



PROJECT FINAL REPORT

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Project acronym: AMI-4EUROPE

Project title: “Advanced, Cross-Disciplinary & Integrated Medical Imaging for all Europeans through a Network of Regional Clusters and Development Strategies”

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² The home page of the website should contain the generic European flag and the FP7 logo which are available in electronic format at the Europa website (logo of the European flag: http://europa.eu/abc/symbols/emblem/index_en.htm logo of the 7th FP: http://ec.europa.eu/research/fp7/index_en.cfm?pg=logos). The area of activity of the project should also be mentioned.

1 Final publishable summary report

1.1 Executive summary

Thanks to the developments in Medical Imaging Diagnosis is earlier than ever. Physicians have more information and insight. Care is less invasive and less painful for patients. Access to tests and treatments is easier as imaging procedures are available in convenient settings, such as independent imaging centers. In addition, patient outcomes— from fewer complications to saved lives—are dramatically improved.

And we are not at the end of our journey, yet! The “Next Generation” of Medical Imaging is just here out of the integration and cross-disciplinary use of NanoMedicine, Pharmacological breakthroughs, Biotechnologies for healthcare and ICT combined with standard Medical Imaging evolution.

Unfortunately, the healthcare sector is quite diverse and collaboration has been difficult as a result, so the challenge is to build expertise in the development of integrated systems that address unmet clinical needs while providing a solid and consistent network of R&D + Innovation groups. Co-ordination and integration of Research-Driven Clusters under the so called “Triple Helix III approach is a must in order to achieve the growth and competitiveness opportunities that Advanced Medical Imaging brings to the European society.

AMI-4EUROPE has contributed *to acquire a comprehensive insight into the design, implementation and impact of existing Medical Imaging and associated Health-related Technologies research and innovation support programmes and initiatives in Europe.* The scope of this objective has been *to create the Common Co-ordination and Knowledge Base necessary to enter the identified market niches and then establish appropriate scientific advice and sustainable support mechanisms* to assist the EC and national, regional policy makers *to better define a Strategy and show the way for future research actions in favour of AMI, Regions of Knowledge and the European Research Area (ERA) to maximize their socio-economic impact in support of the health-related economy.*

1.2 Summary description of project context and objectives

During the last decade, **Medical Imaging has transformed medicine**. It has dramatically changed how physicians measure, manage, diagnose, treat, and even think about medical illnesses and conditions. The result is **seismic change in the landscape of health care**—in how and where care is delivered, in the quality of care, and in the structure of the health delivery system³.

Medical Imaging has transformed medicine because innovations have made imaging faster, more precise, and less invasive. This has led to broader use of imaging for more conditions and for more patients. While Imaging **was once thought of primarily as a diagnostic tool, today it is also used on the front line of treating, managing, and even predicting disease**.

Medical Imaging has become essential for virtually all major medical conditions and diseases. It is a standard of modern medical care for cancer, stroke, heart disease, trauma, and neurological conditions, among others. It is used by a wide range of medical specialists, from paloncologists to internists.

The broad applicability of Medical Imaging has increased its growth. This is a logical consequence of physicians integrating imaging into the standard treatment patterns for more conditions, settings, and patient groups. To ascribe this growth primarily to financial motives of medical providers ignores these deep, patient-centered changes.

Understanding the transformation that medical imaging has brought about is important in understanding why imaging use is growing. Policy changes that single-mindedly attempt to stop imaging growth could easily reverse its positive effects on patients and quality. **A better approach to managing utilization is to rely upon sound evidence and physician-developed practice guidelines**.

Policy decisions intended to manage growth in imaging utilization must take into account this broader view of imaging value and utilization. They must recognize that much of the growth emerges from deep, systematic, patient-centered changes that Medical Imaging has fostered.

Potential for Increased Growth and Competitiveness

Advances in imaging have provided physicians with new tools to improve care in new ways—and often in entirely new dimensions. As a result, they **use imaging in more clinical situations, for more diseases, and for more patients**.

Medical Imaging has also transformed medicine by enabling physicians to provide medical treatments deep within the body without surgery, blood loss, or the related risks. So **care is easier, complications fewer, and recovery is faster**. As a result, more patients qualify for care than would have if the only option were surgery

Imaging has also brought about significant change by providing physicians with vast amounts of new information and visualization. This allows them **to diagnose disease and plan treatment more effectively and confidently**.

³ “Changing the Landscape: How Medical Imaging has Transformed Health Care in the U.S.”; Polidais; NEMA 2006

Innovations in Medical Imaging provide physicians with new capabilities to substitute for riskier or more invasive procedures. ***For patients, this means greater comfort and better care.*** It also means that imaging ***is often used in clinical situations and circumstances in which it was not used before.***

Thanks to the developments in Medical Imaging Diagnosis is earlier than ever. Physicians have more information and insight. Care is less invasive and less painful for patients. Access to tests and treatments is easier as imaging procedures are available in convenient settings, such as independent imaging centers. In addition, patient outcomes— from fewer complications to saved lives—are dramatically improved.

And we are not at the end of our journey, yet! The ***“Next Generation” of Medical Imaging is just here out of the integration and cross-disciplinary use of NanoMedicine, Pharmacological breakthroughs, Biotechnologies for healthcare and ICT combined with standard Medical Imaging evolution.***

Cross-Disciplinary, Scientific Issues

Molecular imaging and image-guided therapy are now basic tools for monitoring disease and in developing almost all the applications of in vivo nanomedicine.

Molecular imaging has had a late start in Europe. One of the challenges has been to define research partnerships between the imaging industry and the contrast agent industry, which bring complementing competencies to the table.

The convergence of nanotechnology and medical imaging opens the doors to a revolution in molecular imaging (also called nano-imaging) in the foreseeable future, leading to the detection of a single molecule or a single cell in a complex biological environment.⁴

Besides the use of nano-agents for in vivo imaging of molecules or cells, the use of nanoscale agents for diagnosis and manipulation ***may lead to an improvement of surgical techniques in the clinic.*** This may be achieved, for example, through a better mapping of cancer distribution using near-infrared imaging and applying photothermal therapy or heat treatment, the characterisation and non-destructive removal of cells or tissue in a specific area, the tracking of specific cell types used in therapy, as well as the visualisation of ***bio-therapeutic agents.***⁵

E-health, data management, telemedicine, and networking rely on the acquisition, management, analysis and exchange of biotech/life science data and on the integration of this data with information from clinical sources. To determine which procedures and clinical protocols are most effective, ***it is crucial to understand the underlying relations and patterns in this collected data.***

- Data-acquisition and -processing by micro- and ***nano-bio-systems requires specific investment in data mining, data integration and data presentation.***

⁴ “Nanomedicine: Nanotechnology for Health”; ETP; Strategic Research Agenda for Nanomedicine; Research DG; 2006

⁵ “Nanomedicine: Nanotechnology for Health”; ETP; Strategic Research Agenda for Nanomedicine; Research DG; 2006

- Tools are required for microarray analysis, both for gene expression levels and genotype analysis, to enable detection of new types of interactions and cell networking.
- Production of accurate, validated and calibrated quantitative results will require **new specialised centres for data analysis and interpretation**.
- The **management of data** from in vitro diagnostics **should also be integrated** with other analytical data of the patient coming from other instruments.

Modelling and computational tools are required to improve the design and manufacturing of devices with molecular constituents such as proteins and nucleic acids. **Computer simulation represents a useful tool for technological investigation**. Computer models of micro and nano-bio-systems are tuned for the identification of the fundamental characteristics of the processes. More potently, they allow quantitative tests of a given theory and also allow the reconstruction of a process on the basis of a set of responses to stimulations. In-silico tools should simulate the interaction between artificial and biological constituents.

In parallel to technological development, new diagnostic markers specific to diseases have to be identified so that in vitro diagnostic techniques can enable an earlier and personalised diagnosis for patients. Development of nanotechnology-based tools for recognising specific markers, **will provide accurate diagnosis not only at an early disease stage, but also before onset of symptoms**, where diagnosis is the first step in treating patients with the most appropriate therapeutic protocols.

The ultimate objective of in vivo imaging is to get highly sensitive, highly reliable imaging techniques usable for diagnosis in personalised medicine for delivering drugs, following their distribution, and monitoring therapy. **This concept is called theranostics (therapy and diagnostics)**, and is based on the “find, fight and follow” approach.

As the pharma industry continues to experience rising research costs, drug failures and low returns on investment, companies who are increasingly facing major patent expiries and scarcely populated late-stage pipelines have accelerated efforts to enhance the speed and efficiency of drug research. **Translational science has emerged** as a concept that is set **to revolutionise the traditional R&D paradigm by integrating drug discovery and development**, areas with previously limited interaction. The primary goals of this approach are to terminate unsuccessful compounds earlier in their development, improve confidence in human drug targets and enhance cost-effective decision-making. **Translational Medicine in Biopharmaceutical R&D examines how translational medicine can positively influence the impact of biomarkers, innovations in clinical trial designs and the ICT systems that support these functions**.

Integrated / Trans-national Approach

Western Societies have recognized **healthcare as a strategic infrastructure and key asset**, defined as the framework of interdependent networks and systems comprising identifiable industries, institutions (including people and procedures), and distribution capabilities that provide a reliable flow of products and services essential to the defense and economic security, the smooth functioning of government at all levels, and society as a whole.

Much R&D and disruptive innovation is needed in the fields of nanomedicine –including pharmaceutical developments-, biomedical imaging and related ICT to bring radical improvements to the quality and efficiency of our healthcare systems, across Europe, by improving productivity, facilitating patient care at the point of need and promoting health information processing and quicker transfer of knowledge to clinical practice.

Research on all these fields is unusually spread across regional, national, industrial, clinical and academic sectors. For real progress improved co-ordination and communication is required between all parties.

Unfortunately, the healthcare sector is quite diverse and collaboration has been difficult as a result, so the challenge is to build expertise in the development of integrated systems that address unmet clinical needs while providing a solid and consistent network of R&D + Innovation groups.

