#167e 2016.gada septembris *(latviski un angliski)*

Eiropas Savienības programmas Sadarbība un tehnoloģiju attīstība - **HORIZONTS 2020**
Latvijas Nacionālā kontaktpunkta grupas bijušā koordinatora (1999-2014) gados
Dr.phys. Arnolda Ūbeļa

VĒSTIS

- **Viss par aktuālo zinātnes un tehnoloģiju attīstībā Eiropas Savienībā ir atrodams INTERNETĀ –** *http://cordis.europa.eu*;
- **Viss par 5., 6. un 7.ietvara programmu projektiem (5.IP, 6.IP un 7.IP) meklējams -** *http://cordis.europa.eu/projects/home_en.html;*
- **Viss par HORIZONTS 2020 ir atrodams** *http://ec.europa.eu/programmes/horizon2020/;*
- **Viss par ES atrodams www.europa.eu;**
- **Projektu pieteikumiem un projektu vadīšanai paredzēts *Participant Portal***
  https://ec.europa.eu/research/participants/portal/desktop/en/home.html

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Saturs:

1. Šī brīža aktualitātes

Ģēģs 2016.gada septembra vāSTIS sniedz strukturētu pārskatu par HORIZONTS 2020 konkrētō sadaļu projektu konkursiem 2016. un 2017.gadiem.

Vienlaicīgi vāSTIS satura pirmie paragrāfi iezīme lasītājam norises ģēģbrīža nacionālās un ES zinātnes politikā un dod salīdzinoģu kopskatu par Latvijas zinātnes saimes līdzdalību ES HORIZONTS 2020 pirmo divu gadu programmas izpildē.

1.1. Norises izpilddienestu praksē un zinātnes politikā salīdzinājumā ar praksi kādā citā jomā

- Aizvien nekas nemainās *"RTD"* un inovāciju politikā Latvijā. Tās realizācijā ministrijas lāmenē dominē agresīvs diletantisms kuru labi izdodas maskēt radot lielu verbālu troksni par inovācijām *(Realitātē ir sagaidāma tikai viena inovācija – algu pielikums augstākā ranga ierēdņiem. Zinātnieku finansējumā inovāciju nebūs!!! Zinātnē strādājošiem ir labi zināms, ka zinātnieks var palikt savā laboratorijā, ja skarbā konkurencē ir izcīnīts projekts un notiks atlaišana no darba projektam beidzoties)* Turpretī IZM nevienam bezdarbs nedraud pat tad, ja sabiedrībai tiek stāstīts ka viņu pētījumi rāda, ka zinātne Latvijā piedzīvos neredzētu uzplaukumu tikko zinātnisko iestāžu skaits tiks reducēts līdz magiskajiem 20. Ceļā uz mērķi *"ground zero"* ôvāl var ieturēt pauzes pie magiskajiem 9 un 7. Virziens pareizs, jo mazāk valstī zinātnieku un gudru cilvāku jo drošāk jāī tas diletantu izlase un ģimeniskiò noslāgtā ierēdņu kasta - nav konkurences uz viņu

sŪvietŪm!!! Visi gudras, godprŪtīgas un tŪlredzīgas saimniekoģanas ienaidnieki LatvijŪ ģŪdu politiku piemin ar slavinŪjumiem, jo nŪcijai tiek atĀemts prŪts. ĢajŪ vietŪ zem saules, kur mĪ su ciltis ir mitinŪjuģŪs 4000 gadu tiek radīts operatīvais plaģums cita veida ideologijai un morŪlei gadsimtus uz priekģu. PamatnŪcijai tiek atstŪtas tikai divas iespŪjas: aizbraukt, vai pamazŪm iznīkt atkal kalpojot svešai varai!!!

- Es nesaku neko jaunu, tas ir TEHNOPOLIS ekspertu konstatŪjums 2014.gadŪ aprīļŪ publicŪtŪ ziĀojumŪ: *Latvia. Innovation System Review and Research Assessment Exercise: Final Report, TECHNOPOLIS, April 20, 2014, "6.1.7 Difficulties in Implementation, p.33: "The difficult financial climate, short-term planning within the state, insufficient administrative capacity and the low political priority of innovation and research and a heavily bureaucratic tradition all make it hard to implement research and innovation policy in Latvia.*
- Valsts Statistikas pŪrvalde (*http://www.csb.gov.lv/*) tikai ģī gada septembrī bija pabeigusi skaitīt Latvijas zinŪtniekus 2015.gadŪ. To skaits PLE vienīŪs ir samazinŪjies no 3748 2014.gadŪ līdz 3613 un tas ir mazŪk nekŪ bija 2013.gadŪ.
- ZinŪtnes finansŪjums % no nacionŪlŪ kopprodukta 2014.gadŪ bija 0,69 *(162,8 M€)*, ir samazinŪjies līdz 0,62 *(152.2 M€)* 2015.gadŪ un acīmredzot bĪ s dramatiski mazŪks 2016.gadŪ. PretŪji agresīvo diletantu prognozŪm visradikŪlŪk 2015.gadŪ ir krities jau tŪ niecīgais industrijas finansŪjums - no 45,3 Mú 2014.gadŪ uz 30,5 Mú 2015.gadŪ *(kritums par 30%)*. Visas pazīmes rŪda, ka ģajŪ gadŪ tas turpinŪsies!!!
- Valsts Statistikas pŪrvaldes informŪcijŪ ir arī labŪkas ziĀas: Cietumnieku skaits (*PLE vienībās*) 2015.gadŪ ir sarucis līdz 4409 salīdzinot ar 4745 - 2014. gadŪ *(Somijā ap 3000)* , bet to skaitliskais pŪrsvars par zinŪtniekiem aizvien ir ievŪrojams. NepŪrtraukti aug valsts rĪ pes par cietumniekiem un to *"labklājība"* jo naudas daudzums, ko valsts tŪrŪ uz vienu cietumnieku ir ievŪrojami lielŪks nekŪ uz vienu zinŪtnieku un tas aug no gada uz gadu!

