Innovative nondestructive testing and advanced composite repair of pipelines with volumetric surfaces defects

Fact Sheet

Project information

INNOPIPES

Grant agreement ID: 318874

Project website

Status
Closed project

Start date
1 September 2012

End date
31 August 2016

Funded under:
FP7-PEOPLE

Overall budget:
€ 830 300

EU contribution
€ 830 300

Coordinated by:
RIGAS TEHNISKA UNIVERSITATE
Latvia

Objective

Pipeline systems have supreme significance for an effective functioning of industry providing Eastern and Western European markets with energy resources: crude oil, natural gas and liquid petroleum products. Taking into account long life of pipeline networks and situation, when over 20% of large-diameter pipelines are with an exhausted lifetime, an important task at the present time becomes an ensuring of reliability for these transport systems.

An intensive study shows that among the main reasons of pipeline accidents are the volumetric surface defects (VSD) arising as a result of corrosion or erosion-corrosion processes and by this way considerably decreasing the pipeline strength. In order to ensure efficient and safe operation of existing pipelines, operating companies routinely inspect the pipes. The methods that are used for this purpose, like “smart pig”, are sufficiently expensive, require, in some cases, significant reconstruction and have an insufficient sensitivity. An application of new composite materials for the repair of damaged pipelines considerably improved situation in the last time. However numerous standards associated with this type of repair are based on simplified approaches and do not take into account the stress-strain state in the damaged areas. Strategic objective of the project is addressed to the improvement of infrastructure in EU and Third counties by the rising of reliability of existing pipeline systems. Work over this project will serve IRSES main goal achievement – strengthening research partnerships through short period staff exchanges and
networking activities between organisations from EU and Third countries. The scientific and technical objectives are improvement of existing and developing of new methods for detection and repair of VSD based on low-frequency ultrasonic testing with directional waves and advanced composite repair systems to bring efficiency of damaged section up to the level of undamaged pipeline.

Programme(s)

FP7-PEOPLE - Specific programme "People" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

Topic(s)

FP7-PEOPLE-2012-IRSES - Marie Curie Action "International Research Staff Exchange Scheme"

Call for proposal

FP7-PEOPLE-2012-IRSES

See other projects for this call

Funding Scheme

MC-IRSES - International research staff exchange scheme (IRSES)

Coordinator

RIGAS TEHNISKA UNIVERSITATE

Address  Activity type  EU Contribution
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Activity type: Higher or Secondary Education Establishments

EU Contribution: € 191 900

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Activity type: Research Organisations

EU Contribution: € 226 100

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Activity type: Higher or Secondary Education Establishments

EU Contribution: € 191 900