As identified by Regions of Knowledge in one of its studies, ***one of the challenges that Europe faces is the critical view on the definitive role of spatial proximity in explaining industrial success of capacity to innovate or conduct R&D.*** The critical view on the definitive role of spatial proximity in explaining industrial success of capacity to innovate or conduct R&D. This could be the case despite the widely adopted fact that proximity makes the processes of knowledge and technology transfer, mobility of experts and collective learning easier. In the operating environment of continuing globalization and increasing internationalization of STI, the literature (though containing mixed views) indicates that there is a close national and local association between research and its exploitation. It seems that especially the transfer of tacit knowledge requires geographical proximity and personal face-to-face contacts that makes it possible to build up social capital and cohesion⁶.

But with modern ICT technologies and the strategic market analysis performed ...

..co-ordination and integration of Research-Driven Clusters under the so called “Triple Helix III approach (the institutional spheres of university, industry, and government, in addition to performing their traditional functions, each assume the roles of the others) is a must in order to achieve the growth and competitiveness opportunities that Advanced Medical Imaging brings to the European society.

Thus, the AMI-4EUROPE Consortium comprises a well-balanced group of partners that covers 5 Regions in the EU27 countries plus 1 more in Bosnia and Herzegovina.

Socio-Economic and Cost-related Issues

Medical Imaging is growing at roughly the same rates as other areas of health spending. Unfortunately, the off-setting savings created by imaging—through less-invasive care, quicker recovery, and fewer complications—tend to be overlooked in assessments of growth in imaging spending.

The ageing population, the high expectations for better quality of life and the changing lifestyle of

⁶ “Regional Research Intensive Clusters and Science Parks”; Regions of Knowledge; EUROPEAN COMMISSION Directorate-General for Research. 2007

European society call for improved, more efficient and affordable health care.

This, raises the questions of: **How much do we have to spend in Healthcare?; Is this model sustainable or not?; Do we have to take a expenditure reduction/ cost-savings approach?**

Hence, it is clear that **Europe** [and the western societies as a whole] **faces a huge challenge to improve healthcare systems while not getting into a non-sustainable economic framework**, specially on this period of economic downturn we are experiencing.

Therefore, **drivers and enablers of such a sustainable and cost-saving approach are very much needed. Advanced, Cross-disciplinary and Integrated Medical Imaging is, certainly, one of them.**

Part of the complexity in understanding **the increased use and spending associated with Medical Imaging** is that such increases are not always associated with higher costs. Indeed, they **often lead to new efficiencies and cost savings; more utilization of imaging is better, not worse, because it represents cost-savings.**

NanoMedicine is not only important to Europe from the social and welfare aspects, but also for its economic potential. The medical devices market is expected to grow in value by about 9% annually at present. **The introduction of novel nanotechnologies can be expected to give rise to a much higher rate, by providing innovative solutions and more precise care and new information for preventive medicine.** The market can be further segmented into areas where NanoMedicine might have the highest potential of penetration, such as in-vitro diagnostic products, patient monitoring systems, imaging systems or imaging contrast agents.

In a medical devices market of € 145 billion in 2003, in-vitro diagnostic systems represented € 18 billion, or 13% of the total. It can be expected that nanotechnology will have an impact on this expanding market in the coming years, as it offers the potential of faster and more accurate analyses of smaller and smaller samples. **Medical imaging systems represent € 14.5 billion, or 8% of the total devices market. Imaging tools and imaging agents (including contrast media and radiopharmaceuticals) represent € 4 billion, or 3%.** These segments will benefit from the application of techniques developed from an understanding both of materials and cellular activities at the nanoscale.

Already the sale of tools dedicated to molecular clinical and pre-clinical imaging represents € 0.8 billion out of the **€ 14.5 billion total**, and **the patient monitoring market represents € 1.5 billion.**

NanoMedicine can also potentially affect aspects of all medical devices, for example new materials for surgical implants, nanometric systems for monitoring cardiac activities or minimally invasive surgery sensors.

The worldwide market for pharmaceutical drugs has been growing at a rate of 7% in 2004. **The pharmaceutical drug market can be segmented, with the global market for advanced drug delivery systems accounting for € 42.9 billion or 11% of the total.** Approximately half of this market is in controlled release systems, with needle-less injection, injectable / implantable polymer systems, transmucosal, rectal, liposomal drug delivery and cell/gene therapy responsible for the rest and is estimated to reach **€ 75 billion in 2005.**



Developments in this market are rapid; especially in the sector of alternatives to injected macromolecules, as drug formulations seek to cash in on the € 6.2 billion worldwide market for engineered protein and peptide drugs and other biological therapeutics.

When reviewing the economic potential of NanoMedicine, all the biotech companies must be considered as they are directly involved in the development of new molecules, and also in the development of new tools for accelerating the discovery of appropriate molecules. Today half of the new molecules discovered worldwide come from biotech companies.

There are more than 4,000 worldwide, with over 300 **companies** in the US **actively working on developing drug-delivery platforms,** including therapies targeted to the site of the disease, as well as drug-containing implants, patches and gels.

Europe has acknowledged strengths particularly in medical devices development and in drug delivery research, and these are clearly areas where the establishment of a European NanoMedicine Platform would contribute to maintaining and improving European competitiveness.⁷

With all data at hand, and despite the economic downfall, the socio-economic impact of Advanced, Cross-disciplinary and Integrated Medical Imaging can be measured in tenths of billion Euros and hundreds of thousands jobs likely to be created in Europe should we take full advantage of the strengths and opportunities we face.

Market-related Strategic Issues

The application and versatility of Medical Imaging modalities are continuing to grow in significance as the population ages and healthcare costs rise. Examinations that can facilitate earlier disease diagnosis and the most appropriate treatment are in order. This bodes well for contrast media markets.

Although the recession may have caused hospitals, physician offices and other institutions to delay or cancel the purchase of imaging equipment, it has not had a significant negative impact on the use of contrast agents with the equipment already on hand. Specifically, **annual growth for medical contrast media during the next five years appears to be strong, despite the recession slowing capital equipment purchases.** Imaging exams are still needed for many diagnoses, and contrast enhancement facilitates diagnosis in many cases⁸.

Growing global population, increased ageing of the population, chronically ill people and increasing awareness and need for medical services are all driving the growth of medical imaging market. **Advanced imaging technologies and increased adoption of digital imaging has increased consumer expenditure on medical imaging services.** On the other hand, **huge R&D costs have resulted in pricing pressure on the manufacturers.**

⁷ Economic Impact of Nanotechnology Based Healthcare Including Medical Devices, Medical Imaging and Pharmaceuticals. Source: European Commission

⁸ “Medical Imaging Markets: Contrast Agents”; Kalorama; 2009

General Electric (GE), Siemens, and Philips dominate the Medical Imaging market, with approximately 75% share of the worldwide market. GE remains the undisputed leader of medical imaging. Philips and Siemens are now allocating increased amounts of capital to healthcare⁹.

With this, “oligopolic market” controlled by very large multinational companies; the “decision and R&D centers” mainly located in the USA and a disperse and non-integrated European stakeholder base, the only sensible and reasonable....

... approach to take is to co-ordinate, integrate and set up a newly defined EU-based Value Chain on Advanced, Cross-disciplinary and Integrated Medical Imaging by taking full advantage of all strengths that European stakeholders have while targeting the market niches that are arising as the Next Generation Medical Imaging unfolds itself out of the convergence of Nanomedicine, Pharmaceutical and Biotechnologies for healthcare and taking advantage of the ICT developments.

More specifically, AMI-4EUROPE project has the *following S&T objectives*:

1. Provide a comprehensive, authoritative, evidence-based, quantitative and qualitative study on the overall state-of-play in Medical Imaging in Europe.

More specifically, AMI-4EUROPE has supported the following actions:

- a) **Map and identify** all relevant “*non-scientific*” **stakeholders** in this field related to the project’s outcomes and strategic goals and targets.
- b) Perform a comprehensive and evidence-based **Socio-economic SWOT** (Strengths, Weaknesses, Opportunities and Threats) **Analysis** of the Regions, Research-Driven Clusters, Member States, Countries, EU Medical Imaging Sector and rest of interested parties and Stakeholders in terms of their capacity to produce the expected boosting of the regional competitiveness and growth at European level.
- c) Identify **key elements that determine success or failure** on achieving targets and objectives
- d) Identify **key drivers and opportunities for the development of such initiatives and programmes**
- e) Start identifying **current barriers to regional economic development and European Regional and SMEs’ increased** share and active participation in the Health-related economy related to AMI activities.
- f) **Assess its impact on the economy and on social and environmental issues.**
- g) **Perform a Value Chain Analysis** of the Medical Imaging Sector in Europe
- h) **Develop market-entry and market expansion strategies** by identifying the emerging market categories and geographic markets poised for strong growth
- i) Carry out a **benchmarking analysis** regarding the impact of Medical Imaging in the European Regions and, in particular, the Regions involved in the project. This **set of suitable indicators** will allow the development of common references for the later analysis of the overall situation.
- j) **Identify key regional socio-economic actors and players best positioned** to take advantage of the emerging market opportunities by developing insight on the prevalent and anticipated competitive landscape.

⁹ “Demographic Trends Driving Medical Imaging Market”; Konzept Analytics - 2007

- k) **Identify, understand and capitalize on** complementarities among research-driven clusters –both emerging and mature-, RTD infrastructure sharing, access to private and/or public funding schemes, skills and knowledge-transfer enhancement, etc.
- l) **Be able to make more informed business decisions** from the insightful and in-depth analysis of the global and European Medical Imaging market and the factors shaping it.

This approach not only include “scientific” issues related to this RTD field but also a full analysis on “non-scientific” stakeholders, programmes, initiatives, policies and regional strategies that may assist the collaboration between research on Medical Imaging, NanoMedicine, Biotechnologies and ICT for Health.

2. Structure and Define what Advanced, Cross-Disciplinary and Integrated Medical Imaging (AMI) is all about.

The challenge here is to build expertise in the development of integrated systems designed to address unmet clinical, patient, industry and social needs facilitating not only a solid and consistent network of RTD and innovative key stakeholders but also identify and take full advantage of the market niches within the Value Chain that will allow greater and more efficient socio-economic impact at regional and European level. The final target being to mobilise these minority and un-active European MI industry (mainly SMEs) will require paying special attention to SWOT analysis while developing strategies to enter niche-markets that will appear as MI evolves into AMI.