Ir zīmīgi, ka DELFI portŪls (*www.DELFI.lv | 01.09.2016, 06:02*) tieši 1.septembrī jau 06:02 no rīta priecīgi ziĀo par iespaidīga cietuma celtniecību LiepŪjŪ par kopŪjo summu vismaz 80 Mú. To ir cerības pabeigt valsts 100-gades svinību gados. Tas bĪ s iespaidīgu celtĀu komplekts, kuram līdzi netur LU vai RTU *campusu vīzijas!!!*

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  Foto: Tieslietu ministrija

Tas ir tikai sŪkums, jo tiek plŪnota vŪl piecu cietumu celtniecība!!!

1.2. Tautsaimniecība un labklājība *versus* zinātnes politika

TEHNOPOLIS eksperti jau 2013-2014 gados ir paredzŪjuģi patreizŪjŪs *"frustrācijas"* SaeimŪ sarunŪs par ģī gada budģeta izpildi un 2017.gada budģetu. ViĀu konstatŪjums un prognoze ir bijusi skarbi precīza un nauda ekspertu apmaksai nav izmesta vŪjŪ!!!, Skat.: *"Latvia. Innovation System Review and Research Assessment Exercise: Final Report, TECHNOPOLIS, April 20, 2014, "7.4 Policy implications, p.41: "If you fail to make this investment, the supply of high-quality human resources to society and industry is too small and those people who could be driving socio-economic development and growth tend to drift abroad. The production of knowledge is of course one very important reason for funding research; but the production of human capital is probably an even more important reason for doing so. Lack of human capital means not only that the country has difficulties in exploiting its own knowledge production but also, crucially, that it is hard to exploit the more than 99% of new knowledge that is generated abroad.*

Without these capabilities, ***the country will enter a declining spiral that infects the performance of the economy as a whole".*** Nevienam nav noslŪpums, ka no stagnŪcijas uz

pūreju *"nekontrolētā pikējumā"* Latvijas ekonomiku pagaidūm glūbj divas lietas: diasporas investūcijas apmūram 1 miljards euro gadū un ES struktūrfondi.

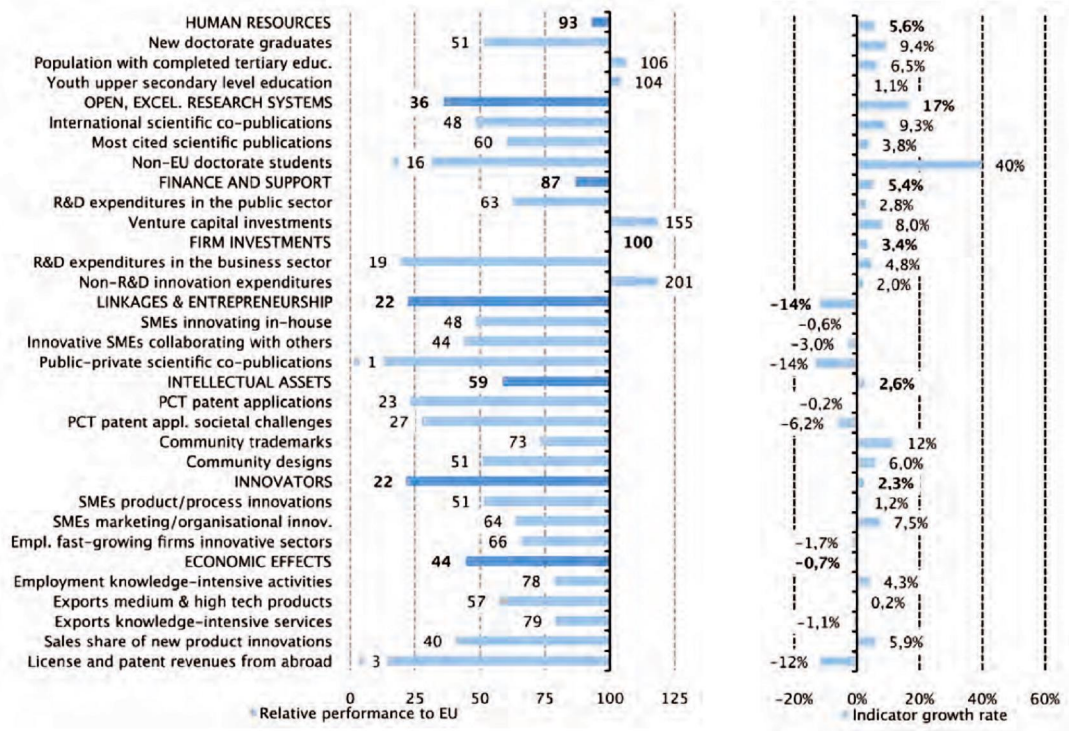
1.3. Zinātnes bāzes finansējums un struktūrfondi.

