European Association of Development Agencies
Association Européenne des Agences de Développement

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EURADA NEWS

HORIZON 2020 CALLS 2014-2015 (O.J. C 361, 11.12.2013)

Details of all the calls:
http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/index.html

Deadline: some in 2014, some in 2015.

Procedure: some in two stages (short description, than full proposal), other one single stage.

Topics: see below

Mobility for growth	**6 calls**	**03/2014**	**03/2015**
• H2020-MG-2014_SingleStage_A	27/03/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-mg-2014_singlestage_a.html
• H2020-MG-2014_SingleStage_B	28/08/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-mg-2014_singlestage_b.html
• H2020-MG-2014_TwoStages	18/03/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-mg-2014_twostages.html
• H2020-MG-2015_SingleStage-A	31/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-mg-2015_singlestage-a.html
• H2020-MG-2015-Singlestage-B	27/08/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-mg-2015-singlestage-b.html
• H2020-MG-2015_TwoStages	31/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-mg-2015_twostages.html
Green vehicles	**2 calls**	**01/2014**	**01/2015**
• H2020-GV-2014	28/08/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-gv-2014.html
• H2020-GV-2015	27/08/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-gv-2015.html
Biotechnology	**2 calls**	**01/2014**	**01/2015**
• H2020-LEIT-BIO-2014-1	12/03/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-leit-bio-2014-1.html
• H2020-LEIT-BIO-2015-1	24/02/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-leit-bio-2015-1.html
H2020 dedicated SME instrument Phase 2	**2 calls**	**01/2014**	**01/2015**
• H2020-SMEINST-2-2014	17/12/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-smeinst-2-2014.html
• H2020-SMEINST-2-2015	16/12/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-smeinst-2-2015.html
Water innovation	**4 calls**	**02/2014**	**02/2015**
• H2020-WATER-2014-one-stage	08/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-water-2014-one-stage.html
• H2020-WATER-2014-two-stage	08/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-water-2014-two-stage.html
• H2020-WATER-2015-one-stage	10/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-

			water-2015-one-stage.html
• H2020-WATER-2015-two-stage	16/10/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-water-2015-two-stage.html
H2020 dedicated SME instrument – Phase 1	**2 calls**	**01/2014**	**01/2015**
• H2020-SMEINST-1-2014	17/12/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-smeinst-1-2014.html
• H2020-SMEINST-1-2015	16/12/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-smeinst-1-2015.html
Nanotech & Advanced Materials and production	**8 calls**	**04/2014**	**03/2015**
• H2020-NMP-PILOTS-2014	06/05/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-pilots-2014.html
• H2020-NMP-ERA-NET-2015	26/03/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-era-net-2015.html
• H2020-NMP-CSA-2015	26/03/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-csa-2015.html
• H2020-NMP-PILOTS-2015	26/03/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-pilots-2015.html
• H2020-NMP-GV-2014	07/10/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-gv-2014.html
• H2020-NMP-CSA-2014	06/05/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-csa-2014.html
• H2020-NMP-2015-two-stage	26/03/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-2015-two-stage.html
• H2020-NMP-2014-two-stage	06/05/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-nmp-2014-two-stage.html
Widespread teaming	**1 call**	**01/2014**	
• H2020-WIDESPREAD-2014-1	17/09/2014	Spreading excellence and widening participation	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-widespread-2014-1.html
Widespread ERA chairs	**1 call**	**01/2014**	
• H2020-WIDESPREAD-2014-2	15/10/2014	Spreading excellence and widening participation	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-widespread-2014-2.html
New forms of innovation	**3 calls**	**01/2014**	**02/2015**
• H2020-INSO-2014	29/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-inso-2014.html

• H2020-INSO-2015	31/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-inso-2015.html
• H2020-INSO-2015-CNECT	21/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-inso-2015-cnect.html
Blue growth (ocean/seas)	**4 calls**	**02/2014**	**02/2015**
• H2020-BG-2014-1	26/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-bg-2014-1.html
• H2020-BG-2014-2	12/03/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-bg-2014-2.html
• H2020-BG-2015-1	11/06/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-bg-2015-1.html
• H2020-BG-2015-2	24/02/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-bg-2015-2.html
Protection of European assets in and from Space	**2 calls**	**01/2014**	**01/2015**
• H2020-PROTEC-2014	26/03/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-protec-2014.html
• H2020-PROTEC-2015	27/11/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-protec-2015.html
Earth observation	**2 calls**	**01/2014**	**01/2015**
• H2020-EO-2014	26/03/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-eo-2014.html
• H2020-EO-2015	27/11/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-eo-2015.html
Competitiveness of European Space Sectors	**2 calls**	**01/2014**	**01/2015**
• H2020-COMPET-2014	26/03/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-compet-2014.html
• H2020-COMPET-2015	27/11/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-compet-2015.html
Making science education and careers attractive for young people	**2 calls**	**01/2014**	**01/2015**
• H2020-SEAC-2014-1	02/10/2014	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-seac-2014-1.html
• H2020-SEAC-2015-1	16/09/2015	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-seac-2015-1.html
Integrating Society in Science and	**2 calls**	**01/2014**	**01/2015**

Innovation			
• H2020-ISSI-2014-1	02/10/2014	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-issi-2014-1.html
• H2020-ISSI-2015-1	16/09/2015	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-issi-2015-1.html
Gender equality in research and innovation	**2 calls**	**01/2014**	**01/2015**
• H2020-GERI-2014-1	02/10/2014	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-geri-2014-1.html
• H2020-GERI-2015-1	16/09/2015	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-geri-2015-1.html
Governance for responsible R&I	**3 calls**	**02/2014**	**01/2015**
• H2020-GARRI-2014-1	02/10/2014	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-garri-2014-1.html
• H2020-GARRI-NCP-2014-1	12/03/2014	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-garri-ncp-2014-1.html
• H2020-GARRI-2015-1	16/09/2015	Science with and for society	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-garri-2015-1.html
Energy efficiency market uptake	**4 calls**	**01/2014**	**01/2015**
• H2020-EE-2014-3-MarketUptake	05/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2014-3-marketuptake.html
• H2020-EE-2015-3 MarketUptake	10/06/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2015-3_marketuptake.html
• H2020-EE-2014-4-PDA	05/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2014-4-pda.html
• H2020-EE-2015-4-PDA	10/06/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2015-4-pda.html
Peer learning of innovation agencies	**1 call**	**01/2014**	
• H2020-INNOSUP-2014-5	16/12/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2014-5.html
Enhancing SME innovation capacity	**2 calls**	**01/2014**	**01/2015**
• H2020-INNOSUP-2014-1	12/02/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2014-1.html
• H2020-INNOSUP-2015-3	21/01/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2015-3.html
Capitalising the full potential of online cooperation	**1 call**	**01/2015**	

• H2020-INNOSUP-2015-2	10/03/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2015-2.html
Clusters for new industrial chains	**1 call**	**01/2015**	
• H2020-INNOSUP-2015-1	30/04/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2015-1.html
Widespread network of NCP	**1 call**	**2014**	
• H2020-WIDESPREAD-2014-3	26/03/2014	Spreading excellence and widening participation	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-widespread-2014-3.html
European label for innovation vouchers	**1 call**	**01/2014**	
• H2020-INNOSUP-2014-4	02/04/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2014-4.html
iPorta 2	**1 call**	**01/2014**	
• H2020-INNOSUP-2014-3	02/04/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2014-3.html
Sustainable food security	**4 calls**	**02/2014**	**01/2015**
• H2020-SFS-2014-1	26/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sfs-2014-1.html
• H2020-SFS-2014-2	12/03/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sfs-2014-2.html
• H2020-SFS-2015-1	11/06/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sfs-2015-1.html
• H2020-SFS-2015-2	24/02/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sfs-2015-2.html
Euratom	**1 call**	**01/2014**	
• NFRP-2014-2015	17/09/2014	EURATOM	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/nfrp-2014-2015.html
Bioeconomy	**4 calls**	**02/2014**	**02/2015**
• H2020-ISIB-2014-1	26/06/2014	• Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-isib-2014-1.html
• H2020-ISIB-2014-2	12/03/2014	• Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-isib-2014-2.html
• H2020-ISIB-2015-1	11/06/2015	• Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-isib-2015-1.html
• H2020-ISIB-2015-2	24/02/2015	• Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-isib-2015-2.html

Personalising health and care	4 calls	02/2014	02/2015
• H2020-PHC-2014-single-stage	15/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-phc-2014-single-stage.html
• H2020-PHC-2014-two-stage	11/03/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-phc-2014-two-stage.html
• H2020-PHC-2015-single-stage	21/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-phc-2015-single-stage.html
• H2020-PHC-2015-two-stage	14/10/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-phc-2015-two-stage.html
Health co-ordination activities	**2 calls**	**01/2014**	**01/2015**
• H2020-HCO-2014	15/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-hco-2014.html
• H2020-HCO-2015	21/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-hco-2015.html
FET-PROACTIVE - Towards Exascale High Performance Computing	**1 call**	**01/2014**	
• H2020-FETHPC-2014	25/11/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fethpc-2014.html
Low carbon & resource efficiency	**4 calls**	**02/2014**	**02/2015**
• H2020-SC5-2014-two-stage	08/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sc5-2014-two-stage.html
• H2020-SC5-2015-two-stage	16/10/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sc5-2015-two-stage.html
• H2020-SC5-2014-one-stage	08/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sc5-2014-one-stage.html
• H2020-SC5-2015-one-stage	10/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-sc5-2015-one-stage.html
Factories of the future	**2 calls**	**01/2014**	**01/2015**
• H2020-FoF-2014	20/03/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fof-2014.html
• H2020-FoF-2015	09/12/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fof-2015.html
Energy efficient buildings	**2 calls**	**01/2014**	**01/2015**
• H2020-EeB-2014	20/03/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-eeb-2014.html
• H2020-EeB-2015	09/12/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-eeb-