More specifically, AMI-4EUROPE has supported the following actions:

- a) Clearly define, **structure and organize the different RTD fields needed for current Medical Imaging (MI) to evolve into** Advanced, Cross-Disciplinary and Integrated Medical Imaging (**AMI**)
- b) **Map and identify all relevant “scientific” stakeholders** in this field related to the project’s outcomes and strategic goals and targets.
- c) Perform a comprehensive and evidence-based **RTD SWOT** (Strengths, Weaknesses, Opportunities and Threats) **Analysis** of the Regions, Research-Driven Clusters, Members States, Countries, EU Medical Imaging Sector and rest of interested parties and Stakeholders in terms of their capacity to produce the required breakthroughs and changes for Medical Imaging to evolve to AMI.
- d) **Analyse and Roadmap how** on-going and future Research **Agendas and activities of** involved and likely-to-be-involved-in-the-future **Research-Driven Clusters can be better integrated and co-ordinated to maximize synergies** and opportunities for mutual learning and exchange of best practices and lessons learned among them thus maximizing regional competitiveness and socio-economic impact.
- e) **Analyse and Roadmap how AMI activities derived from the previous objectives can be aligned and co-ordinated with** existing European Technology Platforms (**ETP**), Joint Technology Initiatives (**JTI**) and **other European Projects and Initiatives related to Nanotechnologies, Biotechnologies and ICT for Health.**

3. Define the AMI-4EUROPE Joint Action Plan.

This Joint Action Plan (JAP) is to describe our strategy to drive and boost regional [and European] economic development and efficiency through research, technological development, networking, synergy searching, improved trans-national co-operation and **full exploitation of the SWOT analysis results** in the field of Advanced, Cross-Disciplinary and Integrated Medical Imaging, comprising NanoMedicine, Biotechnologies and ICT for Health.

Furthermore, the Consortium has decided not only to come up with the JAP for Advanced Medical Imaging in Europe on its own but **also to provide a full supportive package in terms of a comprehensive Business Plan and related measures to help support, facilitate and align the implementation beyond RoK funding and Regional Authorities initial commitment.**

More specifically, AMI-4EUROPE has supported the following actions:

- a) Define and publish the **AMI-4EUROPE JAP**
- b) Define and Publish the **AMI-4EUROPE JAP Business Plan containing**
 - Detailed **Financing Plans for all JAP activities**
 - Comprehensive **Balance Scorecard** to keep track of Key Process Indicators (**KPIs**) as well as to assure strategic and operational alignment and the **capacity to Benchmark**.
 - Consideration of different policies across EU to provide recommendations for redefined innovation measures, support services, networks as well as to **enhance synergies between different policies such as public procurement and pre-commercial procurement** to foster regional competitiveness as well as SMEs' participation in "innovation procurement" at its earliest stages.
 - **Full integration with any other Regional / National / European initiatives and programmes** to increase overall innovative capacity of European AMI and health-related industries, businesses and regional players
- c) **Begin implementing the AMI-4EUROPE JAP** by:
 - Defining, developing and implementing all appropriate activities for the **setting up of, at least, two new regional research-driven clusters on AMI**, one in the NordEst Region in Romania and the other in the Republika Srpska in Bosnia and Herzegovina. **By the end of AMI-4EUROPE time, both Clusters should be formally and legally established in their respective Regions/Countries and in full operation** with a minimum membership as per the "founding partners" included in this Consortium.
 - **Setting up a permanent scheme and roadmap for other "research-driven clusters to-be" in Europe and similar INCO co-operation activities** to benefit from the outcomes and activities of AMI-4EUROPE.

4. To start creating “AMI Infrastructure” to support a quick and full development and implementation of AMI for maximum socio-economic impact.

To that extent, besides striving to be “the seed” for the *European Cluster for Advanced Medical Imaging*, another of the key strategic objectives concerning the dissemination and exploitation activities within AMI-4EUROPE is the implementation of a Thematic Platform for Advanced, Cross-Disciplinary and Integrated Medical Imaging (*AMI-TP*) to hold in just one single “central place” the *AMI DataWarehouse* and the *AMI BackOffice*.

More specifically, AMI-4EUROPE has supported the following actions:

- a) **Set up** and bring into operation the *AMI-TP Platform*
- b) Create and maintain the *AMI Central DataWarehouse*
- c) Create and maintain the *AMI BackOffice*
- d) **Liase with the rest of Projects funded under this FP7-2010-REGIONS-1 call** in support of boosting of the health-related economy.
- e) **Establish contacts and information exchange mechanisms** with projects, initiatives, European, National and Regional stakeholders and networks aiming at promoting the advanced R&D and innovation activities in the Advanced Medical Imaging sector and, by extension, on the Health-related economy.
- f) **Raise the awareness of the target groups** concerning the activities of the AMI-4EUROPE project **not only on the initial phase** covering the analysis and integration of research agendas of actors in Regional research-driven Clusters and JAP definition **but also on** the following **Mentoring, International Co-operation** and definition of measures towards the *implementation of the JAP and their sustainability* (European AMI Cluster and Lobby).
- g) **Disseminate the good practices and lessons learned** and the Advisory Council on AMI recommendations and action plans towards National and European decision and policy makers dealing with AMI and Health-related economy relevant stakeholders.
- h) **Promote synergies** among the communication and dissemination actions and to facilitate the dialogue between the future partners of different organizations.

1.3 Description of the main S&T results/foregrounds

According to the Objectives of the project, each work package has fully met its own objectives presented in section 4.1.2.

Details of achievements as well as the involvement of the partners have been detailed in the two PERIODIC REPORTS. This section includes a summary of these achievements and results.

Through the work done in Work Package 2, AMI-4EUROPE has reached the following specific objectives, as detailed in the corresponding deliverables:

- **Perform a Value Chain Analysis** of the Medical Imaging Sector in Europe
- **Develop market-entry and market expansion strategies** by identifying the emerging market categories and geographic markets poised for strong growth
- Carry out a **benchmarking analysis** regarding the impact of Medical Imaging in the European Regions and, in particular, the Regions involved in the project. This **set of suitable indicators** will allow the development of common references for the later analysis of the overall situation.
- **Identify key regional socio-economic actors and players best positioned** to take advantage of the emerging market opportunities by developing insight on the prevalent and anticipated competitive landscape.
- **Identify, understand and capitalize on** complementarities among research-driven clusters –both emerging and mature-, RTD infrastructure sharing, access to private and/or public funding schemes, skills and knowledge-transfer enhancement, etc.
- **Be able to make more informed business decisions** from the insightful and in-depth analysis of the global and European Medical Imaging market and the factors shaping it.

Deliverables, which contain the basis of this work, are the following:

D2.1	Value Chain Analysis of the Medical Imaging Sector in Europe
D2.2	Roadmap and Recommendations for Cluster set-up and development on AMI issues at regional / national level Report
D2.3	Current State-of-Play of Medical Imaging in Europe Report

Through the work done in Work Package 3, AMI-4EUROPE has reached the following specific objectives, detailed in the corresponding deliverables:

- Provide an authoritative, **evidence-based, quantitative and qualitative Socio-economic SWOT analysis** of the current European, National and Regional situation of **existing initiatives, programmes, policies and regional strategies** aiming at boosting research and to increase regional socio-economic impact and competitiveness.
- **Map and identify** all relevant **“non-scientific” stakeholders** in this field related to the project’s outcomes and strategic goals and targets.

- Identify **key elements that determine success or failure** on achieving targets and objectives
- Identify **key drivers and opportunities for the development of such initiatives and programmes**
- Start identifying **current barriers to regional economic development and European Regional and SMEs' increased** share and active participation in the Health-related economy related to AMI activities.
- **Assess its impact on the economy and on social and environmental issues.**

Deliverables, which contain the basis of this work, are the following:

D3.1	Methodological Workbook and Work Plan
D3.2	Compendium of research and innovation programmes and initiatives
D3.3	“Non-Scientific” Stakeholders, Programmes, Initiatives, Policies and Regional Strategies Analysis Report (1 per Region/ Country; Research & Integration Area; Strategies and Tools)
D3.4	Final EU AMI in Support of Health-related Economy and Regional Competitiveness Analysis Report
D3.5	Final AMI Socio-Economic SWOT Analysis Report

Through the work done in Work Package 4, AMI-4EUROPE has reached the following specific objectives, detailed in the corresponding deliverables:

- Clearly define, **structure and organize the different RTD fields needed for current Medical Imaging (MI) to evolve into** Advanced, Cross-Disciplinary and Integrated Medical Imaging (**AMI**)
- **Map and identify all relevant “scientific” stakeholders** in this field related to the project’s outcomes and strategic goals and targets.
- Perform a comprehensive and evidence-based **RTD SWOT** (Strengths, Weaknesses, Opportunities and Threats) **Analysis** of the Regions, Research-Driven Clusters, Members States, Countries, EU Medical Imaging Sector and rest of interested parties and Stakeholders in terms of their capacity to produce the required breakthroughs and changes for Medical Imaging to evolve to AMI.
- **Analyse and Roadmap how** on-going and future Research **Agendas and activities of** involved and likely-to-be-involved-in-the-future **Research-Driven Clusters can be better integrated and co-ordinated to maximize synergies** and opportunities for mutual learning and exchange of best practices and lessons learned among them thus maximizing regional competitiveness and socio-economic impact.
- **Analyse and Roadmap how AMI activities derived from the previous objectives can be aligned and co-ordinated with** existing European Technology Platforms (**ETP**), Joint Technology Initiatives (**JTI**) and **other European Projects and Initiatives related to Nanotechnologies, Biotechnologies and ICT for Health.**

Deliverables, which contain the basis of this work, are the following:

D4.1	List of “Scientific” Stakeholders
D4.2	Methodological Workbook and Work Plan
D4.3	Implementation of Events identified in Work Plan
D4.4	1 st . AMI-4EUROPE CONFERENCE
D4.5	Final Structure and Definition Of “Advanced, Cross-Disciplinary & Integrated Medical Imaging” (AMI) Report
D4.6	Final AMI RTD SWOT Analysis Report
D4.7	AMI Portal Database with stakeholders, AMI definition and structure and AMI RTD SWOT Analysis