Valsts budģets paredz būzes finansūjuma apjomu valstū, kurģ pūc lieluma ir samūrojams ar ceturto daļu no vidūji lielas universitūtes finansūjumu ES.

Struktūrfondi, kuri ir definūti, kū glūbūjsalmiĀģ Latvijas zinūtnei, noziedzīgi kavūjas. Turklūt, zinūtnei un inovūcijūm ģajū plūnoģanas periodū tika delegūts tikai nepilns pusmiljards euro. Turpretī ES nosacījumi atĻāva operūt ar 1 miljardu eiro!!! Tūds lūmums, kuru pieĀūma izpildvaras ģantaģūti politiģi bija noziegums pret Latvijas nacionālajūm interesūm!!! Tū rezultūtū:

- Tagad izteikti trūkst naudas ERAF projektiem;
- Tiek plūnots finansūt mazāk par 100 *"postdoc"* stipendiju neskatoties uz faktu, ka pūdūjos 5 gados doktora grādu ir ieguvuģi vismaz 1000;
- Nav naudas nopietnai un visaptveroģai zinūtnieku repatriūcijas programmai!!!
- Nav naudas vitūli vajadzīgai Ārzemju zinūtnieku piesaistei Latvijas zinūtnes struktūrās!!!
- Nav naudas izcilību izaugsmes atbalstam!!!
- U.t.t. é

Latvijas zinūtnes politikas Ārezultūtuò labi parādū EU Innovation scoreboard 2016: *http://www.knowledgetransferireland.com/About_KTI/Reports-Publications/European-Innovation-Scoreboard-2016.pdf.* Ar *'Innovation Performance Indicator„* vūrtību - 0.280 Latvija ir noģūlojami pūdūjūs vietās ES(520), tālu aiz Igaunijas (0,460) un vāl tālāk aiz Somijas (0.650) un Dānijas (700). Tie ir dati par 2015.gadu. Diagrammā Latvijas salīdzinājums ar ES vidūjo:



Note: Performance relative to the EU where the EU = 100.

Destruktūvūs 2015. un 2016. gadu politikas degradūjoģo rezultūtu pārliecinoģi parāda Latvijas līdzdalība H2020 projektos!!! Sekmības procents 2014.gadū bija 20% procentu un tagad tas ir nokritis līdz 10.81% pūc dalībnieku skaita un 6,90 pūc iegūtā finansūjuma. Absolūtos skaitĻos naudas izteiksmā atpaliekam no Igaunijas 2,5 reizes. Skat tab.1 un 2.

1.4. Īsi par Latvijas zinātnieku rezultātiem HORIZONTS 2020 pirmo 2,5 gadu konkursos un problēmām.

Tabulas 1 un 2 rāda, ka atpaliekam pārliecinoģi un tam ir skaidri redzami cāloĀi. Tabulas pādūjū kolonā dots zinūtnieku kopskaits valstī. Redzams, ka, rāģinot *„per capita",* Latvijā strādā 2,5 reizes mazāk zinūtnieku kā vidūji ES un 4 reizes mazāk nekā Somijā. Skatoties uz tabulu, vāl ir jāatceras, ka resursi un nauda, kas pieejama Latvijas zinūtniekiem Ā*per capita"* ir mazāka,

nekÛ jebkurÛ citÛ no tabulÛ minÙtÛm valstÞm. SalÞdzinÛjums ar vecajÛm dalÞvalstÞm ir graujoýs ï tur vidÛji zinÛtniekam pieejamie *Ăper capita"* resursi ir 20-40 reizes lielÛki nekÛ Latvijas zinÛtniekam.

Tabula 1, kura ilustrÛ daýÛdu ES dalÞvalstu, kandidÛtvalsts Turcijas un kaimiÁvalstu Baltkrievijas, Ukrainas un Krievijas lÞdzdalÞbu HORIZONTS 2020 konkursos un summÛrais rezultÛts daýÛm valstÞm FP 7 programmÛ

(dati uz 30.06.2016)

Valsts	DalÞbnieki projektu pieteikumos	DalÞbnieki projektu pieteikumos, kuri izvirzÞti finansÛganai	SagaidÛmais finansÛjums Mú	SekmÞba % pÛc dalÞbnieku Skaita	SekmÞba % pÛc finansÛjuma	ZinÛtnieku skaits valstÞ EUROSTAT 2013 *(PLE)*
Latvija	**1033**	**115** **FP7 356**	**18.527** **FP7 49.938**	**10.84**	**6.90**	**3613**(2015) **3748***(2014)* **3625***(2013)* **3904***(2012)*
Igaunija	1 502	196 **FP7 540**	53.973 **FP7 88.643**	13.05	10.05	4 407
Lietuva	1 216	123 **FP7 417**	17.392 **FP7 54. 771**	10.12	5.47	8 557
Somija	6 220	740 **FP7 2 628**	303.353 **FP7 866.560**	11.90	9.24	39 196
Zviedrija	8 205	1 124	526 545	13.70	12.37	62 043
Polija	5 950	618	142 250 846	10,39%	7,77%	71 472
DÜnija	6 380	900	416 416 160	14,11%	12,33%	40 858
ÞÛja	4 55	647	274 668 184	14,20%	12,47%	15 732 *(2012)*
NÞderlande	16 114	2 457	1 254 225 062	15,25%	15,10%	72 325
Austrija	7 175	1 101	450 885 130	15,34%	14,17%	39 924
VÛcija	32 842	4 884	2 967 740 144	14,87%	17,24%	360 900
LielbritÛnija	34 984	4 991	2 340 926 191	14,27%	12,99%	259 347
Francija	21 427	3 348	1 592 373 545	15,63%	14,65%	265 177
Turcija	2 744	262	69 481 148	9,55%	8,30%	82 121
Baltkrievija	124	19 **FP7 52**	3.271 **FP7 3.765**	15,32%	13,87%	18 500
Ukraina	600	60 **FP7 214**	7.602 **FP7 23.810**	10.00	5.26	66 200
Krievija	163	46 **FP7 545**	3 246 **FP7 72.324**	28,22%	18,70%	459 504
Indija	90	17	1 253 658	18,89%	15,37%	????