			2015.html
SPIRE - Sustainable Process Industries	**2 calls**	**01/2014**	**01/2015**
• H2020-SPIRE-2014	20/03/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-spire-2014.html
• H2020-SPIRE-2015	09/12/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-spire-2015.html
Smart Cities and Communities	**2 calls**	**01/2014**	**01/2015**
• H2020-SCC-2014	07/05/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-scc-2014.html
• H2020-SCC-2015	03/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-scc-2015.html
e-Infrastructures	**3 calls**	**02/2014**	**1/2015**
• H2020-EINFRA-2014-1	15/04/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-einfra-2014-1.html
• H2020-EINFRA-2014-2	02/09/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-einfra-2014-2.html
• H2020-EINFRA-2015-1	14/01/2015	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-einfra-2015-1.html
Waste	**4 calls**	**02/2014**	**02/2015**
• H2020-WASTE-2014-one-stage	08/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-waste-2014-one-stage.html
• H2020-WASTE-2014-two-stage	08/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-waste-2014-two-stage.html
• H2020-WASTE-2015-one-stage	10/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-waste-2015-one-stage.html
• H2020-WASTE-2015-two-stage	16/10/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-waste-2015-two-stage.html
Cultural heritage and European identities	**4 calls**	**02/2014**	**01/2015**
• H2020-REFLECTIVE-SOCIETY-2014	03/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-reflective-society-2014.html
• H2020-REFLECTIVE-7-2014	30/09/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-reflective-7-2014.html
• H2020-REFLECTIVE-6-2015	21/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-reflective-6-2015.html
• H2020-REFLECTIVE-SOCIETY-2015	07/01/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-

			reflective-society-2015.html
Young generation in an innovative, inclusive and sustainable Europe	**2 calls**	**01/2014**	**01/2015**
• H2020-YOUNG-SOCIETY-2014	03/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-young-society-2014.html
• H2020-YOUNG-SOCIETY-2015	07/01/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-young-society-2015.html
Overcoming the crisis: new ideas, strategies and governance structures for Europe	**3 calls**	**01/2014**	**01/2015**
• H2020-EURO-SOCIETY-2014	03/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-euro-society-2014.html
• H2020-EURO-6-2015	21/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-euro-6-2015.html
• H2020-EURO-SOCIETY-2015	07/01/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-euro-society-2015.html
Applications in satellite navigation Galileo	**2 calls**	**01/2014**	**01/2015**
• H2020-Galileo-2014-1	03/04/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-galileo-2014-1.html
• H2020-Galileo-2015-1	04/02/2015	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-galileo-2015-1.html
FET - Emerging themes and communities	**1 call**	**01/2014**	**02/2015**
• 2020-FETPROACT-2014	01/04/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fetproact-2014.html
Competitive low carbon energy	**8 calls**	**03/2014**	**03/2015**
• H2020-LCE-2014-1	01/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-lce-2014-1.html
• H2020-LCE-2014-2	10/09/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-lce-2014-2.html
• H2020-LCE-2014-3	07/05/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-lce-2014-3.html
• H2020-LCE-2014-4	01/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-lce-2014-4.html
• H2020-LCE-2015-1	03/09/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-lce-2015-1.html
• H2020-LCE-2015-2	03/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/

			desktop/en/opportunities/h2020/calls/h2020-lce-2015-2.html
• H2020-LCE-2015-3	03/03/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-lce-2015-3.html
• H2020-LCE-2015-4	05/05/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-lce-2015-4.html
Fight against crime and terrorism	**1 call**	**01/2014**	
• H2020-FCT-2014	28/08/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fct-2014.html
Border security and external security	**1 call**	**01/2014**	
• H2020-BES-2014	28/08/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-bes-2014.html
Disaster resilience	**1 call**	**01/2014**	
• H2020-DRS-2014	28/08/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-drs-2014.html
Europe as a global actor	**3 calls**	**02/2014**	**01/2015**
• H2020-INT-INCO-2014	29/04/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-int-inco-2014.html
• H2020-INT-SOCIETY-2015	07/01/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-int-society-2015.html
• H2020-INT-INCO-2015	20/01/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-int-inco-2015.html
Digital security	**2 calls**	**01/2014**	**01/2015**
• H2020-DS-2014-1	13/05/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ds-2014-1.html
• H2020-DS-2015-1	21/04/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ds-2015-1.html
ICT	**2 calls**	**02/2014**	
• H2020-ICT-2014-1	23/04/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ict-2014-1.html
• H2020-ICT-2014-2	25/11/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ict-2014-2.html
FET flagship	**1 call**	**01/2014**	
• H2020-FETFLAG-2014	10/04/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fetflag-2014.html
Capacity building in technology transfer	**1 call**	**01/2014**	

● H2020-CBTT-2014	15/04/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-cbtt-2014.html
Investment readiness of SMEs and mid-caps	**1 call**	**01/2014**	
● H2020-BIR-2014	15/04/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-bir-2014.html
FET - Novel ideas for radically new technologies	**3 calls**	**03/2015**	
● H2020-FETOPEN-2014-2015-1	29/09/2015	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fetopen-2014-2015-1.html
● H2020-FETOPEN-2014-2015-2	30/09/2015	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fetopen-2014-2015-2.html
● H2020-FETOPEN-2014-2015-3	29/09/2015	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-fetopen-2014-2015-3.html
ERC consolidation grant	**1 call**	**01/2014**	
● ERC-2014-CoG	20/05/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/erc-2014-cog.html
Support to innovation, human resources, policy and international cooperation	**3 calls**	**02/2014**	**02/2015**
● H2020-INFRASUPP-2014-1	14/05/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-infrasupp-2014-1.html
● H2020-INFRASUPP-2014-2	02/09/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-infrasupp-2014-2.html
● H2020-INFRASUPP-2015-1	14/01/2015	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-infrasupp-2015-1.html
Research infrastructures of European interest	**1 call**	**01/2014**	
● H2020-INFRAIA-2014-2015	02/09/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-infraia-2014-2015.html
Developing new world-class research infrastructures	**2 calls**	**01/2014**	**01/2015**
● H2020-INFRADEV-1-2014-1	02/09/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-infradev-1-2014-1.html
● H2020-INFRADEV-1-2015-1	14/01/2015	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-infradev-1-2015-1.html
Marie Skłodowska-Curie research and innovation staff exchange (RISE)	**1 call**	**01/2014**	

● H2020-MSCA-RISE-2014	24/04/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-msca-rise-2014.html
Marie Skłodowska-Curie action: innovative training networks (ITN)	**1 call**	**01/2014**	
● H2020-MSCA-ITN-2014	09/04/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-msca-itn-2014.html
Trans-national cooperation among Marie Skłodowska-Curie National Contact Points (NCP)	**1 call**	**01/2014**	
● H2020-MSCA-NCP-2014	02/04/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-msca-ncp-2014.html
European Researchers' Night (NIGHT)	**1 call**	**01/2014**	
● H2020-MSCA-NIGHT-2014	04/03/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-msca-night-2014.html
ERC Proof of concept grant	**1 call**	**01/2014**	
● ERC-2014-PoC	01/10/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/erc-2014-poc.html
ERC Starting grant	**1 call**	**01/2014**	
● ERC-2014-STG	25/03/2014	Excellent Science	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/erc-2014-stg.html
European Intellectual Property Right (IPR) Helpdesk	**1 call**	**01/2014**	
● H2020-INNOSUP-2014-2	02/04/2014	Industrial Leadership	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-innosup-2014-2.html
Energy Efficiency Research and Innovation	**2 calls**		
● H2020-EE-2014-2-RIA	05/06/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2014-2-ria.html
● H2020-EE-2015-2-RIA	10/06/2015	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2015-2-ria.html
Energy Efficiency PPP EeB and SPIRE topics	**2 calls**		
● H2020-EE-2014-1-PPP	20/03/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2014-1-ppp.html
● H2020-EE-2015-1-PPP	09/12/2014	Societal Challenges	http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/calls/h2020-ee-2015-1-ppp.html

Some details regarding calls which seem to be of interest to RDAs and other EURADA members:

WIDESPREAD-2014-1 TEAMING (H2020-WIDESPREAD-2014-1)

Budget: €11,850,000

Deadline: 2014-09-17 +17:00:00 (Brussels local time)

Topic description: Despite its strengths, the European Research and Innovation landscape presents a lot of structural disparities, with research and innovation excellence concentrated in a few geographical zones. These disparities are due to, among other reasons, the insufficient critical mass of science and centres having sufficient competence to engage countries and regions strategically in a path of innovative growth, building on newly developed capabilities. This could help countries and regions that are lagging behind in terms of research and innovation performance reclaim their competitive position in the global value chains. Teaming will address this challenge by creating or upgrading such centres of excellence, building on partnerships between leading scientific institutions and low performing partners that display the willingness to engage together on this purpose.

HORIZON 2020 DEDICATED SME INSTRUMENT - PHASE 1 2014 (H2020-SMEINST-1-2014)

Budget: €25,102,000

Deadline: 2014-12-17 +17:00:00 (Brussels local time)

Topics and description:

- **Space-SME-2014-1: SME Instrument**: To engage small and medium enterprises in space research and development, especially those not traditionally involved in it and reduce as much as possible the entry barriers to SMEs for Horizon 2020 funding.
  The specific challenge of the actions envisaged under this call could cover any aspect of the Specific Programme for Space (Horizon 2020 Framework programme and Specific programme). However, it is considered that actions in the areas of applications, especially in connection to the flagship programmes Galileo and Copernicus, spinning-in (i.e. application of terrestrial solutions to challenges in space) and the development of certain critical technologies could be adequately suited for this call.

- **ICT-37-2014-1: Open Disruptive Innovation Scheme (implemented through the SME instrument)**: The challenge is to provide support to a large set of early stage high risk innovative SMEs in the ICT sector. Focus will be on SME proposing innovative ICT concept, product and service applying new sets of rules, values and models which ultimately disrupt existing markets.
  The objective of the ODI is threefold:
  - Nurture promising innovative and disruptive ideas;
  - Support their prototyping, validation and demonstration in real world conditions;
  - Help for wider deployment or market uptake.
  Proposed projects should have a potential for disruptive innovation and fast market up-take in ICT.
  In particular it will be interesting for entrepreneurs and young innovative companies that are looking for swift support to their innovative ideas.
  The ODI objective will support the validation, fast prototyping and demonstration of disruptive innovation bearing a strong EU dimension.

- **NMP-25-2014-1: Accelerating the uptake of nanotechnologies, advanced materials or advanced manufacturing and processing technologies by SMEs**: Research results should be taken up by industry, harvesting the hitherto untapped potential of nanotechnologies, advanced materials

and advanced manufacturing and processing technologies. The goal is to create added value by creatively combining existing research results with other necessary elements,[1] to transfer results across sectors where applicable, to accelerate innovation and eventually create profit or other benefits. The research should bring the technology and production to industrial readiness and maturity for commercialisation after the project.

- **PHC-12-2014-1: Clinical validation of biomarkers and/or diagnostic medical devices**: Biomarkers are used in clinical practice to describe both normal and pathological conditions. They can also have a prognostic or a predictive power. They are therefore increasingly used in medicine and many potential biomarkers are proposed every year.
Only a few of them are however validated for use in a clinical research setting. Such validation implies the demonstration of a link to a pertinent clinical endpoint or process, as well as a robust and appropriate analytical method.
The clinical validation of biomarkers will be increasingly important for the development of new diagnostics, and this is a research area where many small European companies are active.
Improved clinical decisions should lead to better health outcomes while contributing to the sustainability of the health care system.

- **SFS-08-2014-1: Resource-efficient eco-innovative food production and processing**: To remain competitive, limit environmental degradation and optimise the efficient use of resources, the development of more resource-efficient and sustainable food production and processing, throughout the food system, at all scales of business, in a competitive and innovative way is required. Current food production and processing systems, especially in the SME sector, need to be revised and optimised with the aim of achieving a significant reduction in water and energy use, greenhouse gas emissions and waste generation, while at the same time improving the efficiency in the use of raw materials, increasing climate resilience and ensuring or improving shelf life, food safety and quality. New competitive eco-innovative processes should be developed, within the framework of a transition towards a more resource-efficient, sustainable circular economy.

- **BG-12-2014-1: Supporting SMEs efforts for the development - deployment and market replication of innovative solutions for blue growth**: The potential of Europe's Oceans, seas and coasts is significant for job and growth creation if the appropriate investments in research and innovation are made. SMEs contribution to the development of the 'Blue Growth Strategy' (COM (2012) 494) can be significant in particular in the fields of marine biotechnology (related applications, key tools and technologies) as well as aquaculture related marine technologies and services.
However, SMEs lack access to finance to develop their activities and the economic and financial crisis has made access to finance even more difficult. This is particularly true in the previously mentioned maritime sectors, where access to finance for SMEs is considered as one of the most important barriers for the development of innovative maritime economic activities.

