowledge transfer and human resources development

- 1.1 TÜBİTAK UME and TAEK researchers familiar with functioning of metrology systems in EU Member States with similar economic needs
- 1.2 TÜBİTAK UME and TAEK researchers skilled and ready to carry out the new metrological services
- 1.3 Turkish laboratories' experts knowledgeable on how to consider metrological aspects in their activities

Indicators for the results under Component 1:

- 4 experts from TÜBİTAK UME and MRC Institutes are trained on a one year long-term training at JRC-IRMM by the end of 2013 and ready to apply their acquired skills and knowledge at the respective institutions as from 2014;
- experts coming from mixed audiences such as TÜBİTAK UME, TAEK, end-users and universities are trained, have acquired knowledge and skills in 9 combined events - targeting 20-40 participants per event- (workshops / seminars) and 4 short-term trainings by the end of 2013 in areas that are listed in section 3.4;
- TÜBİTAK UME and TAEK metrological capabilities that support the implementation of the acquis, are improved and internationally recognized by the end of 2013;
- Turkish laboratories in chemical measurements and ionizing radiation fields and end users of CRMs better cope with measurement issues;
- Available trainers for training people in chemical metrology by the end of 2013 (at least 75 % of those trained);
- Increased metrological activities and number of PT providers as well as number of test materials in 2014 and thereafter.

Component 2: Networking and Raising Awareness

- 2.1 Network of contacts in the field of metrology established, strengthened and operational
- 2.2 Network of contacts with universities established and strengthened
- 2.3 Chemical and ionizing radiation metrology topics discussed with national experts and stakeholders

Indicators for the results under Component 2:

- An operational platform of exchange (electronic newsletters, webpage, email group etc.) established in 2012 and maintained by the beneficiaries after the expiry of the project;
- One EMIT II symposium on chemistry, ionising radiation, laboratory management topics, with Turkish experts (including those involved in EMIT I, II), JRC experts and external experts.
- Universities with relevant departments are made aware of the project, its results and the fundamental importance of metrology and possibly integrated courses/seminars on this subject to their academic calendar by the end of 2013.

3.4 Activities:

The means by which the activities of the project will be performed is via a Technical Assistance (TA) contract. The project will continue the long-term and short-term training actions started by the TR 0802.09 project while focusing at the same time on further dissemination and networking activities with stakeholders in terms of workshops, seminars and joint events.

The following activities will be carried out for the achievement of project purpose within the period of project.

Component 1: Knowledge transfer and human resources development

- 1.1 Continuing the familiarization of TÜBİTAK UME and TAEK researchers with the functioning of metrology systems in EU member states with similar economic needs
- 1.2 Organization of consultations and short term and long term trainings for TÜBİTAK UME and TAEK researchers
- 1.3 Organization of seminars and workshops for the end users

Planned list of specific activities (indicative):

- i. Workshop on the preparation, certification and use of reference materials (for beneficiaries, end-users and universities)
 - ii. Seminar on Reference material topics (for universities and other end-users).
 - iii. Workshop on Primary Methods (for universities and other end-users).
 - iv. Workshop on Ionising Radiation metrology (similar to VERMI 5), for TAEK and universities.
 - v. 2 seminars on Ionising Radiation Metrology topics (for universities and other end-users).
 - vi. Workshop on Quality Assurance topics (for all stakeholders).
 - vii. Workshop on Metrology in Education topics (for all stakeholders).
 - viii. Seminar on Quality and Metrology in Education topics (for universities and other end-users).
- 2 short-term training sessions for TÜBİTAK-MRC
- ix. 2 x 1 week short-term training sessions in the FSQ - Mycotoxin project for one TÜBİTAK-Food Institute trainee, each time.
- 2 short-term training sessions for TAEK and/or universities.
- x. Calibration of an ionisation chamber
 - xi. Radiochemical lab practice

Component 2: Networking and Awareness-Raising

- 2.1 Improvement of relationships with direct and indirect users of CRMs and metrology services
- 2.2 Organization of events
- 2.3 Support of participation of TÜBİTAK UME and TAEK experts in international ones.

3.5 Conditionality and sequencing

This project will consolidate the achievements of the previous TR0802.09 project and also be complemented by a separate IPA project called “Supply of chemical metrology equipment to TÜBİTAK UME” by which materials processing and analytical equipment will be supplied to TÜBİTAK UME. The infrastructure of TÜBİTAK UME laboratories will have been improved for the preparation and certification of CRMs which are specific for Turkey by the time this second technical assistance project starts. It is crucial that the newly created capacity is used for the best of this project as well as the previous TR0802.09.