P.s. Ukraina tagad ir asociÛta H 2020 dalÞvalsts un tÛs rezultÛti ir izteikti labÛki, kÛ Krievijai!!!

Tabula. 2 Valstu lÞdzdalÞba koordinatora statusÛ

Valsts	KordinÛtori projektu pieteikumos	kordinÛtori pieteikumos, kuri izvirzÞti finansÛganai	SagaidÛmais finansÛjums Mú	SekmÞba % pÛc dalÞbnieku Skaita	SekmÇ-ba % pÛc finansÛ-juma	ZinÛtnieku skaits valstÞ EUROSTAT 2013 *(PLE)*
Latvija	**285**	**15**	**2 838 342**	**5,26%**	**2,36%**	**3613**(2015) **3748***(2014)*
Igaunija	433	59	26 087 926	13,63%	10,00%	4 407
Lietuva	269	22	3 046 251	8,18%	2,64%	8 557
Somija	1 831	162	121 447 770	8,85%	7,27%	39 196
ÞÛja	1 436	214	150 619 293	14,90%	13,77%	15 732
NÞderlande	3 704	583	532.311	15,74%	16,37%	72 325
Austrija	1 443	222	165 011 240	15,38%	14,57%	39 924
VÛcija	7 356	1 040	1 380 564943	14,14%	20,52%	360 900

SkaitÑ runŪ paģi! KŪ redzams no tabulas, kopŪ Latvijai uz 2016.gada jÎ liju bija tikai 112 lǭdzdalǭbas finansÙtos projektos un Latvijas sekmǭbas procents ir nokritis no vairŪk kŪ 20% pirmajos H 2020 konkursos 2014.gadŪ lǭdz 10 % un mazŪk. TŪs ir sekas aizvien lielŪkai nedroģǭbai vÙl dzimtenŪ strŪdŪjoģiem zinŪtniekiem, valsts stiprŪko tradǭcijŪm bagŪtŪko institÎ tu likvidŪcijai *„de jure”* un stiprŪko zinŪtnieku aizbraukģanai no valsts sakarŪ ar diletantiskiem zinŪtnes reformu pasŪkumiem. Negatǭvǭs tendences ir nopietni veicinŪtas arǭ ar NacionŪlŪs Kontaktpunktu SistÙmas birokratizŪciju un tŪs darba formalizŪciju iekÑaujot to bÙdǭgi slavenajŪ VIAA birokrŪtijas maģinÙrijŪ!!!

Jau tagad ir skaidrs, ka IZM un VIAA diletantiski iezǭmÙtais mÙrķis - 100 Mú H 2020 investǭcijas Latvijas zinŪtnŪ ar finansÙtiem projektiem ir tŪlu no realitŪtes, ja Ńem vÙrŪ, ka uz ģo brǭdi iegÎ tajos 18.5 miljonos eiro dominŪ nauda, kas tiek deleģŪta daģŪdiem organizatoriskiem pasŪkumiem un bada reģǭmŪ turÙtŪs un aizvien vÙl izcilŪs zinŪtnes grupas nespÙj produktǭvi piedalǭties labu zinŪtnes projektu uzrakstǭģanŪ.

PretÙji zinŪtnes saimei par zinŪtni atbildǭgajŪs struktÎ rŪs vislabŪk jÎ tas labi apmaksŪta un visas sociŪlŪs garantijas baudoģa agresǭvu diletantu izlase.

Ģǭs armijas paģpŪrliecinŪtǭbai nav robeģu. Tam uzskatŪms piemÙrs ir kŪdas par zinŪtni atbildǭgas ierÙdnes un Latvijas Radio kopǭgi nesen sarǭkota *“gladiatoru cīņas izrāde”* zinŪtnei veltǭtŪ radio raidǭjumŪ. Triju Latvijas vadoģo universitŪģu rektori un viena liela valsts zinŪtnes institÎ ta direktors, tŪ vietŪ lai runŪtu par problÙmŪm, kuras nes postu valstij, par prieku radio klausǭtŪjiem, tika izprovocÙti uz *„cīņu līdz pēdējai asins lāsei par dažu miljonu eiro zinātnes infrastruktūras naudas „taisnīgu” pārdali starp universitātēm un sektoriem”.*

Patiesi ģÙl, ka cienǭjami kolÙģi ir tik tŪlu iebiedÙti un pazemoti, ka nesaprot, cik gudri viŃi tiek ģģelti un kŪdas apkaunojoģas manipulŪcijas ar viŃiem var atÑauties. Ikdienas rutǭnŪ ir zuduģas spÙjas aizstŪvÙt savus izcilos kolÙģus augstskolŪs un institÎ tos un iestŪties par jaunajiem zinŪtniekiem, kuriem, lǭdzŪs patiesai vÙlmei strŪdŪt zinŪtnÙ, gribas dibinŪt ģimenes, audzinŪt bÙrnus un pilnvÙrtǭgi kalpot savai tautai un sabiedrǭbas labklŪjǭbai!