Through the work done in Work Package 5, AMI-4EUROPE has reached the following specific objectives, detailed in the corresponding deliverables:

- The main objective of this WP was for Consortium Partners **to define a Joint Action Plan (JAP)** that describes AMI-4EUROPE’s strategy to drive and boost regional [and European] economic development and efficiency through research, technological development, networking, synergy searching, improved trans-national co-operation and full exploitation of the SWOT analysis results **in the field of Advanced, Cross-Disciplinary and Integrated Medical Imaging, comprising NanoMedicine, Biotechnologies and ICT for Health.**

Deliverables, which contain the basis of this work, are the following:

D5.1	Final AMI-4EUROPE Joint Action Plan
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Through the work done in Work Package 6, AMI-4EUROPE has reached the following specific objectives, detailed in the corresponding deliverables:

- Detailed **Financing Plans for all JAP activities**
- Comprehensive **Balance Scorecard** to keep track of Key Process Indicators (**KPIs**) as well as to assure strategic and operational alignment and the **capacity to Benchmark.**
- Consideration of different policies across EU to provide recommendations for redefined innovation measures, support services, networks as well as to **enhance synergies between different policies such as public procurement and pre-commercial procurement** to foster regional competitiveness as well as SMEs’ participation in “innovation procurement” at its earliest stages.
- **Full integration with any other Regional / National / European initiatives and programmes** to increase overall innovative capacity of European AMI and health-related industries, businesses and regional players

- **Set up and conformation of the ADVISORY COUNCIL on AMI.** The Advisory Council on AMI is a group of experts (not too large in number to keep it fully operational) that will have meetings every 6 months further to its inaugural and constitution meeting. The Council is to advise and to provide guidance and recommendations to the DG RESEARCH, DG REGIO; DG Enterprise and Industry; DG RTD; DG INFSO and rest of Health-related policy-makers at all levels (regional / national / transnational). This council will be mainly conformed by a number of experts from the different stakeholders involved in AMI-4EUROPE [refer to WP2, WP3 and WP4] and its partners plus some key experts from other sources, projects and on-going initiatives, such as PRO INNO Europe and Europe INNOVA, among many others, that will complete the vision of the Council.

Deliverables, which contain the basis of this work, are the following:

D6.1	Financial Planning Guide for JAP Implementation
D6.2	AMI-4EUROPE Balance Scorecard and set of KPIs
D6.3	AMI-4EUROPE Business Plan
D6.4	Advisory Council on AMI Vision and Mission document
D6.5	Advisory Council on AMI's Strategic Agenda and key objectives
D6.6	Minutes of the meetings of the Council
D6.7	Recommendations on positive policies for the enhancement of regional competitiveness by boosting the Advanced Medical Imaging and health-related economy in Europe.
D6.8	Advisory Council on AMI's mid and long-term operational sustainability Report

Through the work done in WorkPackage 7, AMI-4EUROPE have reached the following specific objectives, based on deliverables.

- Define, develop and implement all appropriate activities for the **setting up of, at least, two new regional research-driven clusters on AMI**, one in the NordEst Region in Romania and the other in the Republika Srpska in Bosnia and Herzegovina. **By the end of AMI-4EUROPE time, both Clusters should be formally and legally established in their respective Regions/Countries and in full operation** with a minimum membership as per the "founding partners" included in this Consortium.
- **Set up a permanent scheme and roadmap for other "research-driven clusters to-be" in Europe** to benefit from the outcomes and activities of AMI-4EUROPE.

Deliverables, which contain the basis of this work, are the following:

D7.1	Initial Analysis Report on NordEst Region in Romania and the Republika Srpska in Bosnia and Herzegovina
D7.2	Regional SWOT on Capacity Building and Value Chain Analysis Report on NordEst Region in Romania and the Republika Srpska in Bosnia and Herzegovina
D7.3	Template of common issues to consider for other Regional Research-driven Clusters to-be
D7.4	SRA for NordEst Region in Romania Cluster on AMI
D7.5	SRA for the Republika Srpska in Bosnia and Herzegovina Cluster on AMI
D7.6	Reports on 3-day Inauguration Workshops (1 per Region)
D7.7	Reports on on-site learning and knowledge exchange activities

Through the work done in Work Package 8, AMI-4EUROPE has reached the following specific objectives, detailed in the corresponding deliverables:

- To **liaise with the rest of Projects funded under this FP7-2010-REGIONS-1 call** in support of boosting of the health-related economy.
- To **establish contacts and information exchange mechanisms** with projects, initiatives, European, National and Regional stakeholders and networks aiming at promoting the advanced R&D and innovation activities in the Advanced Medical Imaging sector and, by extension, on the Health-related economy
- To **raise the awareness of the target groups** concerning the activities of the AMI-4EUROPE project **not only on the initial phase** covering the analysis and integration of research agendas of actors in Regional research-driven Clusters and JAP definition **but also on** the following **Mentoring, International Co-operation** and definition of measures towards the *implementation of the JAP and their sustainability* (European AMI Cluster and Lobby)
- To **disseminate the good practices and lessons learned** and the Advisory Council on AMI recommendations and action plans towards National and European decision and policy makers dealing with AMI and Health-related economy relevant stakeholders.
- To **promote synergies** among the communication and dissemination actions and to facilitate the dialogue between the future partners of different organizations.

Deliverables, which contain the basis of this work, are the following:

D8.1	Project Website (initial version, up and running)
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D8.2	Project Website (refined and improved version, up and running)
D8.3	AMI-TP Platform (initial version, up and running)
D8.4	AMI-TP Platform (refined and improved version, up and running)
D8.5	Report on 2 nd . AMI-4EUROPE Conference
D8.6	Report on 3 rd . AMI-4EUROPE Conference
D8.7	Reports on National Events (≥ 1 per Region / Member State / Country)
D8.8	Final Report on Dissemination Activities
D8.9	Report on Clustering with Projects and Initiatives

1.4 Potential impact

The whole project intended since the beginning to be a future-proof source of HIGH VALUE ACTIVITIES to ensure future IMPACT. This is why the JAP (Joint Action Plan) has been completed with REAL and CONCRETE actions, with a measurable IMPACT in society and Medical Imaging industry.

Furthermore, implementation of the AMI-4EUROPE JAP will take place within the Multiannual Financial Framework 2014-2020 where the Key Challenge is to stabilize the financial and economic system while taking measures to create economic opportunities. Thus, an additional effort is to be made to assure mid and long-term sustainability and synergy searching to allow for real and complete JAP implementation.

The JAP has been developed and structured combining both, scientific as well as non-scientific issues while having in mind a European-wide dimension to reach and achieve Key Strategic Objectives, which are organized along the stated priorities within the Horizon 2020 approach. This structure and mission, ensures itself the impact in European Market and Policies.

To create the appropriate environment to ensure results, the key issues facing the development of Advanced Medical Imaging across Europe as well as their related strategies (considered in detail in D3.5 and D4.6) are summarized in two SWOT charts, which are the ground basis to develop the AMI-4EUROPE Joint Action Plan. See AMI-4EUROPE deliverables for detailed information.

The potential impact in Europe to be achieved has been identified through a set of 13 ACTIVITIES and 40 ACTIONS, all of them with their corresponding Business Plan defined in D6.1, D6.2 and D6.3.

The following summary table compiles the Activities and Actions on AMI-4EUROPE Joint Action Plan:

ACTIVITY	ACTIONS
1. Promoting AMI Sector in the regions (in relation to the target group)	
	1.1 International Conferences, Symposiums an Workshops on AMI and involvement of regional, national & European authorities and media
	1.2 Contacting European civic participation organizations to emphasize AMI related themes
	1.3 Public campaign dedicated to increase the awareness of medical imaging importance in the early diagnosis of high risk diseases (targeted to public and non-scientific stakeholders). This includes articles and brochures for doctors' offices
2. Structured exchange of research resources	
	2.1 Set up of an ERA-NET on shared research infrastructure for AMI (see ERA-NET TRANSVAC as an example)

	2.2 Creation of Virtual Knowledge Laboratories to integrate specific MI projects into the research departments in the regions involved
	2.3 Virtual mapping of research infrastructures for easier sharing procedures
3. Increase funding for AMI	
	3.1 AMI advisory council will organize lobbying for AMI related themes for European funded programmes
	3.2 Publication of financing & funding related guidelines from the AMI project
	3.3 Promote combinations of different funding & financing modes
	3.4 Creation of a dedicated fund for Advanced Medical Imaging (financed by EIB)
	3.5 Establishing a main event for identifying financing opportunities between companies (SMEs)/ researchers and private investment in the field of MI
4. Improve entrepreneurial exploitation of research results	
	4.1 Analysis of regional foundation support and different exploitation models
	4.2 Develop universal concept for events focusing on business plans, financing business ideas, potentials of internationalization
	4.3 Develop new modes and models for economic exploitation
	4.4 Establishing a main event for identifying cooperation opportunities between companies (SMEs) and researchers in the field of MI
5. Implementation of a regional strategy for innovation (regional networking)	
	5.1 Foster networking of regional institutions in favor of AMI by establishing regional technology platforms (clusters)
	5.2 Initiate new collaboration projects between SMEs and public institutions
6. Strengthen international collaborations	
	6.1 AMI advisory council identifies programs of interest, to set up consortia and to complete applications

	6.2 AMI Data Warehouse website used for partner search and identification of consortia
	6.3 Strengthen IPC project for AMI
	6.4 Implement a permanent European Cluster targeted on SMEs requirements on MI
7. Include medical imaging sector as priority in the national strategic documents	
	7.1 Promoting the inclusion of the medical imaging sector as priority measure in the national strategic documents and thus contributing to increased funding dedicated to upgrading the technical endowments of the public hospitals
8. Improve knowledge of human resources	
	8.1 Rise investments toward personnel training, including medical staff such as physicians, nursing staff and support staff (chemists, biologists, physicians, specialists in IT) on using new medical imaging technologies for diagnosis and treatment
	8.2 Contact medical imaging SMEs and make agreements for hosting students to make their practical stages in the Medical Imaging field
	8.3 Developing training courses for MI researchers on economic issues and founding companies provided by a central European advisory council on AMI
	8.4 SMEs have to be informed about modern Human Resource Management (motivation). Organization of courses in cooperation with experts (e.g. Human Resource Institute of a University)
	8.5 Regional education courses for the regional cluster management about possibilities of funding.
	8.6 Training courses based on virtual learning platforms for medical imaging
9. Develop or changes in healthcare systems/ habit of health insurance funds	
	9.1 Implementation of a PACS system (Picture Archiving and Communication System) web based, which enabled physicians to gain access to all imaging procedures performed for the same patient.
	9.2 Change of legislation