- **SIE-01-2014-1: Stimulating the innovation potential of SMEs for a low carbon energy system**: SMEs play a crucial role in developing resource-efficient, cost-effective and affordable technology solutions to decarbonise and make more efficient the energy system in a sustainable way. They are expected to strongly contribute to all challenges outlined in the legal base of the Horizon 2020 Societal Challenge 'Secure, Clean and Efficient Energy', in particular with regard to
  - Reducing energy consumption and carbon footprint by smart and sustainable use (including energy-efficient products and services as well as 'Smart Cities and Communities'),
  - Low-cost, low-carbon electricity supply (including renewable energy as well as CCS and re-use),
  - Alternative fuels and mobile energy sources,

- A single, smart European electricity grid,
- New knowledge and technologies, and
- Robust decision making and public engagement.

- **IT-1-2014-1: Small business innovation research for Transport**: The European transport sector must have the capacity to deliver the best products and services, in a time and cost efficient manner, in order to preserve its leadership and create new jobs, as well as to tackle the environmental and mobility defies. The role of SMEs to meet these challenges is critical as they are key players in the supply chains. Enhancing the involvement of weaker players in innovation activities as well as facilitating the start-up and emergence of new high-tech SMEs is of paramount importance.

- **SC5-20-2014-1: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials**: Innovative SMEs have been recognised as being able to become the engine of the green economy and to facilitate the transition to a resource efficient, circular economy. They can play an important role in helping the EU to exit from the economic crises and in job creation. The potential of commercialising innovative solutions from SMEs is however hindered by several barriers including the absence of the proof of concept, the difficulty to access risk finance, the lack of prototyping, insufficient scale-up studies, etc. Growth therefore needs to be stimulated by increasing the levels of innovation in SMEs, covering their different innovation needs over the whole innovation cycle.
  Innovative SMEs should be supported and guided to reach and accelerate their full green growth potential. This topic is targeted at all types of eco-innovative SMEs in all areas addressing the climate action, environment, resource efficiency and raw materials challenge, focusing on SMEs showing a strong ambition to develop, grow and internationalise. All kinds of promising ideas, products, processes, services and business models, notably across sectors and disciplines, for commercialisation both in a business-to-business (B2B) and a business-to-customer (B2C) context, are eligible.

- **DRS-17-2014-1: Critical infrastructure protection topic 7: SME instrument topic: "Protection of Urban soft targets and urban critical infrastructures"**: The aim is to engage small and medium enterprises in security research and development and in particular to facilitate and accelerate the transition of their developed products/services to the market place.
  The specific challenge of the actions and activities envisaged under this topic are related to protection of urban soft targets and urban critical infrastructures.
  Specific consideration should be given to 'urban soft targets' , which are exposed to increasing security threats which can be defined as urban areas into which large numbers of citizens are freely admitted, for usual activities or special events or routinely reside or gather. Among others, these include parks, squares and markets, shopping malls, train and bus stations, passenger terminals, hotels and tourist resorts, cultural, historical, religious and educational centres and banks.
  The critical infrastructures sectors listed in the European Programme for Critical Infrastructures Protection (EPCIP), including, among others, energy installations and networks, communications and information technology, finance (banking, securities and investment), water (dams, storage, treatment and networks), supply chain and government (e.g. critical services, facilities, information networks, assets and key national sites and monuments) are not only relevant at a national scale but they can be considered critical infrastructures in an urban context as well.

- **BIOTEC-5a-2014-1: SME boosting biotechnology-based industrial processes driving competitiveness and sustainability**: The large number of SMEs which characterise the EU biotechnology sector are playing a crucial role in the move to competitive and sustainable biotechnology-based processes. These SMEs are characterised by their research intensity and

long lead times between early technological development and market introduction. They therefore need to be supported to overcome the so-called "valley of death".

HORIZON 2020 DEDICATED SME INSTRUMENT - PHASE 2 2014 (H2020-SMEINST-2-2014)

Budget: €220,897,600

Deadline: 2014-12-17 +17:00:00 (Brussels local time)

Topics and description:

- **SC5-20-2014: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials**: Innovative SMEs have been recognised as being able to become the engine of the green economy and to facilitate the transition to a resource efficient, circular economy. They can play an important role in helping the EU to exit from the economic crises and in job creation. The potential of commercialising innovative solutions from SMEs is however hindered by several barriers including the absence of the proof of concept, the difficulty to access risk finance, the lack of prototyping, insufficient scale-up studies, etc. Growth therefore needs to be stimulated by increasing the levels of innovation in SMEs, covering their different innovation needs over the whole innovation cycle.
  Innovative SMEs should be supported and guided to reach and accelerate their full green growth potential. This topic is targeted at all types of eco-innovative SMEs in all areas addressing the climate action, environment, resource efficiency and raw materials challenge, focusing on SMEs showing a strong ambition to develop, grow and internationalise. All kinds of promising ideas, products, processes, services and business models, notably across sectors and disciplines, for commercialisation both in a business-to-business (B2B) and a business-to-customer (B2C) context, are eligible.

- **Space-SME-2014-2: SME Instrument**: To engage small and medium enterprises in space research and development, especially those not traditionally involved in it and reduce as much as possible the entry barriers to SMEs for Horizon 2020 funding.
  The specific challenge of the actions envisaged under this call could cover any aspect of the Specific Programme for Space (Horizon 2020 Framework programme and Specific programme). However, it is considered that actions in the areas of applications, especially in connection to the flagship programmes Galileo and Copernicus, spinning-in (i.e. application of terrestrial solutions to challenges in space) and the development of certain critical technologies could be adequately suited for this call.

- **SFS-08-2014: Resource-efficient eco-innovative food production and processing**: To remain competitive, limit environmental degradation and optimise the efficient use of resources, the development of more resource-efficient and sustainable food production and processing, throughout the food system, at all scales of business, in a competitive and innovative way is required. Current food production and processing systems, especially in the SME sector, need to be revised and optimised with the aim of achieving a significant reduction in water and energy use, greenhouse gas emissions and waste generation, while at the same time improving the efficiency in the use of raw materials, increasing climate resilience and ensuring or improving shelf life, food safety and quality. New competitive eco-innovative processes should be developed, within the framework of a transition towards a more resource-efficient, sustainable circular economy.

- **BG-12-2014: Supporting SMEs efforts for the development - deployment and market replication of innovative solutions for blue growth**: The potential of Europe's Oceans, seas and coasts is significant for job and growth creation if the appropriate investments in research and innovation are made. SMEs contribution to the development of the 'Blue Growth Strategy' (COM (2012) 494)

can be significant in particular in the fields of marine biotechnology (related applications, key tools and technologies) as well as aquaculture related marine technologies and services. However, SMEs lack access to finance to develop their activities and the economic and financial crisis has made access to finance even more difficult. This is particularly true in the previously mentioned maritime sectors, where access to finance for SMEs is considered as one of the most important barriers for the development of innovative maritime economic activities.

- **ICT-37-2014: Open Disruptive Innovation Scheme (implemented through the SME instrument)**: The challenge is to provide support to a large set of early stage high risk innovative SMEs in the ICT sector. Focus will be on SME proposing innovative ICT concept, product and service applying new sets of rules, values and models which ultimately disrupt existing markets.
  The objective of the ODI is threefold:
  - Nurture promising innovative and disruptive ideas;
  - Support their prototyping, validation and demonstration in real world conditions;
  - Help for wider deployment or market uptake.
  Proposed projects should have a potential for disruptive innovation and fast market up-take in ICT.
  In particular it will be interesting for entrepreneurs and young innovative companies that are looking for swift support to their innovative ideas.
  The ODI objective will support the validation, fast prototyping and demonstration of disruptive innovation bearing a strong EU dimension.

- **SIE-01-2014: Stimulating the innovation potential of SMEs for a low carbon energy system**: SMEs play a crucial role in developing resource-efficient, cost-effective and affordable technology solutions to decarbonise and make more efficient the energy system in a sustainable way. They are expected to strongly contribute to all challenges outlined in the legal base of the Horizon 2020 Societal Challenge 'Secure, Clean and Efficient Energy', in particular with regard to
  - Reducing energy consumption and carbon footprint by smart and sustainable use (including energy-efficient products and services as well as 'Smart Cities and Communities'),
  - Low-cost, low-carbon electricity supply (including renewable energy as well as CCS and re-use),
  - Alternative fuels and mobile energy sources,
  - A single, smart European electricity grid,
  - New knowledge and technologies, and
  - Robust decision making and public engagement.

- **IT-1-2014: Small business innovation research for Transport**: The European transport sector must have the capacity to deliver the best products and services, in a time and cost efficient manner, in order to preserve its leadership and create new jobs, as well as to tackle the environmental and mobility defies. The role of SMEs to meet these challenges is critical as they are key players in the supply chains. Enhancing the involvement of weaker players in innovation activities as well as facilitating the start-up and emergence of new high-tech SMEs is of paramount importance.

- **NMP-25-2014: Accelerating the uptake of nanotechnologies, advanced materials or advanced manufacturing and processing technologies by SMEs**: Research results should be taken up by industry, harvesting the hitherto untapped potential of nanotechnologies, advanced materials and advanced manufacturing and processing technologies. The goal is to create added value by creatively combining existing research results with other necessary elements,[1] to transfer results across sectors where applicable, to accelerate innovation and eventually create profit or other benefits. The research should bring the technology and production to industrial readiness and maturity for commercialisation after the project.

- **DRS-17-2014: Critical infrastructure protection topic 7: SME instrument topic: "Protection of Urban soft targets and urban critical infrastructures"**: The aim is to engage small and medium enterprises in security research and development and in particular to facilitate and accelerate the transition of their developed products/services to the market place.

  The specific challenge of the actions and activities envisaged under this topic are related to protection of urban soft targets and urban critical infrastructures.

  Specific consideration should be given to 'urban soft targets' , which are exposed to increasing security threats which can be defined as urban areas into which large numbers of citizens are freely admitted, for usual activities or special events or routinely reside or gather. Among others, these include parks, squares and markets, shopping malls, train and bus stations, passenger terminals, hotels and tourist resorts, cultural, historical, religious and educational centres and banks.

  The critical infrastructures sectors listed in the European Programme for Critical Infrastructures Protection (EPCIP), including, among others, energy installations and networks, communications and information technology, finance (banking, securities and investment), water (dams, storage, treatment and networks), supply chain and government (e.g. critical services, facilities, information networks, assets and key national sites and monuments) are not only relevant at a national scale but they can be considered critical infrastructures in an urban context as well.

- **PHC-12-2014: Clinical validation of biomarkers and/or diagnostic medical devices**: Biomarkers are used in clinical practice to describe both normal and pathological conditions. They can also have a prognostic or a predictive power. They are therefore increasingly used in medicine and many potential biomarkers are proposed every year.

  Only a few of them are however validated for use in a clinical research setting. Such validation implies the demonstration of a link to a pertinent clinical endpoint or process, as well as a robust and appropriate analytical method.

  The clinical validation of biomarkers will be increasingly important for the development of new diagnostics, and this is a research area where many small European companies are active.

  Improved clinical decisions should lead to better health outcomes while contributing to the sustainability of the health care system.

- **BIOTEC-5a-2014: SME boosting biotechnology-based industrial processes driving competitiveness and sustainability**: The large number of SMEs which characterise the EU biotechnology sector are playing a crucial role in the move to competitive and sustainable biotechnology-based processes. These SMEs are characterised by their research intensity and long lead times between early technological development and market introduction. They therefore need to be supported to overcome the so-called "valley of death".