KolÙģi, mÙs esam atpakaÑ padomju laiku zinŪtnes koncentrŪcijas nometŃu sistÙmŪ , kad labs jaunais zinŪtnieks pÙc augstskolas tika turÙts uz 100-120 eiro *(atvainojiet rubļu)* algas gadiem cauri bez jebkŪdŪm sociŪlŪm garantijŪm!!!

Toreiz mums bija nacionŪlŪ spǭts neskatoties uz to, ka par mums ŃirgŪjŪs *„pasaules ļaunuma impērija”* un tŪs koruptǭvi birokrŪtiskŪ maģǭna. Tagad to dara paģu audzÙta, noģÙlojama, nacionŪla nomenklatÎ ra, bet Latvijas universitŪģu un zinŪtnes institÎ tu lǭderiem sŪk pietrÎ kt drosmes konsekventi un bez kompromisiem saukt lietas ǭstos vŪrdos. ZinŪm teicienu *„paēdušais neēdušo nesaprot”!!!* JautŪjums, kurģ ir kurŪ pusÙ!!! Ir jau arǭ Bǭbeles sŪga par *„Jūdasa grašiem” !!!*

Tragiski, ka ir Ñoti maza lǭdzdalǭba konkursos un nav neviena panŪkuma M-S-C stipendiju programmŪ un ERC grantu piesaistÙ. Nav vairs LatvijŪ zinŪtnieku, kuriem, lǭdzŪs projektu stresam, bÎ tu garantÙta vismaz daÑslodze vairŪku gadu garumŪ radoģam darbam un meklÙjumiem.

Nav zinŪtnieku, nav konkursa uz profesÎ ru un nav izcilu profesoru. Uz vienas rokas pirkstiem var saskaitǭt profesorus, kuri ir spÙjǭgi rosinŪt izcilu pÙtniecisku H2020 projektu koordinatora statusŪ. T.i. savŪkt pasaulÙ iespÙjami labŪko konsorciju un iegÎ t finansÙtu projektu. Starp 112 finansÙtiem nav neviena, kuru bÎ tu pacÙlis profesors koordinatora statusŪ!!!

TŪlŪk tabulŪ 3 ir dota valsts vadoģo institÎ tu panŪkumu statistika FP5, FP6, FP7 un HORIZONTS ï 2020. Dotas arǭ TECHNOPOLIS atzǭmes un redzama izteikta korelŪcija. TabulŪ 3 zilŪ krŪsŪ ir institÎ cijas lǭdzdalǭbu skaits finansÙtos projektos, bet melnŪ krŪsŪ lǭdzdalǭbu kopskaits projektu pieteikumos, kas viennozǭmǭgi ir konkrÙtŪ institÎ ta integrÙts atpazǭstamǭbas rŪdǭtŪjs ES vienotŪ zinŪtnes telpŪ. KopumŪ tabula 3 un viss datu kopums rŪda, ka uz ģo brǭdi LatvijŪ aizvien vÙl ir vismaz vÙrŪ Ńemami 40 zinŪtnes institÎ ti un lǭdzǭgi veidojumi, kuri ir labi atpazǭti ES VienotŪ ZinŪtnes TelpŪ. Tas ir Latvijas *“zelta fonds*ò un *“kristalizācijas centri”* no kuriem ar patiesi gudru un tŪlredzǭgu politiku var sŪkt atjaunot un palielinŪt Latvijas zinŪtnes potenciŪlu.

PasaulÙ nav atrodama labklŪjǭbas valsts, kur cietumnieku skaits ir lielŪks un finansiŪlais nodroģinŪjums ir labŪks nekŪ zinŪtniekiem!!!

KŪ redzams, spǭtÙjot tam, ka viss institÎ tu personŪls nodarbinŪts esoģo projektu izpildÙ, *(jo bāzes finansējuma praktiski nav*), vairŪkiem institÎ tiem ir iespaidǭga projektu pieteikumu statistika, kura liecina par paģaizliedzǭgu atdevi ziedojot savu brǭvo laiku un lǭdzekÑus projektu sagatavoģanŪ.

Tabula 3.