	9.3 Participation of representatives of Health Insurance Funds in Conferences etc. about Advanced Medical Imaging
10. Optimize licensing procedures and knowledge	
	10.1 Documentation of the whole licensing process in the European regions including the identification of bottlenecks and blueprints to optimize the procedure by an agency in a report
	10.2 Increase of the competences of licensing in university, research institutes, SMEs and Start-ups through free training courses on the thematic
11. Optimized recruiting processes for MI related staff	
	11.1 Organization of "speed dating" events for "young talents" in medical imaging
	11.2 Creation of an online "job-fair" by regional contact points (clusters) in the field of MI, where SMEs, research organizations etc. can post employment ads and vice versa.
	11.3 Regional campaigns on informing students about the possibilities to have a career at the Medical Imaging market.
12. Strengthening tights to software industry	
	12.1 Changing regulations/guidelines for a consistent and homogenous production and implementation of software products that match with Imaging Technologies
	12.2 Process of coordination together with stakeholders of both sides (communication of needs, challenges and developments in the context of meetings, round-tables, presentations, one-on-one meetings, questionnaires, etc.)
	12.3 Political action and legislation on software compatibility in MI products
13. Promote the innovation and entrepreneurship culture in AMI	
	13.1 Detection of innovation niches and primal AMI clusters, define a clear policy for enrich the entrepreneurship: business strategy aligned with market interest, trends and funding, create and promote inter-country projects putting the effort on translate the knowledge into products according with new innovation strategies for regions.



While some of the initiatives and activities included in the JAP have been implemented throughout the active timeframe of the project, some of them will be implemented at a later stage by the identified stakeholders and under the leadership and guidance of the AMI Advisory Council.

Fostering trans-national co-operation between research-driven clusters, improving links between regional authorities, RTD actors and local business communities at a European level for an integrated and cross-disciplinary approach for advanced Medical Imaging will boost regional economic competitiveness in the health-related economies thus creating more jobs, growth and social welfare.

AMI-4EUROPE has set up the ground base to mobilize European health-related economy stakeholders to the creation of an environment in which enterprises can start, grow and thrive, thus supporting the competitiveness and sustainable development in the advanced Medical Imaging market that Europe requires.

Patents, new medical devices, start-ups and spin-offs generating new employment will appear quicker and sounder as a result of this trans-national and integrated approach. The creation of an “AMI infrastructure” to support all regional and national efforts, stakeholders and interested parties to a quick and full development and implementation of AMI will guarantee the maximum socio-economic impact.

AMI-4EUROPE has created and established the appropriate mechanisms and elements to derive policy recommendations to remove barriers and to foster the development of a wider and more solid base of regions active in advanced research and innovation activities in the field of advanced medical imaging.

To close a full circle, the identified Key Performance Indicators (KPIs) can be directly traced back to the primary objectives of the Programme HORIZON 2020 as it is explained in D6.3, where an illustrative graphic chart has been included (including the Market Impact). The aimed impact of AMI-4EUROPE is in line with the objectives of HORIZON 2020.

The ADVISORY COUNCIL (ADCO) ROLE:

AMI-4EUROPE ADVISORY COUNCIL is created to ensure the continuity of the developments and recommendations identified within the project, which are defined in the JAP and the associated Business Plan.

The key activities of the Advisory Council are:

- a) To enhance synergies between different policies such as public procurement and pre-commercial procurement to foster regional competitiveness as well as SMEs’ participation in “innovation procurement” at its earliest stages.
- b) To provide recommendations for redefined innovation measures, support services and networks to focus research on market, services and innovative steps in addition to research in production or on enabling technologies.
- c) Discussion forum on AMI objectives, development and innovative research.
- d) To provide content for the dissemination activities that AMI-4EUROPE will celebrate in order to disseminate its recommendations and strategic plans on the benefits of AMI and the Health-related economy.

- e) To communicate the results of the actions derived from the project to authorities, industry and end users, at regional, national and international level.
- f) The implementation, controlling and updates of the Business Plan (Activities and Actions of the JAP) could be a perfect organizational help to structure the AMI ADCO work and it should be carried out by the AMI ADCO and its operational groups.
- g) Integrative element of policies, ideas and innovation in Advanced Medical Imaging.

During the project, one of the main aims of AMI-4EUROPE was the setting-up of two research driven clusters, one in the North-East Region in Romania and one in the Republic of Srpska in Bosnia & Herzegovina. This task will be continued after the end of the project as part of the compromise of every AMI-4EUROPE partner.

Regarding EXPLOTATION and DISSEMINATION of results, the Dissemination Plan is addressed at two levels DURING and AFTER the project:

1. Regional awareness raising and keeping the target groups informed about different regional realities.
2. European level: the trans-regional dissemination of the project results at sharing project results with all European stakeholders as well as to open new dialogues on the future of medical imaging.

The international activities, and in particular the three annual conferences that the project has organised, facilitated the information access to all the key players of the Medical Imaging field. Through stakeholders' feedback and suggestions a growing attention was devoted to the sector both in the perspective of the creation of future innovation policies and to better distribute the available funds.

Most of the partners have an extended network of regional actors with whom they have already worked during their previous experience. Therefore, the regional dissemination has not just considered the regional policy makers, but has also involved a critical mass of industry representatives, business community, researchers and universities, and politicians to ensure a long lasting integration of AMI-4EUROPE results into the regional research, innovation and health-care systems.

In particular, many meetings, conferences and events in general have been achieved to a better presentation of results, during and at the end of the project.

- 1st Kick-off Meeting (Madrid, 24-26 November 2010)
- 2nd Consortium Meeting (Brussels, 9-10 May 2011)
- 3rd Consortium Meeting (Debrecen 30.11-01.12)
- 4th Consortium Meeting (Rome 19 April 12)
- 5th Consortium Meeting (Hannover 18 October 12)
- 6th Consortium Meeting (Debrecen , 26 June 2013)
- Workshops in Madrid (19 June 2011)
- Mentoring Visit + Inauguration of new Cluster in Republic of Srpska (Priedor, Republic of Srpska, Bosnia-Herzegovina, 19-21 June 2012)
- Regional Events in several regions (25 September and 16 October 2013)



- Mentoring visit (Madrid, 21-22 November 2012)
- 1st AMI-4EUROPE Conference (Madrid, 26-28 September 2011)
- 2nd AMI-4EUROPE Conference (Hannover, 28-29 September 2012)
- 3rd AMI-4Europe Conference (Budapest, 26-27 June 2013)

The AMI-4EUROPE project has been driven by the aim to acquire a comprehensive insight into the design, implementation and impact of existing Medical Imaging and associated Health-related Technologies research and innovation support programmes and initiatives in Europe. The scope of this objective is to create the Common Co-ordination and Knowledge Base necessary to enter the identified market niches and then establish appropriate scientific advice and sustainable support mechanisms to assist European Commission (EC), national and regional policy makers to better define a Strategy and show the way for future research actions in favour of AMI, Regions of Knowledge and the European Research Area (ERA), to maximise their socio-economic impact in support of the health-related economy.

Within the AMI-4EUROPE project, INNOVA Észak-alföld Regional Innovation Agency was in charge of the activity of clustering and coordination with Europe INNOVA, PRO INNO Europe and the ETPs, while Madrid Network (Madrid Region Parks and Clusters Network) was in charge of liaising with the rest of projects funded under the FP7-REGIONS-2010-1 Call.

In particular, one of AMI-4EUROPE targets was to establish a close cooperation with the rest of the projects funded under the 2010 Regions of Knowledge Call (FP7-REGIONS-2010-1). The seven projects funded by this Call, which started their execution in the last quarter of year 2010, have the common goal of supporting economic development, including through supporting the emergence of the e-health lead market as defined by the Lead Market Initiative, by boosting the competitiveness of health-related economy. Cooperation between the seven coordinators was encouraged by the European Commission services at the initial stage of the projects. A concrete exchange of information between these coordinators and with the Commission services was requested by a few project coordinators and was launched in the middle of the projects' execution, through the organisation of a meeting in Brussels on 9th March 2012, with the participation of five out of the seven projects and their respective Project Officers, with the involvement of other Officers from the European Commission.

A specific meeting to further explore collaboration opportunities between these projects took place in Madrid on 3rd May 2012, with the aim of defining possible synergies to develop their respective Joint Action Plans. The participants agreed that both thematic areas (medical imaging and neurodegenerative illnesses) have a very close relationship and can be developed through a common approach. It was agreed that both projects would look for further sub-projects opportunities to continue advancing on a common approach during and after the projects' end.

Through Madrid Biocluster, who is participating as partner in AMI-4EUROPE and in TERM, specific contacts have been maintained for the participation of TERM project and partners in AMI-4EUROPE's Second Conference, which took place in Hannover on 28th-29th September 2012.

A second Inter-RoK Meeting was promoted by AMI-4EUROPE and Neurorescue Coordinators and was organised in Brussels on 13th November 2012 at Madrid Regional Office in Brussels. The seven projects were involved in the preparation and follow-up of the meeting, and all of them participated directly.

On 3rd July 2013 a third Inter-RoK meeting was jointly promoted by AMI-4EUROPE and NEURORESCUE Coordinators and organised in Marseille by the project NEURORESCUE with occasion of the event Neuro-Connection, which took place on 1-2 July 2013.