HORIZON 2020 DEDICATED SME INSTRUMENT - PHASE 1 2015 (H2020-SMEINST-1-2015)

Budget: €26,557,000

Deadline: 2015-12-16 +17:00:00 (Brussels local time)

Topics and description:

- **BG-12-2015-1: Supporting SMEs efforts for the development - deployment and market replication of innovative solutions for blue growth**: The potential of Europe's Oceans, seas and coasts is significant for job and growth creation if the appropriate investments in research and innovation are made. SMEs contribution to the development of the 'Blue Growth Strategy' (COM (2012) 494) can be significant in particular in the fields of marine biotechnology (related applications, key tools and technologies) as well as aquaculture related marine technologies and services.

However, SMEs lack access to finance to develop their activities and the economic and financial crisis has made access to finance even more difficult. This is particularly true in the previously mentioned maritime sectors, where access to finance for SMEs is considered as one of the most important barriers for the development of innovative maritime economic activities.

- **Space-SME-2015-1: SME Instrument**: To engage small and medium enterprises in space research and development, especially those not traditionally involved in it and reduce as much as possible the entry barriers to SMEs for Horizon 2020 funding.
  The specific challenge of the actions envisaged under this call could cover any aspect of the Specific Programme for Space (Horizon 2020 Framework programme and Specific programme). However, it is considered that actions in the areas of applications, especially in connection to the flagship programmes Galileo and Copernicus, spinning-in (i.e. application of terrestrial solutions to challenges in space) and the development of certain critical technologies could be adequately suited for this call.

- **SIE-01-2015-1: Stimulating the innovation potential of SMEs for a low carbon energy system**: SMEs play a crucial role in developing resource-efficient, cost-effective and affordable technology solutions to decarbonise and make more efficient the energy system in a sustainable way. They are expected to strongly contribute to all challenges outlined in the legal base of the Horizon 2020 Societal Challenge 'Secure, Clean and Efficient Energy', in particular with regard to
  - Reducing energy consumption and carbon footprint by smart and sustainable use (including energy-efficient products and services as well as 'Smart Cities and Communities'),
  - Low-cost, low-carbon electricity supply (including renewable energy as well as CCS and re-use),
  - Alternative fuels and mobile energy sources,
  - A single, smart European electricity grid,
  - New knowledge and technologies, and
  - Robust decision making and public engagement.

- **IT-1-2015-1: Small business innovation research for Transport**: The European transport sector must have the capacity to deliver the best products and services, in a time and cost efficient manner, in order to preserve its leadership and create new jobs, as well as to tackle the environmental and mobility defies. The role of SMEs to meet these challenges is critical as they are key players in the supply chains. Enhancing the involvement of weaker players in innovation activities as well as facilitating the start-up and emergence of new high-tech SMEs is of paramount importance.

- **SC5-20-2015-1: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials**: Innovative SMEs have been recognised as being able to become the engine of the green economy and to facilitate the transition to a resource efficient, circular economy. They can play an important role in helping the EU to exit from the economic crises and in job creation. The potential of commercialising innovative solutions from SMEs is however hindered by several barriers including the absence of the proof of concept, the difficulty to access risk finance, the lack of prototyping, insufficient scale-up studies, etc. Growth therefore needs to be stimulated by increasing the levels of innovation in SMEs, covering their different innovation needs over the whole innovation cycle.
  Innovative SMEs should be supported and guided to reach and accelerate their full green growth potential. This topic is targeted at all types of eco-innovative SMEs in all areas addressing the climate action, environment, resource efficiency and raw materials challenge, focusing on SMEs showing a strong ambition to develop, grow and internationalise. All kinds of promising ideas, products, processes, services and business models, notably across sectors and disciplines, for

commercialisation both in a business-to-business (B2B) and a business-to-customer (B2C) context, are eligible.

- **INSO-9-2015-1: Innovative mobile e-government applications by SMEs**: Current societal and economic challenges as well as rising expectations to reduce the burden on users, put pressure on all public administrations to provide efficient, open and citizen-centric public services.

  Due to the increased use of mobile technology as well as the increasing availability of public information, data and online services, public services can be transformed. Coupling open public data and services with information and services offered by the private sector can lead to innovative, user-friendly and personalised services that can be accessed easily.

  Because of their size, knowledge and agility, SMEs are key actors for the provision of those innovative services. The "apps" market for mobile devices is a very dynamic market, which mostly lacks application specifically for the public sector. Engaging SMEs into the potentially huge public sector innovation market is a challenge for local and regional public authorities.

  The scope of this action is to provide support to innovative SMEs, including start-ups, for the design and creation of innovative applications, in order to foster the delivery of mobile public services.

  The aim is to help the interaction of citizens and businesses with public administrations. This may be done through the combination of public and private sector services, through mobile technologies. Although they may be first piloted in a local context – with the involvement of public administrations and end users - the solutions need to ensure replicability, also taking into account multi-lingualism and, where necessary, the cross-border dimension. Scalability and sustainability issues are to be considered.

- **INSO-10-2015-1: SME business model innovation**: Technologies and services as such do not have a specific value. Their value is determined by the business models used to bring them to a market.

  Many current, widely applied business models, have developed for big companies and may be not-fitting or not-serving well the needs of SMEs nor be inspired by new knowledge on innovation in business models. In addition to this, small community-oriented companies, using their profits primarily for social objectives, can build their growth on business model innovation.

  The specific challenge addressed by this topic is to enable SMEs - in traditional sectors, such as manufacturing industries, in sectors of particularly rooted in Europe's history such as cultural heritage as well as in new sectors including different services and creative industries, and the social economy – to innovate and grow across traditional boundaries, through new business models and organisational change. The international dimension is included. For instance, this can involve drawing on successful business models in different sectors in the global market, and developing them for use by European SMEs in the same or different sectors. It can also involve reverse innovation in business models, where models initially created in Europe and becoming successful elsewhere, are supported to return to Europe. For business model innovation in the broad area of food, it is foreseen to organize several events in the autumn of 2015 within an appropriate European level forum. Of particular importance for the new business models will be user-oriented services, cultural heritage related services, social services and tourism. The SME instrument, providing the phased approach and mentoring schemes needed, so that the participating SMEs can build successful strategies to achieve growth, is an appropriate instrument to address this challenge.

- **DRS-17-2015-1: Critical infrastructure protection topic 7: SME instrument topic: Protection of Urban soft targets and critical infrastructures**: The aim is to engage small and medium enterprises in security research and development and in particular to facilitate and accelerate the transition of their developed products/services to the market place.

The specific challenge of the actions and activities envisaged under this topic are related to protection of urban soft targets and urban critical infrastructures.

Specific consideration should be given to 'urban soft targets' , which are exposed to increasing security threats which can be defined as urban areas into which large numbers of citizens are freely admitted, for usual activities or special events or routinely reside or gather. Among others, these include parks, squares and markets, shopping malls, train and bus stations, passenger terminals, hotels and tourist resorts, cultural, historical, religious and educational centres and banks.

The critical infrastructures sectors listed in the European Programme for Critical Infrastructures Protection (EPCIP), including, among others, energy installations and networks, communications and information technology, finance (banking, securities and investment), water (dams, storage, treatment and networks), supply chain and government (e.g. critical services, facilities, information networks, assets and key national sites and monuments) are not only relevant at a national scale but they can be considered critical infrastructures in an urban context as well.

- **NMP-25-2015-1: Accelerating the uptake of nanotechnologies, advanced materials or advanced manufacturing and processing technologies by SMEs**: Research results should be taken up by industry, harvesting the hitherto untapped potential of nanotechnologies, advanced materials and advanced manufacturing and processing technologies. The goal is to create added value by creatively combining existing research results with other necessary elements, to transfer results across sectors where applicable, to accelerate innovation and eventually create profit or other benefits. The research should bring the technology and production to industrial readiness and maturity for commercialisation after the project.

- **BIOTEC-5b-2015-1: SME boosting biotechnology-based industrial processes driving competitiveness and sustainability**: The large number of SMEs which characterise the EU biotechnology sector are playing a crucial role in the move to competitive and sustainable biotechnology-based processes. These SMEs are characterised by their research intensity and long lead times between early technological development and market introduction. They therefore need to be supported to overcome the so-called "valley of death".

- **ICT-37-2015-1: Open Disruptive Innovation Scheme (implemented through the SME instrument)**: The challenge is to provide support to a large set of early stage high risk innovative SMEs in the ICT sector. Focus will be on SME proposing innovative ICT concept, product and service applying new sets of rules, values and models which ultimately disrupt existing markets.
  The objective of the ODI is threefold:
  - Nurture promising innovative and disruptive ideas;
  - Support their prototyping, validation and demonstration in real world conditions;
  - Help for wider deployment or market uptake.
  Proposed projects should have a potential for disruptive innovation and fast market up-take in ICT.
  In particular it will be interesting for entrepreneurs and young innovative companies that are looking for swift support to their innovative ideas.
  The ODI objective will support the validation, fast prototyping and demonstration of disruptive innovation bearing a strong EU dimension.

- **PHC-12-2015-1: Clinical validation of biomarkers and/or diagnostic medical devices**: Biomarkers are used in clinical practice to describe both normal and pathological conditions. They can also have a prognostic or a predictive power. They are therefore increasingly used in medicine and many potential biomarkers are proposed every year.

Only a few of them are however validated for use in a clinical research setting. Such validation implies the demonstration of a link to a pertinent clinical endpoint or process, as well as a robust and appropriate analytical method.

The clinical validation of biomarkers will be increasingly important for the development of new diagnostics, and this is a research area where many small European companies are active.

Improved clinical decisions should lead to better health outcomes while contributing to the sustainability of the health care system.

- **SFS-08-2015-1: Resource-efficient eco-innovative food production and processing**: To remain competitive, limit environmental degradation and optimise the efficient use of resources, the development of more resource-efficient and sustainable food production and processing, throughout the food system, at all scales of business, in a competitive and innovative way is required. Current food production and processing systems, especially in the SME sector, need to be revised and optimised with the aim of achieving a significant reduction in water and energy use, greenhouse gas emissions and waste generation, while at the same time improving the efficiency in the use of raw materials, increasing climate resilience and ensuring or improving shelf life, food safety and quality. New competitive eco-innovative processes should be developed, within the framework of a transition towards a more resource-efficient, sustainable circular economy.

HORIZON 2020 DEDICATED SME INSTRUMENT - PHASE 2 2015 (H2020-SMEINST-2-2015)

Budget: €233,701,600

Deadline: 2015-12-16 +17:00:00 (Brussels local time)

Topics and description:

- **SC5-20-2015: Boosting the potential of small businesses for eco-innovation and a sustainable supply of raw materials**: Innovative SMEs have been recognised as being able to become the engine of the green economy and to facilitate the transition to a resource efficient, circular economy. They can play an important role in helping the EU to exit from the economic crises and in job creation. The potential of commercialising innovative solutions from SMEs is however hindered by several barriers including the absence of the proof of concept, the difficulty to access risk finance, the lack of prototyping, insufficient scale-up studies, etc. Growth therefore needs to be stimulated by increasing the levels of innovation in SMEs, covering their different innovation needs over the whole innovation cycle.

  Innovative SMEs should be supported and guided to reach and accelerate their full green growth potential. This topic is targeted at all types of eco-innovative SMEs in all areas addressing the climate action, environment, resource efficiency and raw materials challenge, focusing on SMEs showing a strong ambition to develop, grow and internationalise. All kinds of promising ideas, products, processes, services and business models, notably across sectors and disciplines, for commercialisation both in a business-to-business (B2B) and a business-to-customer (B2C) context, are eligible.

