



IMPLEMENTING ARRANGEMENT

between

**THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)
OF THE DEPARTMENT OF COMMERCE OF THE UNITED STATES OF AMERICA**

and

**THE JOINT RESEARCH CENTRE (JRC)
OF THE EUROPEAN COMMISSION**

for

scientific and other cooperative activities related to standards and measurements in fields of common interest

In accordance with the Agreement for Scientific and Technological Cooperation between the Government of the United States of America and the European Community, signed in Washington on 5 December 1997, as extended and amended (through an exchange of Notes Verbales between the Council of the EU, dated 15 May 2009 and the Government of the United States, Department of State, dated 6 July 2009), hereinafter referred to as the "S&T Agreement", in particular Art. 5, second paragraph thereof, an Implementing Arrangement to cover scientific and other cooperative activities related to standards and measurements in fields of common interest, is hereby established between the Joint Research Centre (JRC) of the European Commission, and the National Institute of Standards and Technology of the Department of Commerce of the United States of America (NIST), hereinafter referred to individually as "the Side" or collectively as "the Sides".

The Sides had previously signed the following three arrangements:

- on 17/12/2007, related to cooperation on scientific research on measurement standards which expired on 16/12/2012,

- on 14/12/2010, related to cooperation in the fields of security, safety and citizen protection, in particular as regards structural vulnerability assessment of civil engineering infrastructures, security test methods and assessments, which expired on 13/12/2012,

– on 10/03/2011, related to collaboration in the field of marine optical radiometry in support of remote sensing with expiry on 09/03/2016.

The purpose of this Implementing Arrangement is to form an overarching arrangement including and expanding on the previous co-operation, to encourage, develop and facilitate such activities between the Sides, conducted on the basis of mutual benefit gained from an overall balance of advantages, reciprocal opportunities to engage in cooperative activities, and equitable and fair treatment. This Implementing Arrangement is not legally binding and does not create rights or obligations binding under law.

1. Cooperative activities

1.1. The Sides may undertake and facilitate cooperative activities in all areas of science and technology related to standards and measurements in fields of common interest among the priorities of the JRC on the one hand, and the priorities of NIST on the other hand.

1.2. Scientific and cooperative activities related to standards and measurements in the fields of common interest (non-exhaustive) are described in more detail in the Technical Annex attached to this Arrangement.

1.3. All scientific and other cooperative activities foreseen in this Implementing Arrangement will remain within the framework of the S&T Agreement.

2. Nature of cooperative activities

2.1. Cooperative activities may include but are not limited to:

2.1.1. Comparable access to the Sides' scientific infrastructure, including laboratory facilities and equipment and material, for conducting scientific and technological activities including science, development, testing and evaluation, standardisation and certification, subject to administrative approval as appropriate;

2.1.2. Exchange of scientific and technological information. The exchange of research results, if deemed advantageous, may be performed through joint seminars, workshops, and conference sessions subject to terms and conditions agreed upon between the Sides;

2.1.3. Exchange of personnel at both Sides, who may be invited to the other Side to perform tasks in the framework of this Implementing Arrangement, subject to administrative approval according to the Sides' internal procedures and policies;

2.1.4. Support the training of scientists, engineers and technical experts;

2.1.5. Support for joint research, for the Sides' mutual benefit and added value according to the modalities set out in Point 4.

3. Coordination

3.1. The Sides intend to cooperate closely to monitor joint activities. Therefore, each Side will designate a representative to serve as the overall coordinator ("Coordinator") for this Implementing Arrangement, and identify experts to oversee and facilitate each of the joint activities. The Coordinators should issue a periodic progress report on the cooperation. The Coordinators may meet when necessary, each Side bearing its own costs of participation in these meetings. Generally, meetings are expected to alternate between sites in the European Union and in the United States of America, with the hosting Side providing organisational and administrative support. The meetings may also take place in the form of videoconferences. As far as possible, a meeting in person shall take place in the context of the EU – US Joint Consultative Group meetings. As necessary, each Side may designate additional participants to attend such meetings. Costs directly associated with meetings in person, other than those for travel and accommodation, are borne by the Side hosting the meeting unless otherwise agreed.