INTER ROK Health MEETINGS		
1st Inter RoK Meeting	Brussels PACA Regional Office	9th March 2012
Meeting AMI-4EUROPE / NEURORESCUE	Madrid Madrid Network Office	3rd May 2012
2nd Inter RoK Meeting	Brussels Madrid Regional Office	13th November 2012
Meeting AMI-4EUROPE / READi for Health	Madrid	20th June 2013
3rd Inter RoK Meeting	Marseille PACA Regional Council	3rd July 2013
Metacluster Conference Call AMI-4EUROPE / NEURORESCUE	Teleconference	10th October 2013

On 5th November 2013, at the closing conference of the project NEURORESCUE in Barcelona, the concept of the Metacluster was presented.

At the end of the implementation of the AMI-4EUROPE project, the Metacluster on Health related issues originated from these activities and collaboration is in the process of being consolidated, in order to serve as a basis for future enhanced collaboration among the participating clusters and regions.



2 Use and dissemination of foreground

AMI-4EUROPE is a Coordination and Support Action. A list of dissemination activities of the project actions and results is provided in this section, and further developed in the deliverables which detail all the dissemination activities (Deliverables 4.3, 4.4, 7.6, 7.7, 8.5, 8.6, 8.7, 8.8 and 8.9). However, considering that the project does not include research activities, it is not applicable to include details on the use and dissemination of foreground.



Section A (public)

This section includes two templates:

- Template A1: List of all scientific (peer reviewed) publications relating to the foreground of the project.

Not Applicable, due to the fact that AMI-4EUROPE is a Coordination and Support Action (not a research project).

- Template A2: List of all dissemination activities (publications, conferences, workshops, web sites/applications, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters).

TEMPLATE A2: LIST OF DISSEMINATION ACTIVITIES								
NO.	Type of activities ¹⁰	Main leader	Title	Date/Period	Place	Type of audience ¹¹	Size of audience	Countries addressed
1	<i>Presentation</i>	<i>HOSPITAL CLINICO SAN CARLOS (SERMAS)</i>	<i>Advanced Medical Imaging and Surgical Innovation (University of Chicago Medical Center)</i>	<i>18 December 2010</i>	<i>Chicago</i>	<i>Scientific community (higher education, Research) - Industry - Civil society - Policy makers - Media</i>	<i>60</i>	
2	<i>Presentation</i>	<i>Madrid Network</i>	<i>Med-e-Tel 2011</i>	<i>7 April 2011</i>	<i>Luxembourg</i>	<i>Scientific community</i>	<i>500</i>	

¹⁰ A drop down list allows choosing the dissemination activity: publications, conferences, workshops, web, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters, Other.

¹¹ A drop down list allows choosing the type of public: Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Medias, Other ('multiple choices' is possible).



						(higher education, Research) - Industry - Policy makers - Media		
3	Press releases, news website	Madrid Network	Dissemination of Project Kick-off Meeting	24-26 November 2010	Madrid	SMEs Research & Academia Public authorities	1000	Spain
4	Press releases, news website	Madrid Network	Dissemination of Project 2nd Consortium Meeting	9-10 May 2011	Brussels	SMEs Research & Academia Public authorities	1000	Spain
5	Press releases, news website	Madrid Network	Dissemination of Workshops in Madrid	19 June 2011	Madrid	SMEs Research & Academia Public authorities	1000	Spain
6	International Conference	Madrid Health Cluster, Hospital Clínico San Carlos (SERMAS), Madrid Biocluster, Madrid Network	1st AMI-4EUROPE Conference	26-28 September 2011	Madrid	SMEs Research & Academia Public authorities	150	EU
7	Press releases, news website	Madrid Network	Dissemination of 1st AMI-4EUROPE Conference	26-28 September 2011	Madrid	SMEs Research & Academia Public authorities	1000	Spain
8	Press releases, news website	Madrid Network	Dissemination of Mentoring Visit +	19-21 June 2012	Prijedor, Republic of	SMEs Research &	1000	Spain



			<i>Inauguration of new Cluster in Republic of Srpska</i>		<i>Srpska, Bosnia-Herzegovina</i>	<i>Academia Public authorities</i>		
9	<i>Press releases, news website</i>	<i>Madrid Network</i>	<i>Dissemination of 2nd Inter-RoK Meeting</i>	<i>13 November 2012</i>	<i>Brussels</i>	<i>SMEs Research & Academia Public authorities</i>	<i>1000</i>	<i>Spain</i>
10	<i>Press releases, news website</i>	<i>Madrid Network</i>	<i>Dissemination of Regional Events</i>	<i>25 September and 16 October 2013</i>	<i>Madrid</i>	<i>SMEs Research & Academia Public authorities</i>	<i>1000</i>	<i>Spain</i>
11	<i>Press releases, news website</i>	<i>Madrid Network</i>	<i>Dissemination of 2nd AMI-4EUROPE Conference</i>	<i>28-29 September 2012</i>	<i>Hannover</i>	<i>SMEs Research & Academia Public authorities</i>	<i>1000</i>	<i>Spain</i>
12	<i>Press releases, news website</i>	<i>Madrid Network</i>	<i>Dissemination of Mentoring visit to Madrid</i>	<i>21-22 November 2012</i>	<i>Madrid</i>	<i>SMEs Research & Academia Public authorities</i>	<i>1000</i>	<i>Spain</i>
13	<i>Promo video: Project Video, describing the nature, objectives and results of AMI-4EUROPE.</i>	<i>Madrid Network</i>	<i>Project promotional video</i>	<i>June 2013</i>	<i>Madrid</i>	<i>SMEs Research & Academia Public authorities</i>	<i>1000</i>	<i>Spain, Partner Regions and EU</i>

14	Articles	Madrid Biocluster	Description of AMI-4EUROPE Project. Public Service Review. Issue 24. September 2012	September 2012	Brussels	SMEs Research & Academia Public authorities	6000	EU
15	Workshop / Seminar	Madrid Network, Madrid Biocluster, Madrid Health Cluster, Hospital Clínico San Carlos (SERMAS)	Academic day of work: Innovation in Research, Diagnosis and therapeutic application of Medical Imaging	25th September 2013	Madrid	SMEs Research & Academia Public authorities	50	Spain
16	Workshop / Seminar	Madrid Network, Madrid Biocluster, Madrid Health Cluster, Hospital Clínico San Carlos (SERMAS)	Stakeholders Meeting: Innovation and Advances in the Medical Imaging Industry	16th October 2013	Madrid	SMEs Research & Academia Public authorities	60	Spain
17	Congress	HOSPITAL CLINICO SAN CARLOS (SERMAS)	EMTECH Congress	November 2012	Málaga	SMEs Research & Academia Public authorities	-	Spain
18	Congress	HOSPITAL CLINICO SAN CARLOS (SERMAS)	ITEMAS Congress	May 2013	Sabadell	SMEs Research & Academia Public authorities	.	Spain
19	Congress	HOSPITAL CLINICO SAN CARLOS (SERMAS)	MONDRAGON	September 2013	San Sebastian	SMEs Research & Academia Public authorities	.	Spain
20	Newsletter	NBank	Article in quarterly newsletter of Enterprise Europe Network Niedersachsen concerning the upcoming	28.-29.9.2012	Hannover	SMEs Research & Academia Public authorities	450	Germany



			<i>AMI Conference 2012</i>					
21	<i>Newsletter</i>	<i>NBank</i>	<i>Article in quarterly newsletter of Enterprise Europe Network Niedersachsen</i>	-	<i>Hannover</i>	<i>SMEs Research & Academia Public authorities</i>	<i>450</i>	<i>Germany</i>
22	<i>Conference</i>	<i>BiomeTI e.V.</i>	<i>4th AMI-4Europe Conference</i>	<i>09th October 2013</i>	<i>Biotechnica fair</i>	<i>SMEs Research & Academia Public authorities</i>	<i>40</i>	<i>Germany</i>
23	<i>Conference</i>	<i>NBank</i>	<i>Projectmeeting IN2 Life Sciences</i>	<i>27.11.2012</i>	<i>Den Haag, Netherlands</i>	<i>SMEs Research & Academia Public authorities</i>	<i>30</i>	<i>EU</i>
24	<i>Conference</i>	<i>NBank</i>	<i>Niedersächsischer Life Sciences Tag 2012</i>	<i>10.07.2012</i>	<i>Leibnizhaus, Holzmarkt 4-6, 30159 Hannover, Germany</i>	<i>SMEs Research & Academia Public authorities</i>	<i>120</i>	<i>Germany</i>
25	<i>Conference</i>	<i>NBank</i>	<i>Niedersächsischer Life Sciences Tag 2013</i>	<i>05.09.2013</i>	<i>Hannover Congress Centrum, Theodor-Heuss- Platz 1-3, 30175 Hannover</i>	<i>SMEs Research & Academia Public authorities</i>	<i>135</i>	<i>Germany</i>
26	<i>Conference</i>	<i>NBank</i>	<i>Sector Group Meeting</i>	<i>27.11.2012</i>	<i>Den Haag,</i>	<i>SMEs</i>	<i>44</i>	<i>EU</i>

			<i>Biotechnology</i>		<i>Netherlands</i>	<i>Research & Academia Public authorities</i>		
27	<i>Conference</i>	<i>NBank</i>	<i>Sector Group Meeting Bio-chemistry</i>	<i>19.06.2013</i>	<i>Aachen, Germany</i>	<i>SMEs Research & Academia Public authorities</i>	<i>44</i>	<i>EU</i>
28	<i>Workshop</i>	<i>FILAS</i>	<i>CLINICAL DECISION SUPPORT SYSTEMS (CDSSs) IN RADIOLOGY AND NUCLEAR MEDICINE: CHALLENGES AND TRENDS</i>	<i>19 October 2011</i>	<i>Rome</i>	<i>SMEs Research & Academia Public authorities</i>	<i>20</i>	<i>Italy</i>
29	<i>Workshop + company mission</i>	<i>FILAS</i>	<i>Mentoring Visit</i>	<i>17.04.2012</i>	<i>NBank Hannover</i>	<i>SMEs Research & Academia Public authorities</i>	<i>-</i>	<i>Italy</i>
30	<i>Workshop</i>	<i>FILAS</i>	<i>ADVANCED SOFTWARE FOR MEDICAL IMAGE PROCESSING: AN EXPERIENCE OF PUBLIC- PRIVATE PARTNERSHIP</i>	<i>19.10.2011</i>	<i>Rome</i>	<i>SMEs Research & Academia Public authorities</i>	<i>20</i>	<i>Italy</i>
31	<i>Newsletter https://www.bazmkorhaz.hu/i/Mi_lapunk_2012-12.pdf</i>	<i>Pharmapolis</i>	<i>AMI 4 Europe conference experience</i>	<i>December 2012</i>	<i>Észak-Alföld Region</i>	<i>SMEs Research & Academia Public authorities</i>	<i>-</i>	<i>Hungary</i>
32	<i>Report http://www.bkik.hu/hir/5</i>	<i>Pharmapolis</i>	<i>AMI 4 Europe project</i>	<i>June 2013</i>	<i>Észak-Alföld Region</i>	<i>SMEs Research &</i>	<i>-</i>	<i>Hungary</i>