- **Space-SME-2015-2: SME Instrument**: To engage small and medium enterprises in space research and development, especially those not traditionally involved in it and reduce as much as possible the entry barriers to SMEs for Horizon 2020 funding.

  The specific challenge of the actions envisaged under this call could cover any aspect of the Specific Programme for Space (Horizon 2020 Framework programme and Specific programme). However, it is considered that actions in the areas of applications, especially in connection to the flagship programmes Galileo and Copernicus, spinning-in (i.e. application of terrestrial solutions to challenges in space) and the development of certain critical technologies could be adequately suited for this call.

- **SFS-08-2015: Resource-efficient eco-innovative food production and processing**: To remain competitive, limit environmental degradation and optimise the efficient use of resources, the development of more resource-efficient and sustainable food production and processing, throughout the food system, at all scales of business, in a competitive and innovative way is required. Current food production and processing systems, especially in the SME sector, need to be revised and optimised with the aim of achieving a significant reduction in water and energy use, greenhouse gas emissions and waste generation, while at the same time improving the efficiency in the use of raw materials, increasing climate resilience and ensuring or improving shelf life, food safety and quality. New competitive eco-innovative processes should be developed, within the framework of a transition towards a more resource-efficient, sustainable circular economy.

- **BG-12-2015: Supporting SMEs efforts for the development - deployment and market replication of innovative solutions for blue growth**: The potential of Europe's Oceans, seas and coasts is significant for job and growth creation if the appropriate investments in research and innovation are made. SMEs contribution to the development of the 'Blue Growth Strategy' (COM (2012) 494) can be significant in particular in the fields of marine biotechnology (related applications, key tools and technologies) as well as aquaculture related marine technologies and services.
  However, SMEs lack access to finance to develop their activities and the economic and financial crisis has made access to finance even more difficult. This is particularly true in the previously mentioned maritime sectors, where access to finance for SMEs is considered as one of the most important barriers for the development of innovative maritime economic activities.

- **ICT-37-2015: Open Disruptive Innovation Scheme (implemented through the SME instrument)**:
  The challenge is to provide support to a large set of early stage high risk innovative SMEs in the ICT sector. Focus will be on SME proposing innovative ICT concept, product and service applying new sets of rules, values and models which ultimately disrupt existing markets.
  The objective of the ODI is threefold:
  - Nurture promising innovative and disruptive ideas;
  - Support their prototyping, validation and demonstration in real world conditions;
  - Help for wider deployment or market uptake.
  Proposed projects should have a potential for disruptive innovation and fast market up-take in ICT.
  In particular it will be interesting for entrepreneurs and young innovative companies that are looking for swift support to their innovative ideas.
  The ODI objective will support the validation, fast prototyping and demonstration of disruptive innovation bearing a strong EU dimension.

- **SIE-01-2015: Stimulating the innovation potential of SMEs for a low carbon energy system**:
  SMEs play a crucial role in developing resource-efficient, cost-effective and affordable technology solutions to decarbonise and make more efficient the energy system in a sustainable way. They are expected to strongly contribute to all challenges outlined in the legal base of the Horizon 2020 Societal Challenge 'Secure, Clean and Efficient Energy', in particular with regard to
  - Reducing energy consumption and carbon footprint by smart and sustainable use (including energy-efficient products and services as well as 'Smart Cities and Communities'),
  - Low-cost, low-carbon electricity supply (including renewable energy as well as CCS and re-use),
  - Alternative fuels and mobile energy sources,
  - A single, smart European electricity grid,
  - New knowledge and technologies, and
  - Robust decision making and public engagement.

- **IT-1-2015: Small business innovation research for Transport**: The European transport sector must have the capacity to deliver the best products and services, in a time and cost efficient manner, in order to preserve its leadership and create new jobs, as well as to tackle the environmental and mobility defies. The role of SMEs to meet these challenges is critical as they are key players in the supply chains. Enhancing the involvement of weaker players in innovation activities as well as facilitating the start-up and emergence of new high-tech SMEs is of paramount importance.

- **INSO-9-2015: Innovative mobile e-government applications by SMEs**: Current societal and economic challenges as well as rising expectations to reduce the burden on users, put pressure on all public administrations to provide efficient, open and citizen-centric public services.
  Due to the increased use of mobile technology as well as the increasing availability of public information, data and online services, public services can be transformed. Coupling open public data and services with information and services offered by the private sector can lead to innovative, user-friendly and personalised services that can be accessed easily.
  Because of their size, knowledge and agility, SMEs are key actors for the provision of those innovative services. The "apps" market for mobile devices is a very dynamic market, which mostly lacks application specifically for the public sector. Engaging SMEs into the potentially huge public sector innovation market is a challenge for local and regional public authorities.
  The scope of this action is to provide support to innovative SMEs, including start-ups, for the design and creation of innovative applications, in order to foster the delivery of mobile public services.
  The aim is to help the interaction of citizens and businesses with public administrations. This may be done through the combination of public and private sector services, through mobile technologies. Although they may be first piloted in a local context – with the involvement of public administrations and end users - the solutions need to ensure replicability, also taking into account multi-lingualism and, where necessary, the cross-border dimension. Scalability and sustainability issues are to be considered.

- **INSO-10-2015: SME business model innovation**: Technologies and services as such do not have a specific value. Their value is determined by the business models used to bring them to a market.
  Many current, widely applied business models, have developed for big companies and may be not-fitting or not-serving well the needs of SMEs nor be inspired by new knowledge on innovation in business models. In addition to this, small community-oriented companies, using their profits primarily for social objectives, can build their growth on business model innovation.
  The specific challenge addressed by this topic is to enable SMEs - in traditional sectors, such as manufacturing industries, in sectors of particularly rooted in Europe's history such as cultural heritage as well as in new sectors including different services and creative industries, and the social economy – to innovate and grow across traditional boundaries, through new business models and organisational change. The international dimension is included. For instance, this can involve drawing on successful business models in different sectors in the global market, and developing them for use by European SMEs in the same or different sectors. It can also involve reverse innovation in business models, where models initially created in Europe and becoming successful elsewhere, are supported to return to Europe. For business model innovation in the broad area of food, it is foreseen to organize several events in the autumn of 2015 within an appropriate European level forum. Of particular importance for the new business models will be user-oriented services, cultural heritage related services, social services and tourism. The SME instrument, providing the phased approach and mentoring schemes needed, so that the participating SMEs can build successful strategies to achieve growth, is an appropriate instrument to address this challenge.

- **DRS-17-2015: Critical infrastructure protection topic 7: SME instrument topic: Protection of Urban soft targets and critical infrastructures**: The aim is to engage small and medium enterprises in security research and development and in particular to facilitate and accelerate the transition of their developed products/services to the market place.

  The specific challenge of the actions and activities envisaged under this topic are related to protection of urban soft targets and urban critical infrastructures.

  Specific consideration should be given to 'urban soft targets' , which are exposed to increasing security threats which can be defined as urban areas into which large numbers of citizens are freely admitted, for usual activities or special events or routinely reside or gather. Among others, these include parks, squares and markets, shopping malls, train and bus stations, passenger terminals, hotels and tourist resorts, cultural, historical, religious and educational centres and banks.

  The critical infrastructures sectors listed in the European Programme for Critical Infrastructures Protection (EPCIP), including, among others, energy installations and networks, communications and information technology, finance (banking, securities and investment), water (dams, storage, treatment and networks), supply chain and government (e.g. critical services, facilities, information networks, assets and key national sites and monuments) are not only relevant at a national scale but they can be considered critical infrastructures in an urban context as well.

- **PHC-12-2015: Clinical validation of biomarkers and/or diagnostic medical devices**: Biomarkers are used in clinical practice to describe both normal and pathological conditions. They can also have a prognostic or a predictive power. They are therefore increasingly used in medicine and many potential biomarkers are proposed every year.

  Only a few of them are however validated for use in a clinical research setting. Such validation implies the demonstration of a link to a pertinent clinical endpoint or process, as well as a robust and appropriate analytical method.

  The clinical validation of biomarkers will be increasingly important for the development of new diagnostics, and this is a research area where many small European companies are active.

  Improved clinical decisions should lead to better health outcomes while contributing to the sustainability of the health care system.

- **NMP-25-2015: Accelerating the uptake of nanotechnologies, advanced materials or advanced manufacturing and processing technologies by SMEs**: Research results should be taken up by industry, harvesting the hitherto untapped potential of nanotechnologies, advanced materials and advanced manufacturing and processing technologies. The goal is to create added value by creatively combining existing research results with other necessary elements, to transfer results across sectors where applicable, to accelerate innovation and eventually create profit or other benefits. The research should bring the technology and production to industrial readiness and maturity for commercialisation after the project.

- **BIOTEC-5b-2015: SME boosting biotechnology-based industrial processes driving competitiveness and sustainability**: The large number of SMEs which characterise the EU biotechnology sector are playing a crucial role in the move to competitive and sustainable biotechnology-based processes. These SMEs are characterised by their research intensity and long lead times between early technological development and market introduction. They therefore need to be supported to overcome the so-called "valley of death".

WIDESPREAD ERA CHAIRS (H2020-WIDESPREAD-2014-2)

Budget: €33,600,000

Deadline: 2014-10-15 +17:00:00 (Brussels local time)

Topic description: Outstanding researchers can have a decisive and positive impact on the culture and performance of research institutions. Yet issues such as the availability of research funding, institutional rigidities and access to resources can hamper the mobility of such leaders to promising institutions, particularly in low performing Member States and regions. ERA Chairs actions will address the specific challenge to create the appropriate conditions and opportunities for high quality researchers and research managers to move and engage with willing institutions to improve the excellence of their research and thereby modify their research and innovation landscape.

NEW FORMS OF INNOVATION (H2020-INSO-2014)

Budget: €23,500,000

Deadline: 2014-04-29 +17:00:00 (Brussels local time)

Topics and description:

- **INSO-1-2014: ICT-enabled open government**: Public administrations need to address the new challenges posed by the evolution of society. Financial constraints are making this task difficult. At the same time, expectations - in terms of burden reduction and efficiency of public services - are growing. The take-up of new technologies, such as social media and mobile technologies, leads to increased connectivity. The availability of open data and open services, in an open government setting support the collaborative forms of service design and delivery and they increase transparency.

- **INSO-3-2014: The economic impact of the Innovation Union**: This topic will gather evidence on the impact of the EU innovation policy on growth and jobs in the EU and its Member States.

- **INSO-7-2014: Towards joint programming under Horizon 2020**: In order to strengthen public-public partnerships and support Member States and their research funders in the preparation, implementation and monitoring of jointly implemented actions it is necessary to provide a common framework. The ERA-NET scheme has supported collaboration between Member States (MS) and their research programmes since the beginning of FP6. It has developed into a powerful tool creating joint transnational calls with a total volume of currently 2 billion € and a broad variety of additional activities between programmes that strongly support the realisation of ERA. Since its start in 2008, the joint programming process and the joint programming initiatives have gained considerable momentum and have led to the development of strategic research agendas, visions ahead and first joint activities, which in general have taken the form of common calls. The reinforced ERA Partnership calls on Member States to strategically align their national funding under common strategic research agendas.
  What is now needed is moving forward to the implementation of common strategic research agendas, including joint actions with critical mass and alignment of national/regional activities. The specific challenge addressed by this action is how to realise a common approach to the preparation and implementation of joint activities and aligned national/regional activities, their monitoring and impact assessment as well as dissemination of results. This will involve the main stakeholders engaged in designing and deploying the broad structures and functions for the coordination and cooperation of national and regional research programmes.

