Annex to the Memorandum of Understanding between the Brazilian Ministry of Science, Technology and Innovation (MCTI) and the Norwegian Ministry of Education and Research (signed in March 31<sup>st</sup> 2008) and referring to the Verbal Notes from the Royal Norwegian Embassy in Brasilia and the Brazilian Ministry of External Relations extending the validity of the Memorandum until March 31<sup>st</sup> 2016

COLLABORATION BETWEEN THE BRAZILIAN MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION AND THE ROYAL NORWEGIAN MINISTRY OF PETROLEUM AND ENERGY IN THE FIELD OF OIL AND GAS RESEARCH AND TECHNOLOGY AND EXCHANGE OF HUMAN RESOURCES

#### Preamble

Considering that Brazil and Norway face similar research challenges in the field of Exploration, Development and Production of offshore oil and gas activities, and share a common interest in the exchange of experiences and best practices within related science and technology innovation and the joint development of leading competencies.

The Ministry of Science, Technology and Innovation of Brazil and the Ministry of Petroleum and Energy of Norway, hereinafter referred to as the Parties, agree to collaborate within the following areas (hereinafter referred to as the Collaboration):

#### Scope

- 1) Research, Development and Demonstration (RD&D) collaboration related to offshore oil and gas exploration and production, according to the aims 1) 3) below, and
- 2) Exchange of related human resources (students, researchers and professional candidates exchanges), including collaboration between related programmes and measures according to aim 4) and 5) below.

#### Aim

The goals of the collaboration are:

1) Strategy and actions: to establish a Brazil Norway 21 strategy (BN 21) and action plan for the development of jointly needed technologies within exploration, development and production of oil and gas, including exchange of experiences about the interaction between universities and businesses;

2) Technology Focus: to establish Technology Target Areas (TTAs) for joint collaboration under areas such as subsea technology, marine geology, enhanced geology interpretation, exploitation of oil wells with nanotechnology, geoscience, enhanced oil recovery and drilling;

3) Implementation: to designate Lead Parties for each of the TTAs, which should define and implement sub-strategies and activities for research and technology collaboration within each TTA established, including promotion of RD&D incentives and collaborative science and technology networks and projects;

4) Human Resources: to strengthen innovative skills and competencies of both countries, primarily within prioritized areas such as the TTAs, by jointly developing the technologies and capabilities needed for offshore Exploration, Development and Production activities through exchange programmes dedicated to R,D&D collaboration and human resource development. This aim would target joint development of related scientific disciplines and innovation chains trough RD&D collaboration between universities, research institutions, industry and Brazilian and Norwegian companies.

5) Demo 2000: To exchange experiences on the functioning of the Norwegian fund "Demo 2000".

### Governance and Implementation Structure

The collaboration is to be governed and implemented through the following main bodies:

- 1) Government Group, led by the Parties and responsible for the overall governance of the Collaboration, including the involvement of relevant Government ministries, agencies and mechanisms in support of collaborative efforts. Representatives from related bodies associated with the Collaboration may take part in the Government Group.
- 2) <u>Stakeholder Task Force</u> is responsible for submitting plans and proposed actions in relation to the aims. The Task Force should to the extent feasible build on existing collaborative efforts between Brazilian and Norwegian stakeholders. The Stakeholder Task Force consists of representatives from industry, research institutions and academia. As regards the TTAs, they are going to be defined by each Stakeholder Group: Group 1 (aims 1 to 3 above) and Group 2 (aim 4 and 5 above).

The implementation of the said aims should to the extent feasible be based on joint roadmaps for the definition of future technology and R,D&D needs and collaborative activities.

3) <u>Lead Parties and Task Force leaders</u> will be responsible for day to day work and progress of agreed collaboration.

## Nomination of Participation

The Parties should jointly agree on participation by relevant Government Agencies and Stakeholders in the Collaboration and nominate participants by written notification and listed in a joint protocol annexed to this document, upon approval by the Government Group.

#### Reporting of Tasks

Stakeholder Task Force

The Stakeholder Task Force reports on progress for the implementation of actions (Implementation Plan) to the Government Group according to jointly agreed milestones set by the Parties and/or the Task Force.

The Implementation Plan should lay out a blueprint of milestones for relevant RD&D efforts to be undertaken to address key technological challenges and relevant collaborative activities in offshore Exploration, Development and Production as proposed by the Group 1.

A revision of the Implementation Plan should take place regularly (preferably annually) by the Government Group based on suggested updated submitted by the Stakeholder Task Force.

Additional bodies

The Government Group appoints Lead Parties and Task Force Leaders and may designate additional Tasks and TTAs under the present Collaboration.

# Implementation

The Government Group and the Stakeholder Task Force should be established by the Parties preferably during 1st Quarter of 2014, and convene regularly in pursuit of joint plans and efforts.

The Government Group should present an Overall Plan for the BN 21 Collaboration, including the joint follow up of milestones at least in a 1-2 years time frame ahead of current activities.

The Overall Plan should be launched in a High-level Forum between the Parties during 2014.

The Parties may ask the Stakeholder Task Force to assist in ensuring proper outreach to key interested parties among Brazilian and Norwegian Stakeholders, such as through workshops and targeted dissemination and peer review of plans, efforts and achievements.

Done in equally authentic versions in Portuguese and English. In case of controversy stemming from interpretation of this Annex, the English version shall prevail.

Rio de Janeiro, November 25, 2013.

For the Ministry of Science, Technology and Innovation of Brazil

ecutive Secretary

For the Royal Norwegian Ministry of Petroleum and Energy Mase Foshercold

Kåre Fostervold Deputy Minister