b	INSTITUTES	TOTAL	TOTAL	FP5	FP5	FP6	FP6	FP7	FP7	HORIZON 2020	HORIZON 2020	TECHNOPOLIS ranking
1	Institute of Mathematics and Computer Science, Uni.of Latvia	29	85	9	16	8	26	11	37	1	6	4
2	Latvian State Institute of Wood Chemistry	27	109	7	26	4	32	12	38	4	13	4
3	Institute of Materials and Structures, RTU	27	75	4	10	11	28	9	29	2	4	3
4	Institute of Solid State Physics, University of Latvia	22	81	8	9	5	33	7	31	2	8	4
5	Institute of Physics UL	22	48	9	11	3	17	10	17	0	3	2
6	FOTONIKA-LV, UL	21	85					8	24	1	19	
	FOTONIKA-LV, UL									0	8	
	Institute of Atomic Physics and Spectroscopy, UL	19	63	6	13	5	28	7	21	0	1	4
	Institute of Astronomy, University of Latvia	3	12	0	0	1	1	1	2	1	9	3
	Institute of Geodesy and Geoinformatics Uni.Latvia	1	2	0	0	0	0	1	1	0	1	1
7	RSU and A.Kirhenshtein Institute of Microbiology and Virology	18	94	3	16	3	20	8	37	4	21	3
8	Institute of Physical Energetics	17	38	8	10	2	9	5	9	2	10	2
9	Latvian Institute of Organic Synthesis	15	72	1	11	1	16	9	30	3	13	5
10	Latvian Biomedical Research and Study Centre	15	70	5	22	5	20	5	20	0	8	4
11	Baltic Studies Centre	15	35	3	8	5	11	5	11	2	5	2
12	*BIOR-Institute of Food Safety, Animal Health and Environment*	9	18	3	3	3	7	3	8			4
13	Institute of Aquatic Ecology	8	26	4	12	3	10	1	4	0	2	3
14	Institute of Chemical Physics, University of Latvia	6	18	2	4	2	5	0	6	2	6	3
15	Inst. of Polymer Mechanics, UL	6	43	0	14	5	14	1	14	1	8	2
16	Institute of Electronics and Computer Science	6	28	2	4	2	7	1	11	1	13	4
17	Latvian State Forestry Research Institute "Silava"	6	32	1	9	3	9	1	6	1	8	3
18	Transport and Telecommunication Institute (private)	3	22	0	0	0	4	3	18	1	5	4

Tabula 4 parÛda Latvijas augstskolu sekmes HORIZONTS 2020 konkursos uz 2016.gada jÎliju. Ir izteikti redzama sekmÐbas procenta kriÐana. Rektori droši vien sÛk strauji nosirmot, bet nespÛj saÁemt drosmi *„draudzīgām"* sarunÛm, IZM, FM un SaeimÛ par radikÛlu bÛzes finansÛjuma palielinÛjumu.

Tas ir vienÐgais ceÞš, kÛ atjaunot gadiem ilgu pÛtniecÐbas pÛctecÐbu universitÛšu institÎtos un laboratorijÛs un nodrošinÛt sekmes H2020 projektu konkursos ar mÎsdienÐgi aktuÛlÛm projektu idejÛm. Nopietni un konkurÛt spÛjÐgi konsorciji neÁem par partneriem zinÛtniekus un grupas, kuriem nav labu publikÛciju par konkrÛto tÛmu.

SavukÛrt LZA sirmÛs, un patiesi gudrÛs galvas savÛs konkrÛtajÛs jomÛs un to jaunÛkie kolÛgi ir droši savÛ StaliÁa *„baroko stila"* cietoksnÐ un pieklÛjÐgi klusÛ. GÛdas pieklÛjÐbas rezultÛtÛ, izmantojot *„goda viesa"* statusu un tukšus solÐjumus, pat trešÛs Þširas ierÛdnis viegli tiek galÛ ar jebkuru neapmierinÛtÐbas izpausmi. JaunpienÛcÛjiem LZA elitÛ bÎtu pienÛkums runÛt vÛl skarbÛk, tiešÛk, biešÛk un ar vÛl spÛcÐgÛku argumentÛciju nekÛ to var atïauties augsti godÛtais akadÛmiÞis JÛnis StradiÁð.

Tabula 4.

		TOTAL	TOTAL	FP5	FP5	FP6	FP6	FP7	FP7	H-2020	H-2020
1	University of Latvia									12	95
2	Riga Technical University									7	96
3	Riga Stradina University									4	19
4	Ventspils Augstskola									2	14
5	Latvijas Kultūras Akademija									1	0
6	Latvijas Jūras Akadēmija									1	0
7	Rezeknes Augskola									0	11
8	Daugavpils Universitāte									0	15
9	Latvijas Kultūras Koledža									0	5
10	Latvian Agriculture Uni									0	18
11	Vidzemes Augstskola									0	6
12	Liepājas Universitāte									0	5
13	Rīgas Ped&Vad Augstskola									0	3
14	Stockholm School of Econ									0	3
15	Latvijas Mākslas Acadēmija									0	1
15	RIGAS STARPTAUTISKA EKONOMIKAS UN BIZNESA ADMINISTRACIJAS AUGSTSKOLA									0	2
16	INFORMACIJAS SISTEMU MENEDZMENTA AUGSTSKOLA SIA									0	1
17	LATVIJAS SPORTA PEDAGOGIJAS AKADEMIJAS									0	1

Mazie un vidÛjie uzÁÛmumi ir ES ekonomiskÛs politikas uzmanÐbas centrÛ. ZinÛtnÛ orientÛti MVU ir ES zinÛtnes un inovÛciju politikas centrÛ. TamdÛÑES HORIZONTS 2020

programmÛ salīdzinot ar FP7 ir vairÛki finansu instrumenti, kuri rada lielÛku pievilcību MVU dalībai tÛs konkursos. TÛlÛk Tabula 5 rÛda Latvijas MVU panÛkumus. ZilÛ krÛsÛ līdzdalība finansÛtos projektos, melnÛ krÛsÛ līdzdalību skaits projektu pieteikumos kopÛ. Abi cipari viennozīmīgi ir izcilības rÛdītÛji konkrÛtam uzÁÛmumam. LīdzdalÍba finansÛtÛ projektÛ H-2020, smagÛs konkurences apstÛkÒos, apliecina izcilību un nodrošina atbalstu projekta realizÛcijai.