- **INSO-2-2014: Understanding and supporting business model innovation**: Technologies as such do not have a specific value. Their value is determined by the business models used to bring them to a market. The return on Europe's investments in technology and process development therefore depends not only on the overall framework conditions for innovation and entrepreneurship, but also on effective business models. However, many European enterprises, whether large or small and medium sized, lack awareness and tools to innovate their business models. Against this background, the challenge addressed by this topic is to facilitate innovation

in business models and allow a maximum number of companies to innovate their business models.

- **INSO-6-2014: Platform for ICT for Learning and Inclusion**: The aim of this challenge is engage a large number of stakeholders on a dialogue and awareness process over the role, benefits, and issues of concerns on ICT for learning and inclusion.
  ICT is crucial to boost the modernization of education and training. The challenge is to reinvent the education ecosystem and re-empower teachers in the digital age. Partnerships and collaboration between public and private stakeholders - including innovative entrepreneurs - more open and innovative practices for richer and more engaging and motivating learning and teaching experiences will be key to facilitate the transformation of the education and training to embrace and fit the challenges of 21st century and to ensure our young people are equipped with the skills for employment.
  More than 100 million European citizens are at the risk of digital exclusion - the elderly, unemployed and low educated, migrants, people in need of care, people living in remote or poorer areas, persons with disabilities, homeless.
  This challenge contributes to the debate over these issues and opportunities by facilitating an open dialogue on how technological changes and scientific progress impact and accelerate developments, including social change, determine policy changes, and support new investments, involving diverse actors with different stakes and agendas.

- **INSO-8-2014: Synchronised Call initiatives**: The aim of this pilot activity is to promote co-operation between national/regional funding bodies and contribute to increasing the quality of research in Europe.
  To this end, national/regional funding bodies will form consortia to launch synchronised calls at European level, addressing a pre-determined scientific field with one identical call deadline and using joint international peer review. This international joint peer review will ideally replace the national/regional evaluation procedure of the national research proposals. The funding decision will ultimately be made by each national/regional research funding body.

NEW FORMS OF INNOVATION (H2020-INSO-2015)

Budget: €13,670,000

Deadline 2015-03-31 +17:00:00 (Brussels local time)

Topics and description:

- **INSO-4-2015: Innovative schemes for open innovation and science 2.0**: The specific challenge addressed by this topic is, in the context of open innovation and science 2.0, to assist universities to become open innovation centres for their region in cooperation with companies, realising the ERA priorities, and to enable public administrations to drive innovation in and through the public sector.

- **INSO-5-2015: Social innovation Community**: The specific challenge of this activity is to stimulate and support the establishment of a 'Social Innovation Community' of researchers, social innovators, end users (citizens) and policy-makers. Since the launch of the Innovation Union Flagship initiative in 2010, many actions have developed in the area of social innovation involving research and "hands on" innovation. However many related actions in the field may appear disconnected and not fully exploit the possibilities offered by more effective communication and dissemination means. This could limit the policy uptake of research results. What is needed is to better link research to practice, develop joint methods and concepts in the area of social innovation research and provide a common space for gathering evidence and identifying new areas for social innovation take up in various fields.

NEW FORMS OF INNOVATION (H2020-INSO-2015-CNECT)

Budget: €9,200,000

Deadline: 2015-04-21 +17:00:00 (Brussels local time)

Topic description:

- **INSO-1-2015: ICT-enabled open government**: Specific challenge: Public administrations need to address the new challenges posed by the evolution of society. Financial constraints are making this task difficult. At the same time, expectations - in terms of burden reduction and efficiency of public services - are growing.

  The take-up of new technologies, such as social media and mobile technologies, leads to increased connectivity.

  The availability of open data and open services, in an open government setting support the collaborative forms of service design and delivery and they increase transparency.

  Personalised public services can arise from enabling and empowering citizens and businesses to directly participate in the design, creation, selection and delivery of some of the public services. Collaboration with users plays an important role in the transformation of public services. Public services delivered or enabled by ICT need to be easy to use and shall increasingly focus on flexible and personalised interactions with public administrations. Given the availability of data, users may be provided more pro-active, higher quality and valuable services. This can make services more attractive and increase collaboration. While creating growth and jobs, M-government can make services effective by adjusting them to the way citizens are communicating and delivering them to a variety of mobile devices in order to accommodate the on-going transition from stationary to mobile.

  Transparency is an important element of the open government approach. Open data and information lead to more transparency. Openness and technology tools can also enable monitoring of the public sector and its performance. Transparency helps to increase accountability and trust in administrations.

PEER LEARNING OF INNOVATION AGENCIES (H2020-INNOSUP-2014-5)

Budget: €420,000

Deadline: 2014-12-16 +17:00:00 (Brussels local time)

Topic description:

- **INNOSUP-5-2014: peer learning of innovation agencies**: Innovation support agencies, i.e. the regional and national agencies that design and/or implement innovation support programmes for SMEs are important intermediaries for SME innovation. Focus, design and delivery mechanism of innovation support programmes determine to a large extent the economic impact from the supported actions and the satisfaction of the beneficiaries with the support provided. The European Union has in different programmes, including for example the Seventh Framework Programme (FP7), the Competiveness and Innovation Framework Programme and INTERREG, supported mutual policy learning and exchange of 'good practices'. However, the transfer of good practices in SME innovation support, the enhancement of existing and the establishment of new innovation support programmes for SME remains slow; and SMEs benefitting from support the programmes still often remain dissatisfied with the services received.

  The PRO-INNO Europe 'INNO-Partnering Forum' (IPF, 2009-2012) has made some significant contributions to formulating the requirements for a permanent learning mechanism for SME innovation support agencies[2]: learning activities have to be based on clear methodologies and they have to be demand driven, launched at the moment agencies themselves recognise the need to revise programme formats. Furthermore peer learning activities need to benefit from a

secretariat or an animation structure that assures horizontal flow of information among interested agencies. In a collaborative exercise the IPF has developed two important methodologies in this respect: a quality management system implemented through a peer review system based on the EFQM methodology and a 'twinning+' methodology that combines elements of traditional peer reviews and twinning in small learning groups of interested agencies.

It is the objective of this action to make available to national and regional innovation agencies these two methodologies as elements of a permanent peer learning environment and to give incentives to the agencies to engage more frequently in peer learning activities.

ENHANCING SME INNOVATION CAPACITY BY PROVIDING BETTER INNOVATION SUPPORT (H2020-INNOSUP-2014-1)

Budget: €760,000

Deadline: 2014-03-12 +17:00:00 (Brussels local time)

Topic description:

- **INNOSUP-9-2014: Community building and competence development for SME Instrument coaching**: Horizon 2020 (H2020) aims to increase the impact of SME participation. In the case of the dedicated SME instrument this will be achieved through a coaching and mentoring service delivered during the company's participation in the instrument. The objective will be to empower SME instrument participants to develop and implement high growth strategies based on successful participation in the dedicated Horizon 2020 instrument. The coaching and mentoring will be provided by a network of appropriately trained and experienced business practitioners. It will be delivered in cooperation with the Enterprise Europe Network which will initiate, broker and monitor the coach-SME relationship as well as provide participating companies with access to the wider Network service offering.

ENHANCING SME INNOVATION CAPACITY BY PROVIDING BETTER INNOVATION SUPPORT (H2020-INNOSUP-2015-3)

Budget: €2,300,000

Deadline: 2015-01-21 +17:00:00 (Brussels local time)

Topics and description:

- **INNOSUP-7-2015: Professionalization of open innovation management in SMEs**: Current research on open innovation has not taken into account the extent and creativity of SMEs in designing and implementing open innovation strategies. The lessons learned from open innovation come from large firms and are not readily transferable to the context of SMEs. While open innovation in large firms does not affect its strategic objectives, in the case of SMEs, it alters the strategic orientation of the company and requires a comprehensive overhaul of the firm's strategy. If implemented correctly, the benefits for an SME can be very important, for instance in the fields of technology transfer, capital raising, resource optimisation or networking (Vanhaverbeke et al., 2012). An urgent need exists, therefore, to study how collaboration and/or open innovation is managed and organised in SMEs.

  Open innovation can be an important lever for growth for SMEs. It is important to investigate the size-related challenges and the required competencies and put them in an SME context and develop promising practices. Scattered local initiatives supporting open innovation in SMEs exist. Awareness of these initiatives should be expanded and the services supporting them professionalised.

  At the same time financial and management reporting need to catch up with the logic of open innovation. For an entrepreneur comprehensive data and performance indicators would allow

drawing conclusions whether open innovation is productive and should be continued or suspended.

- **INNOSUP-8-2015: Measuring open innovation inputs and outputs in SMEs**: Innovation occurs more and more frequently in global networks. From a policymaker's point of view this requires the development of internationally comparable indicators to better understand the concept of open innovation and its implications for innovation policy. R&D-intensive firms are increasingly reluctant to increase R&D spending, but rather seek to rationalize the process by bringing in new partners or spinning out research projects. Traditional innovation measures fail to spot these tendencies. Currently available open innovation data is also insufficient to support business operations. There is little hard evidence, based on large-scale databases, about research projects or other innovation activities where open innovation may play a crucial role. From the points of view of a policymaker, detailed and comprehensive data would allow drawing conclusions regarding the inputs into and generated outputs of open innovation to guide policy development.

CLUSTER FACILITATED PROJECTS FOR NEW INDUSTRIEL CHAINS (H2020-INNOSUP-2015-1)

Budget: €24,900,000

Deadline: 2015-04-30 +17:00:00 (Brussels local time)

Topic description:

- **INNOSUP-1-2015: Cluster facilitated projects for new value chains**: The challenge is to develop new cross-sectoral industrial value chains across the EU, by building upon the innovation potential of SMEs. The EU needs to support the development of emerging industries, which will provide the growth and employment of the future. The reindustrialisation of the EU's industrial base has to focus on the development of long-term internationally competitive goods and services that require combining different competences and innovative solutions. The development of new industrial value chains calls for the collaboration and integration of different innovation actors, including large enterprises and especially SMEs, across different sectors towards the implementation of a joint vision.
  SMEs need help to generate, take up and better capitalise on all forms of knowledge, creativity, craftsmanship and innovation – including for the application of existing cross-cutting or emerging technologies, ICT, eco-innovative and resource-efficient solutions, new business models, service innovation and design. The potential of clusters, that represent favourable ecosystems for innovation, need to be better exploited in this respect.

OVERCOMING THE CRISIS: NEW IDEAS, STRATEGIES AND GOVERNANCE STRUCTURES FOR EUROPE (H2020-EURO-SOCIETY-2014)

Budget: €35,000,000

Deadline: 2014-06-03 +17:00:00 (Brussels local time)

Topics and description:

- **EURO-1-2014: Resilient and sustainable economic and monetary union in Europe**: Economic and monetary integration in Europe, underpinned by the creation of the euro, has changed the landscape of international monetary relations with far reaching impacts both for the EU and its external partners. However, the financial and economic crisis has demonstrated that this process is not complete and it still has a number of important shortcomings that undermine the stability of the European financial system and the European economy as a whole.
  These deficiencies are related to the ineffective mechanisms of fiscal policy coordination and supervision, and the lack of a coherent regulatory framework for the financial sector, despite its

growing impact on the real economy. With mounting public debt, the crisis has also highlighted the importance of sustainable fiscal revenues. Also, despite significant efforts over the years to increase economic convergence in the EU, substantial macroeconomic imbalances remained and were even exacerbated by the crisis. Furthermore, the Blueprint for a deep and genuine EMU underlined the need to progress towards developing some stabilisation tools and a fiscal capacity.