3.6 Linked activities

There are two projects related to the one proposed here. The first one, “Support to the Strengthening of Quality Infrastructure in Turkey” should begin in 2010 with the aim of strengthening the institutional and infrastructural framework in Turkey to enable better implementation of the *acquis* regarding the free movement of goods. This project is mainly focused on the training activities in order to increase the awareness. TÜBİTAK UME is also partially included in this project to supply experts in the workshops and will participate in relevant activities.

3.7 Lessons learned

TÜBİTAK UME and TAEK are involved in TR 0802.09 "Improving chemical and ionizing radiation metrology" project. In this project both institutions gave input at the preparation stage. They were also actively involved in the inception phase. Although the bulk of project activities haven't started yet, many critical issues have been tackled in the inception phase meetings, including drawing up a need's list for training events. TÜBİTAK UME and TAEK provided input on the desirable project activities and offered to provide meetings rooms etc for the smaller events. In addition, TR2009/0301.02 “Supply of chemical metrology equipment to TÜBİTAK UME” which is a complementary project to the ongoing project TR0802.09, is accepted in 2009 programming and expected to start this year.

Besides TR0802.09, TÜBİTAK UME is involved in an IPA-2008 project which is aiming to increase the capabilities of measurement laboratories in Balkan countries. In this project TÜBİTAK UME will be one of the pilot laboratories. The institute will organize proficiency testing schemes in Turkey and also participate in international comparison studies with other Balkan countries.

TÜBİTAK UME has been involved in several projects which aimed at improving and strengthening the metrology infrastructure in Turkey. The foundation of the chemical metrology department in TÜBİTAK UME is the outcome of a 6-years long World Bank project to develop Turkey’s industrial technology infrastructure. The project, implemented between years 1999 and 2006, allocated approximately 45 million USD in funds for the development of metrology services in Turkey through TÜBİTAK UME. The funds were used for civil works, equipment procurement, technical assistance and staff training. The chemical metrology laboratories were purpose-built as part of the civil works component, and approximately 4 million USD were invested to equip the laboratories. The proposed project represents the next stage in the development of the chemical metrology infrastructure that

Turkey requires in order to ensure full compliance with EU *acquis*. The execution of the World Bank project, with its size and complexity, has endowed TÜBİTAK UME with significant experience and expertise in project management, including appropriate procurement mechanisms, correct identification of needs and the strategies to meet them, compliance with strict financial and reporting guidelines, and effective communication strategies to ensure information flow between all parties involved. In this project, some difficulties had been encountered with:

- the definition of the work packages
- the design of the time table,
- the arrangement of activities' duration,
- the selection of experts and trainers.

Thus, the description of training activities and also the selection of the most appropriate experts in terms of both qualification and the experience in the area of interest are crucial as well as planning the trainings and study visits in terms of both timetable and duration.

TÜBİTAK UME has been involved in the activities of “Support to the quality infrastructure in Turkey” project. A number of TÜBİTAK UME staff participated and shared their experiences with the trainers. The training course provided the opportunity to contact with potential customers of CRMs to be produced. The major difficulties were:

- poor communication with stakeholders,
- identification of customer's needs and expectations,
- determination of customers' background in the field of metrology.

It was realized that effective communication between the stakeholders/customers is very important for the successful implementation of the proposed project. Customers' needs have been identified in this training course. It has been clearly stressed that the metrological activities including PT schemes are crucially important in order to enhance the measurement capabilities.

TAEK carried out the studies for accreditation; ÇNAEM and SANAEM have been accredited according to TS EN ISO/IEC 17025:2005 in a total of 24 methods on May, 4th, 2009. ÇNAEM and SANAEM applied to Turkish Accreditation Agency (TURKAK) for extending the scope of accreditation for three methods and ÇNAEM made its first application for accreditation according to TS EN ISO/IEC 17025:2005 Standard for two methods of Secondary Standard Dosimetry Laboratory in December 2009. These studies provide quite an important infrastructure for metrological activities. TAEK has been designated as competent institution in the field of ionising radiation metrology by UME which brings responsibilities to participate in key and supplementary comparisons, register CMC tables to the CIPM MRA date base and ensure efficiently working quality management system at its laboratories. With the valuable outcome of the accreditation project being carried out by TAEK, the tasks listed above will be undertaken more easily.