LīdzdalÍbu kopskaits projektu pieteikumos rÛda, ka uzÁÛmums ir atpazīstams un pieprasīts Eiropas vienotÛ zinÛtnes, tehnoloģiju un inovÛciju telpÛ konkrÛtu projektu ideju realizÛcijai. No tabulas, kura rÛda mÎsu vienozīmīgus līderus *(pirmos 25)* pÛc finansÛto projektu skaita FP5&6&7+H2020, redzams, ka pagaidÛm Latvija nevar lepoties ar lielu skaitu panÛkumiem bagÛtu MVU un tam skaidrojums ir Òoti vienkÛrīgs ï mazÛk par 700 zinÛtnieku ir nodarbinÛti Latvijas uzÁÛmumos. KopumÛ statistika ir sekojoša: iepriekšÛjÛs trijÛs programmÛs FP5&6&7 kopskaitÛ ir startÛjuši 299 Latvijas MVU ar līdzdalību 749 projektu pieteikumos. 102 projekti ir tikuši finansÛti, attiecīgi: 43/155-FP5; 25/228-FP6 un 34/366-FP7.

KopumÛ Latvijas uzÁÛmumu skaits, kuri piedalÛjÛs finansÛtu H2020 projektu izpildÛ ir mazÛks par 20 un tas valstiski ir Òoti vÛjš sniegums, kura cÛlonis ir nepietiekošs atbalsts.

KopumÛ uz 2016.gada augustu ir zinÛms, ka H2020 SMEs instrumenta pirmÛs kÛrtas projektu konkursos ir startÛjuši 103 Latvijas MVU ar 168 projektu pieteikumiem. FinansÛti ir tikai 6 projekti *(sekmība 3.2%)*, no kuriem 3 ir FOTONIKA-LV balstīti projekti.

H2020 SMEs instrumenta otrÛs kÛrtas projektu konkursos ir startÛjuši 23 Latvijas MVU ar 54 projektu pieteikumiem no kuriem divi saÁems finansÛjumu.

FOTONIKA-LV projekta grupa ir nesavtīgi atbalstījusi vairÛk kÛ 25 projektu pieteikumu sagatavošanu.

Tabula 5.

Rank	MVU, kam ir projekti IP7unH-2020	TOTAL	TOTAL	FP5	FP5	FP6	FP6	FP7	FP7	H-2020	H-2020
1.	EKODOMA SIA	12	40	6	7	2	6	1	5	3	22
2.	Tilde SIA	10	64	1	10	2	10	5	35	2	9
3.	Plasma&Ceramic Tech. Ltd.	5	34	2	7	2	17	1	10		
4	Baltijas Vides Forums	5	12					2	1	3	11
5	Pūres Dārzkopības izmēģinājumu stacija AS	3	12	0	0	0	4	3	7	0	1
6.	Asla Biotech SIA	3	22	0	0	2	15	1	7		
7.	Ritols SIA	3	17	1	2	0	6	2	8	0	1
8	Let-Comm SIA	3	10	2	3	0	6	1	1		
9.	Latvian Intelligent Syst. SIA	2	11	1	1	1	9	0	1		
10.	Micro Dators Ltd. (SMART MET	2	8	0	0	0	0	2	8		
11.	ALGOREGO SIA	2	3	0	0	0	0	2	3		
12.	REGULA BALTIJA SIA	2	2	0	0	0	0	2	2		
13.	Eiropas lauksaimniecības un lauku konsultantu asociācija	2	2							2	2
14.	LATVIJAS TEHN. CENTRS	2	4							2	5
15.	RENESCO SIA	2	3							2	2
16.	Baltic Scientific Instr. Ltd	1	16	0	3	0	3	0	6	1	4
17.	DPA, www.dpa.lv	1	15	0	0	0	0	1	1	0	14
18.	A/S-Biotechnical Center,JSC	1	10	1	3	0	4	0	3		
19.	Hanzas Elektronika, SIA	1	8	0	0	1	1	0	2	0	4
20.	GroGlass SIA	1	6	0	0	0	0	1	3	0	3
21.	RUBER Tech Ltd	1	6							1	6
22.	Rīgas Austr.kl.Uni. Slimn.SIA	1	6	0	0	0	0	1	4	0	2
23.	LATGALES MAIZNICA SIA	1	6	0	0	1	3	0	3		
24.	HEE Photonic Labs, Ltd	1	5	0	0	0	0	0	1	1	4
25.	EUROLCDS SIA	1	5							1	5
26.	Biolat A/S	1	5	0	1	1	3	0	1		
27.	Panzer Ltd.	1	4	0	0	0	0	1	4		

1.5. Sasniegt vairāk!

TÛlÛk VÛSTIS 2.nodaÒÛ ir uzskaitīti jau izsludinÛtie un paredzamie 2016. un 2017.gadu H2020 konkursi, to tÛmu konkursu struktÎra, termiÁi hronoloģiskÛ secībÛ un daudzviet īsi apraksti. TÛ ir sareģģīta lasÛmviela 30 lpp apjomÛ. RÎpīgas izpÛtes gadījumÛ tÛdos iespÛju lasītÛjam piedÛvÛt savai zinÛtniskai grupai, vai institÎtam stratÛģiju un ceÒa karti līdzdalībai HORIZONTS 2020 uzdevumu izpildÛ līdz 2017.gada beigÛm.