	<p>259-Nemzetkozi-Klaszter-Nap-es-3-AMI-4EUROPE-Nemzetkozi-Konferencia http://www.haon.hu/az-egeszsegipar-szerepe-a-gazdasagfejlesztesben/2301671 http://www.enterpriseuropenetwork.pt/news/Documents/Programme_English_20130611.pdf http://www.hrportal.hu/c/a-klaszter-lehet-a-kkv-szektor-hatekony-valasza-a-valsagra-20130625.html http://www.adrnordest.ro/search.php?domains=www.adrnordest.ro&q=AMI4</p>					Academia Public authorities		
33	<p>Presentation of AMI-4EUROPE in International context</p>	Pharmapolis	<p>AMI4 EUROPE Project conclusion at the stand of the Cluster Contact Points. Enterprise Europe Network Annual Meeting in Vilnius.</p>	15-16 October 2013	Vilnius, Lithuania	SMEs Research & Academia Public authorities	50	EU
34	<p>Conference</p>	Pharmapolis	<p>3rd AMI-4 EUROPE Conference</p>	26-27 June 2013	Debrecen, Hungary	SMEs Research & Academia Public authorities	149	EU
35	<p>Book Leaflet Newsletter http://www.rtdcluster-health.rs.ba/sr/</p>	Agency PREDA-PD Prijedor, RS/BiH	<p>AMI 4 Europe project</p>	June 2013	Republic of Srpska	SMEs Research & Academia Public authorities	804	Republic of Srpska

36	Workshop	UNIBL	Imaging techniques for guiding and tracing of stem cells therapy and regenerative medicine	24 June 2011	Faculty of Medicine, Banjaluka	SMEs Research & Academia Public authorities	67	Republic of Srpska
37	Workshop	Agency PREDA-PD, Prijedor, RS BiH	INAUGURATION WORKSHOP IN REPUBLIC OF SRPSKA, BiH	19 - 21 June 2012	Republic of Srpska	SMEs Research & Academia Public authorities	49	Republic of Srpska
38	Workshop https://www.facebook.com/permalink.php?id=107046549316633&story_fbid=546285732052493 http://www.rtdcluster-health.rs.ba/sr/index.php/download-sekcija/category/1-ami-4-europe-radionica-na-mrakovici	UNIBL	Inauguration workshop or RTD health cluster in republic of Srpska- "Best Practices and Lessons Learned from More-Developed Clusters"	June 19 – June 21 2012	Mrakovica, Prijedor	SMEs Research & Academia Public authorities	-	Republic of Srpska
39	Workshop http://www.rtdcluster-health.rs.ba/sr/	UNIBL	Possibilities for improvement of the work of R&D cluster in Republic of Srpska	25 October 2013	Faculty of Medicine, Banjaluka	SMEs Research & Academia Public authorities	-	Republic of Srpska
40	Leaflet	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	Molecular imaging in NE Romania and the relation with the IMAGO MOL Cluster and AMI 4Europe	26 September 2013	Nord Est Region and Republica Moldova	SMEs Research & Academia Public authorities	800	Nord Est Region and Republica Moldova

41	Report	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	IMAGO-MOL cluster and the medical imaging in the NE Romania	26 September 2013	Nord Est Region and Republica Moldova	SMEs Research & Academia Public authorities	350	Nord Est Region and Republica Moldova
42	Round Table	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	WORKING MEETING : STEFANESCU CIPRIANA speech	29 March 2011	REPUBLICA MOLDOVA/ CHISINAU	SMEs Research & Academia Public authorities	15	Nord Est Region and Republica Moldova
43	Seminar	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	Territorial marketing TOR1 –Policy Learning Mechanisms in Support of Cluster Development	31 March 2011	Bucharest- Romania	SMEs Research & Academia Public authorities	30	Nord Est Region and Republica Moldova
44	Conference http://rendezveny.alioth.hu/ami4/wp-content/uploads/2013/06/AMI-4EUROPE-3rd-	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	The 3RD International Conference EEN Cluster Walter Bild, ALBU ELENA speeches	24-27 June 2013	HUNGARY- DEBRECEN	SMEs Research & Academia Public authorities	40	EU

	<p><i>conference-agenda35.pdf</i></p> <p>http://www.enterpriseuropenetwork.pt/news/Documents/Programme_English_20130611.pdf</p>							
45	<p>Conference</p> <p>http://www.neuroiasi.ro/</p>	<p>UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI</p>	<p>University of Medicine and Pharmacy "Gr.T.Popa" Iasi: Dissemination the results of AMI4-Europe project</p>	<p>24-26 October 2013</p>	<p>Romania, Iasi</p>	<p>SMEs Research & Academia Public authorities</p>	<p>120</p>	<p>Nord Est Region and Republica Moldova</p>
46	<p>Conference</p>	<p>UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI</p>	<p>University of Medicine and Pharmacy "Gr.T.Popa" Iasi: Dissemination the results of AMI4-Europe project</p>	<p>11-13 October 2013</p>	<p>Bucharest</p>	<p>SMEs Research & Academia Public authorities</p>	<p>160</p>	<p>Nord Est Region and Republica Moldova</p>
47	<p>Workshop</p> <p>http://www.algezio.ro/categorii/Manifestari_stiintifice_04/Congresul_National_de_Durere_(2013)_-_Zilele_Medicamentului_-_Ed._a_XXII-a_0170.html</p> <p>http://www.algezio.ro/doc/CND_Program_Conferinta_v8.pdf</p>	<p>UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI</p>	<p>Congresul National de Durere (2013) - Zilele Medicamentului - Ed. a XXII-a</p>	<p>30 May - 1 June 2013</p>	<p>Romania, Iasi</p>	<p>SMEs Research & Academia Public authorities</p>	<p>150</p>	<p>Nord Est Region and Republica Moldova</p>

48	National Symposium	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	Biomedical imaging in the North East: Past, Present and Future	26 September 2013	Romania, Iasi	SMEs Research & Academia Public authorities	150	Nord Est Region and Republica Moldova
49	Conference	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	Cluster Inauguration: launch event of the new IMAGO-MOL cluster	29-31 October 2012	Romania, Iasi	SMEs Research & Academia Public authorities	-	Nord Est Region and Republica Moldova
50	Workshop	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	Organization Workshop December 2011	December 2011	Romania, Iasi	SMEs Research & Academia Public authorities	40	Nord Est Region and Republica Moldova
51	Conference	UNIVERSITATEA DE MEDICINA SI FARMACIE "GR.T. POPA" IASI	NEUROCONNECTION	1-2 July 2012	Marseille	SMEs Research & Academia Public authorities	300	EU



Section B (Confidential¹² or public: confidential information to be marked clearly)

Part B1

The applications for patents, trademarks, registered designs, etc. shall be listed according to the template B1 provided hereafter.

Not Applicable, due to the fact that AMI-4EUROPE is a Coordination and Support Action (not a research project).

¹² Note to be confused with the "EU CONFIDENTIAL" classification for some security research projects.

3 Report on societal implications

Replies to the following questions will assist the Commission to obtain statistics and indicators on societal and socio-economic issues addressed by projects. The questions are arranged in a number of key themes. As well as producing certain statistics, the replies will also help identify those projects that have shown a real engagement with wider societal issues, and thereby identify interesting approaches to these issues and best practices. The replies for individual projects will not be made public.

A Ethics	
1. Did your project undergo an Ethics Review (and/or Screening)? <input type="checkbox"/> If Yes: have you described the progress of compliance with the relevant Ethics Review/Screening Requirements in the frame of the periodic/final project reports?	No
2. Please indicate whether your project involved any of the following issues:	
Research on Humans	
<input type="checkbox"/> Did the project involve children?	No
<input type="checkbox"/> Did the project involve patients?	No
<input type="checkbox"/> Did the project involve persons not able to give consent?	No
<input type="checkbox"/> Did the project involve adult healthy volunteers?	No
<input type="checkbox"/> Did the project involve Human genetic material?	No
<input type="checkbox"/> Did the project involve Human biological samples?	No
<input type="checkbox"/> Did the project involve Human data collection?	No
Research on Human embryo/foetus	
<input type="checkbox"/> Did the project involve Human Embryos?	No
<input type="checkbox"/> Did the project involve Human Foetal Tissue / Cells?	No
<input type="checkbox"/> Did the project involve Human Embryonic Stem Cells (hESCs)?	No
<input type="checkbox"/> Did the project on human Embryonic Stem Cells involve cells in culture?	No
<input type="checkbox"/> Did the project on human Embryonic Stem Cells involve the derivation of cells from Embryos?	No
Privacy	
<input type="checkbox"/> Did the project involve processing of genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical	No

conviction)?		
<input type="checkbox"/> Did the project involve tracking the location or observation of people?		No
Research on Animals		
<input type="checkbox"/> Did the project involve research on animals?		No
<input type="checkbox"/> Were those animals transgenic small laboratory animals?		No
<input type="checkbox"/> Were those animals transgenic farm animals?		No
<input type="checkbox"/> Were those animals cloned farm animals?		No
<input type="checkbox"/> Were those animals non-human primates?		No
Research Involving Developing Countries		
<input type="checkbox"/> Did the project involve the use of local resources (genetic, animal, plant etc.)?		No
<input type="checkbox"/> Was the project of benefit to local community (capacity building, access to healthcare, education etc)?		No
Dual Use		
<input type="checkbox"/> Research having direct military use		No
<input type="checkbox"/> Research having the potential for terrorist abuse		No
B Workforce Statistics		
3. Workforce statistics for the project: Please indicate in the table below the number of people who worked on the project (on a headcount basis).		
Type of Position	Number of Women	Number of Men
Scientific Coordinator	5	8
Work package leaders	7	4
Experienced researchers	15	15
PhD Students	1	2
Other	7	17