4. Indicative Budget (amounts in €)

			SOURCES OF FUNDING										
			TOTAL EXP.RE	TOTAL PUBLIC EXP.RE	IPA COMMUNITY CONTRIBUTION		NATIONAL PUBLIC CONTRIBUTION					PRIVATE CONTRIBUTION	
ACTIVITIES	IB (1)	INV (1)	EUR (a)=(b)+(e)	EUR (b)=(c)+(d)	EUR (c)	% (2)	Total EUR (d)=(x)+(y)+(z)	% (2)	Central EUR (x)	Regional/ Local EUR (y)	IFIs EUR (z)	EUR (e)	% (3)
Activity 1													
Contract 1.1		X	1,600,000	1,600,000	1,600,000	100							
TOTAL IB													
TOTAL INV			1,600,000	1,600,000	1,600,000	100							
TOTAL PROJECT			1,600,000	1,600,000	1,600,000	100							

5. Indicative Implementation Schedule (periods broken down per quarter)

Contracts	Start of Negotiations	Signature of contract	Contract Completion
Administrative arrangement	2012/I	2012/IV	2013/IV

Duration of the project: 12 months.

6. Cross cutting issues (where applicable)

6.1 Equal Opportunity

Equal participation of women and men will be secured through appropriate information and publicity material, in the design of projects and access to the opportunities they offer. An appropriate men/women balance will be sought on all the managing bodies and activities of the programme and its projects.

6.2 Environment

The project does not have any potential negative effect to environment as well as to any living bodies. Furthermore, it will assist the environmental protection via producing CRMs which will be used in environmental control laboratories.

6.3 Minority and vulnerable groups

According to the Turkish Constitutional System, the word minorities encompass only groups of persons defined and recognized as such on the basis of multilateral or bilateral instruments to which Turkey is a party.

This project has no negative impact on minority and vulnerable groups. Training programs and workshops will be held in buildings where access to buildings for handicapped people is possible.

ANNEX 1 - Log frame in Standard Format

LOGFRAME PLANNING MATRIX For The Project Fiche		Programme name and number	Improving chemical and ionizing radiation metrology II (Acronym EMIT II)
		Contracting period expires : FA + 2 years	Disbursement period expires: 1 year following the end date for execution of contracts.
		Total Budget: EUR € 1,600,000.0	IPA Budget: € 1,600,000.0
Overall objective	Objectively verifiable indicators	Sources of verifications	
The overall objective is to contribute to the better functioning of the EU-Turkey Customs Union Agreement regarding the free movement of goods as well as to facilitate the implementation of <i>acquis communautaire</i> in quality of life related areas such as environmental, health and consumer protection and food safety.	- Improved implementation of harmonized legislation in the field of free movement of goods, food safety and environmental, health and consumer protection - The number of measurements linked problems related to export of products to EU countries decreased to one third of that encountered now - The number of measurements related problems reported for the domestic market decreased by one half	- European Commission Country Progress Reports - Publications of Rapid Alert System for Food and Feed - Foreign Trade Secretariat Reports - Reports by both Governmental and Non-Governmental Organizations	
Project Purpose	Objectively verifiable indicators	Sources of verifications	Assumptions
To consolidate and further enhance the institutional and measurement capacity in chemical and ionizing radiation metrology to ensure that Turkish laboratories are able to produce traceable and comparable measurement results	- 4 experts from TÜBİTAK UME and MRC Institutes are trained on a one year long-term training at JRC-IRMM by the end of 2013 and ready to apply their acquired skills and knowledge at the respective institutions as from 2014. - experts coming from mixed	- CIPM MRA CMC database - EURAMET records - TURKAK records - Individual PT providers reports - Universities information and lecture notes - Project reports	- Increased demand for metrological services in the field of chemical metrology and ionizing radiation due to the implementation of EU regulations and directives - Dedication to the objectives of competent ministries and stakeholders indirectly involved in the project;