These imbalances, both globally, and within the EU, have also been often mentioned as one of the important factors at the roots of the crisis itself. Due to this, it is crucial for an effective crisis recovery and the long-term sustainability of the European economic and financial system that the economic and monetary integration process is completed, with effective mechanisms put in place to address all of these deficiencies at the same time, in a comprehensive way.

- **EURO-4-2014: Political challenges for Europe**: Europe's crisis has triggered a renewed European-wide debate on the future of European integration and the political system of the EU. The crisis has revealed structural flaws of European integration adding a political and social dimension to the crisis. Europe's values, the rule of law, considerations for economic, social and territorial cohesion and solidarity, as well as the legitimacy of its institutions have come under strain. Unsurprisingly, the number of protests against European integration increases in periods of a downturn in the economy, and the notion of the European Union's democratic deficit seems to be confirmed. Even more so, trust and confidence in national politics, politicians and political parties, in general, has also fallen considerably across Europe resulting in growing nationalism and populism. The crisis has raised questions about the capacities of political leadership at the EU and national levels to manage the crisis and formulate adequate solutions.

  Consequently, although often not new, ideas such as the pooling of more sovereignty in a Political Union, developing a European public space, strengthening the EU parliamentary system and political parties or the use of more flexible integration mechanisms ('differentiated integration'), departing from the 'Community method', including the creation of new institutions, are reconsidered in the light of the crisis. In Member States the crisis has highlighted the limits of the current systems of parliamentary democracy. The reconciliation of finding appropriate solutions to the crisis with re-gaining trust and accountability in democratic practices, institutions and politicians is one of the big challenges for Europe.

- **EURO-2-2014: The European growth agenda**: The impacts of the economic crisis have been far reaching on the ability of the EU economy to innovate, grow and create jobs. In response, the EU has proposed a new growth strategy 'Europe 2020' which aims at tackling common European challenges and boosting economic growth and quality employment through smart, sustainable and inclusive growth. However, to ensure conditions for a successful economic recovery we need to better understand the broader contexts of growth in Europe.

  Over the last decades different national systemic models, each embodying a different set of economic, social, legal and cultural orders (institutional arrangements) have evolved in Europe. These national systemic models performed very differently in the crisis and their abilities to overcome long-term, structural problems have significant implications for a successful economic recovery.

  Increasing global connectivity has accelerated trends towards delocalisation and relocalisation of industry, services and R&D both within Europe and globally. The emergence of new economic actors, driven by low labour costs, but investing more and more in modern technologies, puts further pressure on the European economy and its competitiveness.

  European competitiveness can be driven by innovation, but most countries severely hit by the crisis also lack innovation dynamism. However, innovation, growth and employment are interlinked in a complex way. Due to this, on the one hand it is essential to understand better the conditions under which innovation fosters growth that benefits the whole society through high

quality jobs and reducing inequalities. On the other hand, a broad range of factors that stimulate innovation need to be explored.

- **EURO-3-2014: European societies after the crisis**: The crisis has strongly impacted European societies. Many people lost their jobs or part of their income as a result of salary cuts. Uncertainty about the future has risen. European citizens demonstrate an increasing lack of confidence and trust in relation to the governance of financial institutions, companies and the free market overall but also in relation to democratic institutions and politics at European, national or local levels. At the same time, the crisis has pushed the EU to advance the integration process in order to make the European economy more resilient and sustainable.

  The fall of trust and confidence caused various antagonisms to (re-)emerge, both between European nations and ethnic groups, as inter alia evidenced by the rise of populist movements and parties. This has highlighted the urgency to find 'Unity in Diversity', posing a challenge, which requires apart from innovative political and governmental responses, a reflective reappraisal of Europe's intellectual foundation. Whilst the EU celebrates its (cultural) diversity as a defining feature, this very diversity is also frequently regarded as an impediment to the formation of a meaningful European identity as well as a European public sphere.

  Social protection and inclusion policies are also undergoing continuous reform in the light of financial pressures as well as of governance changes. The distribution of responsibilities between private actors, public actors as well as the third sector is shifting and being reorganised, which may have a significant impact on citizens, arousing further public discontent. The Social Investment Package, adopted by the European Commission on 20 February 2013, provides an integrated strategic framework for social policy reform and the modernisation of social protection systems and services, structured around a social investment approach. This should help individuals, families and society at large to adapt to current and future societal challenges and should help Member States to use their social budgets more effectively and efficiently.

OVERCOMING THE CRISIS: NEW IDEAS, STRATEGIES AND GOVERNANCE STRUCTURES FOR EUROPE (H2020-EURO-SOCIETY-2015)

Budget: €5,000,000

Deadline: 2015-01-07 +17:00:00 (Brussels local time)

Topic description:

- **EURO-5-2015: ERA-NET on Smart Urban Futures**: European cities are very important in policies aiming to create growth, jobs and a sustainable future. More than 70% of the EU's citizens live in urban areas. Cities are centres of economic development, services, knowledge and creativity. But they are also the places of social polarisation, intercultural confrontations, poverty concentration, unemployment and environmental problems. Within a forward-looking perspective, the challenge is to identify the means and ways to make a European city an emblematic place for attracting jobs and economic activities, transforming it into a "hub of innovation" and ensuring social cohesion and cultural dialogue while preserving natural resources and limiting environmental damage for the next generations.

  European research and innovation should provide tools and methods for more sustainable, open, innovative and inclusive urban areas; a better understanding of the dynamics of urban societies and social changes and of the nexus of energy, environment, transport and land-use including the interplay with surrounding rural areas; an improved understanding of design and use of public space within cities also in the context of migration to improve social inclusion and development and reduce urban risks and crime; new ways to reduce pressures on natural resources and stimulate sustainable economic growth while improving the quality of life of European urban

citizens; a forward-looking vision on the socio-ecological transition towards a new model of urban development reinforcing EU cities as hubs of innovation and centres of job creation.

OVERCOMING THE CRISIS: NEW IDEAS, STRATEGIES AND GOVERNANCE STRUCTURES FOR EUROPE (H2020-EURO-6-2015)

Budget: €12,000,000

Deadline: 2015-04-21 +17:00:00 (Brussels local time)

Topic description:

- **EURO-6-2015: Meeting new societal needs by using emerging technologies in the public sector**: Public sector innovation and the modernisation of public administrations are considered as important underlying factors for economic growth and also contribute to competitiveness.
  In order to improve efficiency, effectiveness and quality of public services, the public sector needs to implement new processes, products, services and methods of delivery. The public sector typically combines and builds on top of existing technology elements to innovate. However, in today's financial situation, the economical power of public administrations to pull research results into the market cannot be ignored. In the EU, the overall market for purchases of goods, services and works by the public sector accounts for almost 20% of GDP.
  Reusing research results of emerging technologies in the public sector will require further research; starting with identifying the specific challenges of the public sector, such as policy domain requirements and the needs of targeted citizens or businesses. The introduction of new technologies could lead to the transformation of processes and better regulation. Projects should demonstrate the benefit both for society as well as for civil servants. Research shall also explore the burdens - whether legal, human or others - that prevent public administrations from implementing the identified emerging technologies.
  This requires multidisciplinary research taking into account the societal, political as well as human factors, including citizens and civil servants, and how they can contribute to modernising policies and innovative services of general interest. It is also important to explore social acceptability, impact on the improvement in public service delivery and potential benefits for citizens, businesses and society.
  Such an approach enables research results to reach a potential market, while at the same time it will help in modernising the public sector. It will take account of , and further develop, new knowledge on the interaction between citizens and public authorities, while taking into consideration the introduction of new technologies in the particular context of public administrations, and explore how the uptake of emerging technologies by the public sector can help Europe overcome the crisis. For example, how can Web 3.0 (semantic web technologies), semantic interoperability, linked open data, Internet of things, social sensor networks, radio-frequency identification or wearable technologies, help to tackle challenges in the public sector? How can emerging, new technologies facilitate the process of government to become a platform allowing public and private actors to collaborate and create new services using open data and open services? How do emerging new technologies need to be adjusted to the specifities of the different selected policy domains of public activity?

ICT 2014 - INFORMATION AND COMMUNICATIONS TECHNOLOGIES (H2020-ICT-2014-1)

Budget: €658,500,000

Deadline: 2014-04-23 +17:00:00 (Brussels local time)

Topics and description:

- **ICT-01-2014: Smart Cyber-Physical Systems**: Cyber-Physical Systems (CPS) refer to next generation embedded ICT systems that are interconnected and collaborating including through the Internet of things, and providing citizens and businesses with a wide range of innovative applications and services. These are the ICT systems increasingly embedded in all types of artefacts making "smarter", more intelligent, more energy-efficient and more comfortable our transport systems, cars, factories, hospitals, offices, homes, cities and personal devices. Focus is on both reinforcing European industrial strengths as well as exploring new markets.
  Often endowed with control, monitoring and data gathering functions, CPS need to comply with essential requirements like safety, privacy, security and near-zero power consumption as well as size, usability and adaptability constraints. To maximise impact and return on investment in this field, the following challenges must be addressed:
  - De-verticalising technology solutions with CPS platforms that cut across the barriers between application sectors including mass consumer markets.
  - Bringing together actors along the value chain from suppliers of components and customised computing systems to system integrators and end users.
  - Creating new ICT Platforms for both vertical and core markets from automotive, health , smart buildings and energy to wireless communications and digital consumer products and services.

- **ICT-02-2014: Smart System Integration**: The aims are to develop the next generations[1] of smart systems technologies and solutions, based on systemic miniaturisation and integration, of heterogeneous technologies, functions and materials, and to establish European competitive ecosystems for the design, R&D, prototyping and testing, manufacturing and industrialisation of smaller, smarter (predictive, reactive and cognitive) and energy autonomous Smart Systems. These ecosystems will provide services for cost efficient access to European manufacturing capabilities and expertise, including training, design and pilot line production and testing, in particular for new users of Smart Systems.
  This specific challenge contributes to the strategy of micro and nano electronics KET in the area of More than Moore and complements the activities of topic ICT25.

- **ICT-03-2014: Advanced Thin, Organic and Large Area Electronics (TOLAE) technologies**: TOLAE is an emerging technology and is the basis for advanced products in large area electronics that are thin, light weight, flexible and/or stretchable, suitable for large market sectors such as the textile, automotive, health, paper, plastic, advertising or construction industries.
  Today however, most of the existing products are limited in functionality and performance and are suitable only to a few niche markets. Further efforts are needed to address the main technology barriers of TOLAE, in particular the lack of more efficient and stable materials and of more complex TOLAE circuitry and functionalities. The performance of components and the integration level should also be increased, connectivity should be enhanced and the route to manufacturability improved in terms of reproducibility and yield. Overall, the TOLAE value chain needs to be further developed and become more application-driven while paying attention to recyclability issues.

- **ICT-05-2014: Smart Networks and novel Internet Architectures**: The Internet architecture is fundamentally a "host centric" architecture, with limited "in network" service capability and static routing/addressing. Key functionalities like security, trust or mobility had not been planned in the original design. Additional service capabilities on the Internet have been made possible with overlay architectures or patches presenting inherent weaknesses. The ever larger portfolio of business models, processes, applications/devices that have to be supported, coupled with a rapidly growing number of application and societal requirements, calls for a new approach towards the Internet architecture, which will also bring computer architectures and network architectures closer for greater efficiency.