4. How many additional researchers (in companies and universities) were recruited specifically for this project?	0															
Of which, indicate the number of men:	0															
C Gender Aspects																
5. Did you carry out specific Gender Equality Actions under the project?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No															
6. Which of the following actions did you carry out and how effective were they? <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 20%; text-align: center;">Not at all effective</th> <th style="width: 20%; text-align: center;">Very effective</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Design and implement an equal opportunity policy</td> <td style="text-align: center;">□□□□□</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Set targets to achieve a gender balance in the workforce</td> <td style="text-align: center;">□□□□□</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Organise conferences and workshops on gender</td> <td style="text-align: center;">□□□□□</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Actions to improve work-life Balance</td> <td style="text-align: center;">□□□□□</td> <td></td> </tr> </tbody> </table>			Not at all effective	Very effective	<input type="checkbox"/> Design and implement an equal opportunity policy	□□□□□		<input type="checkbox"/> Set targets to achieve a gender balance in the workforce	□□□□□		<input type="checkbox"/> Organise conferences and workshops on gender	□□□□□		<input type="checkbox"/> Actions to improve work-life Balance	□□□□□	
	Not at all effective	Very effective														
<input type="checkbox"/> Design and implement an equal opportunity policy	□□□□□															
<input type="checkbox"/> Set targets to achieve a gender balance in the workforce	□□□□□															
<input type="checkbox"/> Organise conferences and workshops on gender	□□□□□															
<input type="checkbox"/> Actions to improve work-life Balance	□□□□□															
7. Was there a gender dimension associated with the research content – i.e. wherever people were the focus of the research as, for example, consumers, users, patients or in trials, was the issue of gender considered and addressed? <p style="text-align: center;"> <input type="checkbox"/> Yes- please specify <input checked="" type="checkbox"/> No </p>																
D Synergies with Science Education																
8. Did your project involve working with students and/or school pupils (e.g. open days, participation in science festivals and events, prizes/competitions or joint projects)? <p style="text-align: center;"> <input type="checkbox"/> Yes- please specify <input checked="" type="checkbox"/> No </p>																

9. Did the project generate any science education material (e.g. kits, websites, explanatory booklets, DVDs)?

- Yes- please specify
 No
 x

E Interdisciplinarity

10. Which disciplines (according to the Frascati Manual 2002 [2]) are involved in your project?

AMI 4 Europe project is a coordination action, it does not involve R&D activities. The main discipline addressed is Health Sciences / Medical Science.

F Engaging with Civil society and policy makers

11a Did your project engage with societal actors beyond the research community? (if 'No', go to Question 14)

- | | |
|---------------------------------------|-----|
| <input checked="" type="checkbox"/> x | Yes |
| <input type="checkbox"/> | No |

11b If yes, did you engage with citizens (citizens' panels / juries) or organised civil society (NGOs, patients' groups etc.)?

- No
- x Yes- in determining what research should be performed
- x Yes - in implementing the research
- x Yes, in communicating /disseminating / using the results of the project

11c In doing so, did your project involve actors whose role is mainly to organise the dialogue with citizens and organised civil society (e.g. professional mediator; communication company, science museums)?

- | | |
|---------------------------------------|-----|
| <input type="checkbox"/> | Yes |
| <input checked="" type="checkbox"/> x | No |

12. Did you engage with government / public bodies or policy makers (including international organisations)

- No
- x Yes- in framing the research agenda
- Yes - in implementing the research agenda
- x Yes, in communicating /disseminating / using the results of the project

13 Will the project generate outputs (expertise or scientific advice) which could be used by policy makers?

- Yes – as a **primary** objective (please indicate areas below - multiple answers possible)
- Yes – as a **secondary** objective (please indicate areas below - multiple answer possible)
- No

G Use and dissemination

14. How many Articles were published/accepted for publication in peer-reviewed journals?

N/A

To how many of these is open access¹ provided?

N/A

How many of these are published in open access journals?

N/A

How many of these are published in open repositories?

N/A

To how many of these is open access not provided?

N/A

Please check all applicable reasons for not providing open access:

N/A

- publisher's licensing agreement would not permit publishing in a repository
- no suitable repository available
- no suitable open access journal available
- no funds available to publish in an open access journal
- lack of time and resources
- lack of information on open access
- other:

N/A

15. How many new patent applications ('priority filings') have been made?		NO patents
16. Indicate how many of the following Intellectual Property Rights were applied for.	Trademark	No
	Registered design	No
	Other	No
17. How many spin-off companies were created / are planned as a direct result of the project?		No
<i>Indicate the approximate number of additional jobs in these companies:</i>		No
18. Please indicate whether your project has a potential impact on employment, in comparison with the situation before your project:		
<input type="checkbox"/> Increase in employment, or <input type="checkbox"/> In small & medium-sized enterprises		
<input type="checkbox"/> Safeguard employment, or <input type="checkbox"/> In large companies		
<input type="checkbox"/> Decrease in employment, <input type="checkbox"/> None of the above / not relevant to the project		
<input checked="" type="checkbox"/> Difficult to estimate / not possible to quantify		
19. For your project partnership please estimate the employment effect resulting directly from your participation in Full Time Equivalent (FTE = one person working fulltime for a year) jobs:		Indicate figure:
Difficult to estimate / not possible to quantify <input type="checkbox"/>		
H Media and Communication to the general public		
20. As part of the project, were any of the beneficiaries professionals in communication or media relations?		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
21. As part of the project, have any beneficiaries received professional media / communication training / advice to improve communication with the general public?		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

22 Which of the following have been used to communicate information about your project to the general public, or have resulted from your project?

- | | |
|---|---|
| <input checked="" type="checkbox"/> Press Release | <input checked="" type="checkbox"/> Coverage in specialist press |
| <input checked="" type="checkbox"/> Media briefing | <input checked="" type="checkbox"/> Coverage in general (non-specialist) press |
| <input type="checkbox"/> TV coverage / report | <input type="checkbox"/> Coverage in national press |
| <input type="checkbox"/> Radio coverage / report | <input type="checkbox"/> Coverage in international press |
| <input checked="" type="checkbox"/> Brochures /posters / flyers | <input checked="" type="checkbox"/> Website for the general public / internet |
| <input checked="" type="checkbox"/> DVD /Film /Multimedia | <input checked="" type="checkbox"/> Event targeting general public (festival, conference, exhibition, science café) |

23 In which languages are the information products for the general public produced?

- | | |
|--|----------------------------------|
| <input type="checkbox"/> Spanish | <input type="checkbox"/> English |
| <input type="checkbox"/> Other language(s) – German, Italian, Hungarian, Romanian, Serbian | |

Question F-10: Classification of Scientific Disciplines according to the Frascati Manual 2002 (Proposed Standard Practice for Surveys on Research and Experimental Development, OECD 2002):

FIELDS OF SCIENCE AND TECHNOLOGY

1. NATURAL SCIENCES

- 1.1 Mathematics and computer sciences [mathematics and other allied fields: computer sciences and other allied subjects (software development only; hardware development should be classified in the engineering fields)]
- 1.2 Physical sciences (astronomy and space sciences, physics and other allied subjects)
- 1.3 Chemical sciences (chemistry, other allied subjects)
- 1.4 Earth and related environmental sciences (geology, geophysics, mineralogy, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, oceanography, vulcanology, palaeoecology, other allied sciences)
- 1.5 Biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, other allied sciences, excluding clinical and veterinary sciences)

2. ENGINEERING AND TECHNOLOGY

- 2.1 Civil engineering (architecture engineering, building science and engineering, construction engineering, municipal and structural engineering and other allied subjects)
- 2.2 Electrical engineering, electronics [electrical engineering, electronics, communication engineering and systems, computer engineering (hardware only) and other allied subjects]

- 2.3. Other engineering sciences (such as chemical, aeronautical and space, mechanical, metallurgical and materials engineering, and their specialised subdivisions; forest products; applied sciences such as geodesy, industrial chemistry, etc.; the science and technology of food production; specialised technologies of interdisciplinary fields, e.g. systems analysis, metallurgy, mining, textile technology and other applied subjects)

3. MEDICAL SCIENCES

- 3.1 Basic medicine (anatomy, cytology, physiology, genetics, pharmacy, pharmacology, toxicology, immunology and immuno-haematology, clinical chemistry, clinical microbiology, pathology)
- 3.2 Clinical medicine (anaesthesiology, paediatrics, obstetrics and gynaecology, internal medicine, surgery, dentistry, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology, ophthalmology)
- 3.3 Health sciences (public health services, social medicine, hygiene, nursing, epidemiology)

4. AGRICULTURAL SCIENCES

- 4.1 Agriculture, forestry, fisheries and allied sciences (agronomy, animal husbandry, fisheries, forestry, horticulture, other allied subjects)
- 4.2 Veterinary medicine

5. SOCIAL SCIENCES

- 5.1 Psychology
- 5.2 Economics
- 5.3 Educational sciences (education and training and other allied subjects)
- 5.4 Other social sciences [anthropology (social and cultural) and ethnology, demography, geography (human, economic and social), town and country planning, management, law, linguistics, political sciences, sociology, organisation and methods, miscellaneous social sciences and interdisciplinary, methodological and historical S1T activities relating to subjects in this group. Physical anthropology, physical geography and psychophysiology should normally be classified with the natural sciences].

6. HUMANITIES

- 6.1 History (history, prehistory and history, together with auxiliary historical disciplines such as archaeology, numismatics, palaeography, genealogy, etc.)
- 6.2 Languages and literature (ancient and modern)
- 6.3 Other humanities [philosophy (including the history of science and technology) arts, history of art, art criticism, painting, sculpture, musicology, dramatic art excluding artistic "research" of any kind, religion, theology, other fields and subjects pertaining to the humanities, methodological, historical and other S1T activities relating to the subjects in this group]