To disseminate the knowledge and experience gained in EMIT I to a wider target group in order to make its results more sustainable and visible in academic, research and technical communities which are either providers or recipients of metrology services.	audiences such as TÜBİTAK UME, TAEK, end-users and universities are trained, have acquired knowledge and skills in 9 combined events - targeting 20-40 participants per event- (workshops / seminars) and 4 short-term trainings by the end of 2013; - TÜBİTAK UME and TAEK metrological capabilities support the implementation of the <i>acquis</i>, are improved and internationally recognized by the end of 2013; - Turkish laboratories in chemical measurements and ionizing radiation fields and end users of CRMs better cope with measurement issues; - Increased metrological activities and number of PT providers as well as number of test materials in 2014 and thereafter - Available trainers for training people in chemical metrology by the end of 2013 (at least 75 % of those trained); - An operational platform of exchange (electronic newsletters, webpage, email group etc.) established in 2012 and maintained by the beneficiaries after the expiry of the project; - One EMIT II symposium on chemistry, ionising radiation, laboratory management topics, with Turkish experts (including those involved in EMIT I, II), JRC experts and external experts.		- The project is supported by a separate follow-up project by which CRMs for country specific materials are produced
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	-Universities with relevant departments are made aware of the project, its results and the fundamental importance of metrology and possibly integrated courses/seminars on this subject to their academic calendar by the end of 2013.		
Results	Objectively verifiable indicators	Sources of verifications	Assumptions
Component 1: Knowledge transfer and human resources development 1.1 TÜBİTAK UME and TAEK researchers familiar with functioning of metrology systems in EU Member States with similar economic needs 1.2 TÜBİTAK UME and TAEK researchers skilled and ready to carry out the new metrological services 1.3 Turkish laboratories' experts knowledgeable how to consider metrological aspects in their activities	- 4 long-term trainings at JRC-IRMM (01.10.2012 – 30.09.2013) -9 combined events (workshops/seminars) for mixed audiences such as TÜBİTAK UME, TAEK, end-users and the universities. -2 short-term training sessions for TÜBİTAK-MRC (Food institute).	- TÜBİTAK UME and TAEK reports and presentations - Reports from training providers - Workshop and seminar documents - TURKAK database - Universities' information database	- Appropriate international comparisons will be timely organized - Supply of equipment project is accepted and implemented

Component 2: Networking and Awareness- Raising 2.1 Network of contacts in the field of metrology established, strengthened and operational 2.2 Network of contacts with universities established and strengthened 2.3 Chemical and ionizing radiation metrology topics discussed with national experts and stakeholders	-Coordination meetings with stakeholders in chemical and ionizing radiation metrology; -Number of partner universities; -One concluding meeting/small conference; - Operational platform of exchange to be sustained by the beneficiaries	- Minutes from the stakeholders' meetings - Minutes from meetings with universities - Conference materials - Symposiums and workshops	- Available and interested Turkish laboratories' experts - Interested Turkish universities - Key partnerships between existing institutions, laboratories and non-governmental organizations will be established - Awareness events will be well attended - Project teams of this and other EU financed projects in the fields of free movement of goods, food safety and environmental, health and consumer protection (if any) will cooperate and coordinate activities
Activities	Means	Costs	Assumptions
Component 1: Knowledge transfer and human resources development 1.1 Familiarizing TÜBİTAK UME and TAEK researchers with functioning of metrology systems in EU member states with similar economic needs 1.2 Organization of consultations and short term and long term trainings for TÜBİTAK UME and TAEK	- Technical Assistance Contract	EUR € 1,600,000.00	- Stakeholders are ready to accept their responsibility and willing to cooperate - The reference laboratories for the control laboratories are established and PT schemes are provided by those laboratories. - Public and private organizations support their experts who will participate training programs - The laboratory infrastructure should be enhanced by supply of equipment under a separate complementary project. - Availability of results achieved

1.3	researchers Organization of seminars and workshops for the end users			under previous assistance in order to ensure proper follow-up
Component 2: Networking and Awareness-Raising				
2.1	Improvement of relationships with direct and indirect users of CRMs and metrology services			
2.2	Organization of national conferences and events			
2.3	Support of participation of TÜBİTAK UME and TAEK experts in international ones.			
				Preconditions
				-

ANNEX 2 - Amounts contracted and disbursed per quarter over the full duration of Programme

Contracted	2012/IV	2013/I	2013/II	2013/IV	2014/I
Contract 1 (Service)	1,600,000				
Cumulated	1,600,000				
Disbursed					
Contract 1 (Service)	960,000	0	0	0	640,000
Cumulated	960,000	960,000	960,000	960,000	1,600,000.0