Multiple approaches have been researched: Information Centric Networks, Named Data Networking, Publish Subscribe information Networking, opportunistic and Disruption Tolerant Networking are a few of them, breaking the link between information and the physical network address where it is located. Recursive architectures have also been proposed, to better address security and trust issues and to reengineer the layered architecture.

The next wave of research in the field of Internet Architecture should solve remaining problems and bring the most promising options closer to deployment.

- **ICT-06-2014: Smart optical and wireless network technologies**: Network traffic is expected to keep on showing two-digits annual growth rates in all network segments over the coming years and beyond. The limits of existing technological approaches for both optical and wireless technologies are about to be reached. As far as access networks are concerned, the cost of current solutions also represents a barrier to reaching a (quasi-) universal coverage with ultra-high speed, be it with optical or wireless access. New challenges imposed by major trends in the usage of communications networks are to be taken into account as well as the high projected increase of mobile and ubiquitous broadband access which requires further developments in backhaul networks, for which optical and wireless technologies constitute key enablers.

  In the specific wireless domain, spectrum is a scarce public resource whose usage is often strategic for the economy and society, which must be optimised in view of the expected exponential traffic and usages growth as outlined in the Commission Communication on "Promoting the shared use of radio spectrum resources in the internal market"[1]. Finally, communication networks represented about 22% of the ICT carbon footprint in 2011. This is expected to grow fast to almost double in 2020 if underlying network technologies are not significantly improved.

- **ICT-07-2014: Advanced Cloud Infrastructures and Services**: Cloud computing is being transformed by new requirements such as heterogeneity of resources and devices, software-defined data centres and cloud networking, security, and the rising demands for better quality of user experience.

  Cloud computing research will be oriented towards new computational and data management models (at both infrastructure and services levels) that respond to the advent of faster and more efficient machines, rising heterogeneity of access modes and devices, demand for low energy solutions, widespread use of big data, federated clouds and secure multi-actor environments including public administrations.

  The aim is to develop infrastructures, methods and tools for high performance, adaptive cloud applications and services that go beyond the current capabilities, strengthening the competitive position of the European industry, including SMEs on a time horizon beyond 2018 and building upon European strengths in telecoms and mobile infrastructures as well as software applications and services.

- **ICT-09-2014: Tools and Methods for Software Development**: The quality levels required for complex and critical systems for example in terms of reliability, resilience and automatic adaptation, still represent a major challenge given current software development methods and tools.

  Breakthroughs in this area could significantly improve the growth and competitiveness of the European industry and encourage faster innovation cycles. They could also foster a more competitive EU software industry, especially in the sector of large and interoperable software systems for industrial and public sector applications.

- **ICT-11-2014: FIRE+ (Future Internet Research & Experimentation)**: Experimentally-driven research and innovation is a key mechanism towards advancement in Internet technology and applications. Europe needs a Strategic Experimental Infrastructure for Future Internet Research &

Experimentation (FIRE+) available to experiments of any size, complexity, or networking technology. Experimenters need to run experiments under controlled and replicable conditions, according to specific requirements by accessing real or virtual equipment, services, systems and tools on demand, seamlessly and regardless of their geographical location. Additionally, a dynamic and promising segment of experimenters, comprising in particular individuals, small and medium-size developers and innovators cannot afford testbeds or even testing equipment of their own and need to be provided easy and affordable access to said capacities. Real-world prototyping and experimenting environments are needed in certain cases for innovation creation. In addition, Future Internet Research and Experimentation in Europe could benefit from similar initiatives around the world.

- **ICT-13-2014: Web Entrepreneurship**: The challenge is to create an environment in Europe that encourages more web entrepreneurs to start a business in Europe and grow internationally. The focus of this topic is on entrepreneurs who use web and mobile technologies as main components in their innovation.

- **ICT-15-2014: Big data and Open Data Innovation and take-up**: The activities supported under this topic address the general technological and systemic data challenges that concern entire value chains and/or bridge across borders, languages, industries and sectors. The aim is to improve the ability of European companies to build innovative multilingual data products and services, in order to turn large data volumes into semantically interoperable data assets and knowledge. The horizontal activities within LEIT on data, relevant for a wide range of sectors, will be complemented in the H2020 Societal Challenges by data-related activities addressing specific areas.

- **ICT-17-2014: Cracking the language barrier**: This topic aims to facilitate multilingual online communication for the benefit of the digital single market which is still fragmented by language barriers that hamper a wide penetration of cross-border commerce, social communication and exchange of cultural content. Current machine translation solutions typically perform well only for a limited number of target languages, and for a given text type.
  The aim of this challenge is to launch interdisciplinary work leading to a new paradigm in overcoming the language barrier and progressively, to reach high quality for all language combinations and translation directions, and cater for the most demanded text types and use contexts. Systems and solutions that are intended to overcome the language barriers, are expected to deal with huge volumes, high variety of languages and text styles, and deliver results in reasonable time (in most cases, instantly). Where the methods require automatic learning from language resources, the availability and suitability of the latter need to be addressed. Special focus is on the 21 EU languages (both as source and target languages) that have "fragmentary" or "weak/no" machine translation support according to the META-net language white papers.

- **ICT-18-2014: Support the growth of ICT innovative Creative Industries SMEs**: SMEs represent 85% of all actors in the creative industry sector. They co-exist with global players and often face difficulties in adopting state of the art ICT technologies and accessing finance. Moreover, they operate on fragmented and localised target markets and have to bear high market costs which affect their international competitiveness. In this context, ICT tools and technological innovation are fundamental for the creative industries and their competitiveness. They widen creative possibilities and improve efficiency in all sectors.
  The goal is to increase the competitiveness of the European creative industries by stimulating ICT innovation in SMEs, by effectively building up and expanding a vibrant EU technological ecosystem for the creative industries' needs and by fostering exchanges between the creative industries SMEs and providers of ICT innovative solutions.

- **ICT-21-2014: Advanced digital gaming/gamification technologies**: Digital games and gamification mechanics applied in non-leisure contexts is an important but scattered industry that can bring high pay-offs and lead to the emergence of a prospering market. Digital games can also make a real change in the life of a large number of targeted excluded groups, enhancing their better integration in society. This requires however the development of new methodologies and tools to produce, apply and use digital games and gamification techniques in non-leisure contexts, as well as building scientific evidence on their benefits - for governments, enterprises and individuals.

- **ICT-22-2014: Multimodal and Natural computer interaction**: As devices and systems are becoming increasingly powerful, the interface between human and computer is often lagging behind and constitutes a bottleneck for seamless and efficient use. Leveraging on multidisciplinary expertise combining knowledge from both the technological and human sciences, new technologies need to offer interactions which are closer to the communication patterns of human beings and allow a simple, intuitive and hence more "natural" communication with the system.

- **ICT-23-2014: Robotics**: Research implementing the Strategic Research Agenda established by the euRobotics AISBL (the private partner in the future Public-Private partnership in Robotics) will be essential to attain a world-leading position in the robotics market. Driven by the applications needs identified in this Strategic Research Agenda (SRA), challenging R&D problems will have to be addressed, to make substantial progress in robots capabilities and improve the Technology Readiness Levels (TRL) of robotics R&D. In addition, a dedicated effort is necessary to close the innovation gap, allow large scale deployment of robots and foster market take-up. Robotics is very broad, both in terms of technologies and disciplines it involves, but also in terms of markets and stakeholders. It is therefore essential to address the inherent fragmentation.

- **ICT-26-2014: Photonics KET**: Europe's photonics industry is facing fierce global market competition and has to cope with a very high speed of technological developments in the field. Further major S&T progress and research and innovation investments are required for sustaining Europe's industrial competitiveness and leadership in photonic market sectors where Europe is strong (communications, lighting, laser-based manufacturing, medical photonics, or safety & security) and to exploit new emerging market opportunities.
Moreover, Europe is experiencing the existence of many fragmented and rather uncoordinated developments between many different national and regional players. Europe suffers also from a slow innovation process for turning many good R&D results achieved into innovative products ('Valley of Death'). Finally, Europe needs to better exploit the large enabling potential of photonics in many industrial sectors and in solutions addressing major societal challenges such as health and well-being, energy efficiency or safety.

- **ICT-29-2014: Development of novel materials and systems for OLED lighting**: In the last 10 years, European industry (both SMEs and large companies) has made significant investments in OLED technologies, i.e., materials, devices and manufacturing processes. However, major S&T progress and research and innovation (R&I) investments are required in OLEDs, in particular for the realisation of flexible, high brightness light sources over large areas. The further technological development of OLEDs is expected to give Europe a leading position on the world general lighting market and create new manufacturing jobs for novel consumer products. Moreover, the move to OLEDs would help in reducing the amount of electricity consumed by lighting and limiting carbon dioxide emissions.

- **ICT-31-2014: Human-centric Digital Age**: Technologies, networks and new digital and social media are changing the way people behave, think, interact and socialize as persons, citizens, workers and consumers. Understanding the nature and consequences of these changes in order

to better shape the digital future is a key success factor for the values and competitiveness of the European society. There is a need for exploring the two-way interactions between technology and society in order to lay foundations for future thinking in ICT and for future regulatory and policy-making activities in the DAE areas.

- **ICT-32-2014: Cybersecurity, Trustworthy ICT**: The fast evolution of ICT technology together with the uses that are made of it are exponentially introducing new threats, vulnerabilities and risks. There is a growing consensus that the state-of-the-art approach to secure ICT is becoming obsolete and, in addition, the walled-garden concept for security is becoming invalid.
  The challenge is to find solutions guaranteeing end-to-end security that withstands progress for the lifespan of the application it supports, regardless of improvements in attacker hardware or computational capabilities.

- **ICT-33-2014: Trans-national co-operation among National Contact Points**: Enforcing the effectiveness of National Contact Points (NCP) for ICT in H2020 by supporting trans-national cooperation within this network and strengthening collaboration with other R&I support networks at the European level.

- **ICT-35-2014: Innovation and Entrepreneurship Support**: The challenge is to improve the framework conditions of the European ICT innovation ecosystem so that it offers the best conditions for innovators to capture the full potential of innovation to transform ideas to the market for sustaining growth and jobs.

ICT 2014 - INFORMATION AND COMMUNICATIONS TECHNOLOGIES (H2020-ICT-2014-2)

Budget: €125,000,000

Deadline: 2014-11-25 +17:00:00 (Brussels local time)

Topic description:

- **ICT-14-2014: Advanced 5G Network Infrastructure for the Future Internet**: As Internet usages are proliferating communications networks are faced with new shortcomings. Future networks will have to support in 2020 mobile traffic volumes 1000 times larger than today and a spectrum crunch is anticipated. Wireless access rates are today significantly lower than those of fixed access, which prevents the emergence of ubiquitous low cost integrated access continuum with context independent operational characteristics. Communication networks energy consumption is growing rapidly, especially in the radio part of mobile networks. The proliferation of connected devices makes it very difficult to maintain similar performance characteristics over an ever larger portfolio of technologies and requirements (e.g. Ultra High Definition TV vs. M2M, IoT). Heterogeneity of access technologies entails unsustainable cost with increasing difficulties to integrate an ever larger set of resources with reduced opex. Network infrastructure openness is still limited. It prevents the emergence of integrated OTT (cloud)-network integration with predictable end to end performance characteristics, and limits the possibility for networks to become programmable infrastructures for innovation with functionalities exposed to developers' communities.
  These are key issues for the competitiveness of the communication industry world-wide are globally researched in the context of future 5G integrated, ubiquitous and ultra-high capacity networks.