3.2. As necessary, the Sides may hold higher-level meetings, for which each Side would designate a co-chair.

3.3. Additionally, a "Steering Group" may be designated to oversee and stimulate cooperative activities under this Implementing Arrangement. It will be responsible for furthering the cooperative activities between the Sides. The Steering Group should exchange information on practices, laws, regulations, and programmes relevant to cooperation under this Implementing Arrangement. It should review on-going activities, participation levels, and similar efforts in each Side's programmes under this Implementing Arrangement. Members of the Steering Group may participate in the meetings in person or videoconferences between the Coordinators if convenient/allowable.

4. Funding

4.1. Cooperative activities under this Implementing Arrangement (including Sections 2 and 3) are subject to the availability of appropriated funds and to the applicable laws and regulations, policies and programmes of each Side, and to the terms of the S&T Agreement and this Implementing Arrangement. This Implementing Arrangement creates no financial obligations.

4.2. Each Side is responsible for any audit of its actions in support of cooperative activities, including the activities of any of its participants. Each Side's audits should be in accordance with its own applicable practices.

5. Intellectual property

The Sides agree to allocate and protect intellectual property rights in accordance with the provisions of the Annex to the S&T Agreement.

6. Duration

This Implementing Arrangement will take effect upon signature by the last Side for a period of five years, or until a Side discontinues its participation in it upon ninety days written notice to the other Side, whichever is sooner. It can be prolonged or modified only by written amendment and signed by the duly authorised representative of each Side.

7. Previous arrangements

This Implementing Arrangement will replace all the previous arrangements between JRC and NIST, including the arrangement related to collaboration in the field of marine optical radiometry in support of remote sensing on 10/03/2011 (expiring 09/03/2016).

Signed at (place) Washington, DC on (date) 17 July 2013 in two original copies in the English language.

FOR THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY OF THE DEPARTMENT OF COMMERCE OF THE UNITED STATES OF AMERICA

Patrick Gallagher, Director

FOR THE JOINT RESEARCH CENTRE OF THE EUROPEAN COMMISSION

Dominique Ristori, Director General

Technical Annex

List of scientific and other cooperative activities related to standards and measurements

in the framework of the Implementing Arrangement

between

the National Institute of Standards and Technology (NIST) of the Department of Commerce of the United States of America

and

the Joint Research Centre (JRC) of the European Commission

Both, NIST and JRC have the strategic goal to support competiveness and economic growth. Strengthening the measurements and standards infrastructure is beneficial for industries (innovation), to facilitate trade and to ensure public safety and security. It is important to respect sustainability and the environment and to promote stewardship of available resources.

Potential fields of common interest (non-exhaustive) for activities related to standards and measurements under this Implementing Arrangement are:

1. Reference materials

1.1. To co-ordinate where feasible the range of reference materials which are to be developed by NIST and the JRC as standards and quality benchmarks for measurements in biotechnology, healthcare, food safety, environmental protection, security, advanced materials and nanotechnology.

1.2. To co-operate in the development and characterisation of new candidate reference materials.

1.3. To facilitate the common understanding of scientific and technical issues which have to be harmonised by international metrology and standardisation bodies for advancing the international comparability and reliability of measurements.

1.4. To initiate and to maintain a dialogue and to exchange scientific and technological information on reference materials and reference measurements, exploring possibilities for developing research projects of mutual interest.

1.5. To share, where feasible, specific capabilities to prepare new reference materials and to characterise selected properties of them.

1.6. To work jointly to develop activities for advancing the further international understanding and acceptance of metrology and standardisation in various fields of measurement.

2. Civil engineering structures, security technologies and systems, emerging ICT

2.1. To perform research for the validation of models for structural vulnerability assessment of civil engineering structures subject to severe loads, such as those due to explosions, impact, fire, earthquakes; with particular attention to the problem of progressive collapse and structural performance under fire loads.

2.2. To deepen the understanding of the current approaches of the relevant construction codes, standards, and practices (USA, EU (Eurocodes), International) with regard to progressive collapse, structural performance under fire, and to engage in joint research activities contributing to the development of performance-based codes, standards, and practices taking also into consideration sustainability issues.

2.3. To exchange expertise on experimental technologies and numerical techniques and methods used to validate analytical models.

2.4. To exchange and share experimental data needed for related cooperation and general scientific research activities.

2.5. To perform collaborative research in order to foster progress in emerging information and communication technologies (ICT), including mobile security, cloud computing, internet-of-things, biometrics, digital identity, surveillance and detection technologies, text retrieval and analysis technologies, data-enabled science, computational uncertainty quantification, methods to improve interoperable scientific data sharing, and health information technology.

2.6. To explore opportunities for the pre-normative research or collaboration towards standardisation in the area of Quantum Technologies, Quantum Information Systems or in the application thereof.

3. Marine optical radiometry

3.1. To establish the basis for collaboration between the Sides in the field of marine optical radiometry in support of remote sensing.

3.2. To initiate and maintain a dialogue on optical radiometric measurements for satellite ocean colour applications, focusing on absolute radiometric calibrations and uncertainty assessment of *in situ* radiometric products.

4. Energy

To collaborate in the field of standards for smart grids and interoperability, as well as energy efficiency. The main objective of the collaboration is to study by analytic and laboratory means the potential inconsistencies and gaps between standards in USA and EU in order to facilitate their harmonization. The focus will be on the requirements set up in USA and EU, comparable use cases and coordinated parallel trials in laboratories.

5. Transport

To cooperate on international (transatlantic) standardisation in support to the deployment of electro-mobility. The focus will be on international standards related to e-vehicle/smart-grid connectivity and interoperability in the frame of the Transatlantic Economic Council (TEC).

6. Nanotechnology

6.1. Where feasible, to jointly develop and harmonise methods, protocols and documentary standards for the measurement and characterization of nanomaterials.

6.2. To include nanomaterials (*e.g.* pure nanomaterials, matrices containing defined amounts of nanomaterials) among the potential candidates for joint development of reference materials, as outlined in Section 1 of this Technical Annex.

6.3. Where feasible, to jointly develop and harmonise protocols for the characterisation and pre-clinical testing of drug delivery and imaging systems (nanomedicine).

6.4. To cooperate in the harmonisation of protocols for toxicity testing (e.g. in vitro testing) that may also be forwarded to the OECD to enable regulatory bodies to make sound, science-based decisions about the risk management of nanomaterials and nano-related applications, for instance in the medical field.

7. Healthcare and clinical measurements

7.1. To identify by collaborative research relevant measurement targets for potential clinical markers and gaps in the global measurement systems for healthcare.

7.2. To co-operate jointly with the relevant international scientific networks for the standardisation of measurements in clinical chemistry and laboratory medicine.

7.3. To develop together, where feasible, candidate reference measurement procedures for health status markers.

8. Environment and climate

8.1. To identify by collaborative research relevant measurement targets and methods for environmental contaminants, with particular emphasis on emerging contaminants, and for climate change indicators and identify gaps in the global measurement systems for the environment analysis including climate change monitoring.

8.2. To co-operate jointly with the relevant international scientific networks for the harmonization of measurements in the environment.

8.3. To jointly develop, where feasible, improved measurement methods and reference materials for environmental analysis.

9. Food safety and nutrition

9.1. To jointly develop reference methods and reference materials for food analysis (e.g. trans-fatty acids, nutrients, contaminants and residues, food allergens, food authenticity).

9.2. To establish a dialogue involving competent bodies with the aim of sharing methods and procedures for food testing and method validation to facilitate international trade and to provide ad-hoc measurement support to emergency cases.

9.3. To work jointly on human nutrition related aspects to deliver evidence based information to the public.

10. Security

10.1. To work jointly with the aim of recommending and preparing the ground for harmonizing standards and test methods for security technologies.

10.2. To cooperate with the relevant standardisation bodies in the development of standards that are promoted as international standards for security technologies and processes.

10.3. To establish a dialogue involving competent bodies with the aim of sharing methods and procedures for testing and validation of security technologies, with a view to the development of shared databases.