BÎtu priecīgs, ja man nebÎtu taisnība, tomÛr veiksme H2020 projektos faktiski ir vienīgÛ iespÛja Latvijas zinÛtniskiem institÎtiem un atsevišķÛm zinÛtniskÛm grupÛm strÛdÛt akadÛmiskas brīvības apstÛkÒos un pastÛvÛt neatkarīgi no valsts, IZM un daļkÛrt arī kÛdas universitÛtes destruktīvÛs attieksmes pret viennozīmīgu izcilību zinÛtnÛ. Tagad ir skaidri redzams, ka Latvijas zinÛtnei naidīgÛ gaisotnÛ, liela daÒa no tabulÛ 2. minÛtiem institÎtiem, bez

līdzdalības ES Ietvara programmu projektu izpildŪ vairs nebĪtu atrodami LatvijŪ vai vegetÙtu pateicoties zinŪtnieku paģaizliedzīgai pŪrpĪlei.

TagadÙjŪ bezjŪdzīga, un no augģas uzspiestŪ integrŪcija acīmredzami vÙl vairŪk samazinŪs institĪtu iespÙjas uz radoģu un patstŪvīgu rīcību. Tabulas uzskatŪmi rŪda, ka juridisko statusu un neatkarību saglabŪjuģie institĪti nav salīdzinŪmi pÙc apmÙriem ar augstskolŪm, bet ir daudz sekmīgŪki par augstskolŪm H2020 konkursos.

Mums ir jānoturas, mūsu tautai ir jānoturas, Latvijai ir jānoturas. Nāks labāki laiki un labākas Valdības un mūsu noturētie placdarmi noderēs izaugsmei nākotnes Latvijā.

Nav viegli bĪt padomdevÙjam ģŪda situŪcija, tomÙr balstoties uz manu un manas paģaizliedzīgŪs un motivÙtŪs komandas pieredzi atgŪdinu par iespÙjŪm, kuras, neatkarīgi no zinŪtĀu disciplīnas, var izmantot stipras zinŪtnes grupas, institĪti un pat izcilas zinŪtnes personības LatvijŪ. Arī tie, kuri jau iekÑuti IZM *„norakstāmo"* sarakstŪ.

MaksimŪla uzmanība ir jŪvelta MSCA, ERC, FET-open un *Research Infrastructure* projektu konkursiem. NoģŪlojamais bŪzes finansÙjums zinŪtnÙ mums nav ÑŪvis uzkrŪt pietiekoģu zinŪtnisko kapacitŪti un tamdÙÑpavisam maz LatvijŪ ir tŪdu, kuri paģi var rosinŪt projektus minÙtajos konkursos koordinatora statusŪ. TomÙr ir cita iespÙja - ar lielŪku varbĪtību uz daudzskaitlīgu panŪkumu. Pirmajos trijos, no ļetriem minÙtajiem konkursiem, ES piedŪvŪ iespÙju līdzdalībai H2020 konkursos sadarbībŪ ar pasaules labŪkajiem zinŪtniekiem, kuriem ir augstŪkŪs raudzes zinŪtnes idejas.

LatvijŪ ģobrīd ir 50-70 zinŪtniskas struktĪras *(ar dažādu autonomijas pakāpi)* ar labŪm zinŪtnieku grupŪm par kuru atpazīstamību Eiropas VienotŪ ZinŪtnes telpŪ projektu vÙrtÙtŪjiem, ģaubu nebĪs. Ir jŪrisina vienkŪrģs uzdevums. Ir jŪkontaktÙ ar jau zinŪmiem un jŪmeklÙ papildus jauni kolÙģi, kuriem ir jŪstŪsta par ģo konkursu iespÙjŪm un jŪaicina realizÙt savus projektus LatvijŪ.

TŪ ir labi zinŪma prakse ES un labi zinŪmas universitŪtes mums kaimiĀos lepojas ar ievÙrojamu skaitu finansÙtu ERC projektu: Lundas UniversitŪte ï 42; Helsinku UniversitŪte -39; Upsalas UniversitŪte ï 37; Aalto UniversitŪte ï 25; Chalmera universitŪte ï 22; Stokholmas universitŪte- 16, GŪteborgas UniversitŪte ï 12; Varģavas universitŪte ï 9; Tartu universitŪte 3. Igaunija kopŪ ï 5.

Rīga, kŪ tika konstatÙts DŪĀu ZinŪtĀu AkadÙmijas vÙrtÙjumŪ 1992.gadŪ bija ievÙrojams zinŪtnes centrs pie Baltijas jĪras. DiemģÙl tagad mÙs varam lepoties tikai ar prof. A.AmbaiĀa ERC grantu, kurģ tiek realizÙts LU Datorikas fakultŪtÙ.

Visiem panŪkumus vÙlot un nesavtīgu atbalstu solot:

Arnolds Ï belis, 2016.gada 13.septembrī

Dr.Phys. Arnolds Ūbelis, bijušais FP5, FP6, FP7 un Horizonts 2020 Nacionālās kontaktpunktu grupas koordinators līdz 2015.gadam, e-mail: arnolds@latnet.lv

2. Vēstis no NKP un atgādinājumi par aktuālo HORIZONTS-2020 tematiskās un horizontālās aktivitātēs

Aizvien atgŪdinu, ka katram aktīvam zinŪtniekam vajag atvÙrt savu kontu ***Participant Portal***, *http://ec.europa.eu/research/participants/portal/desktop/en/home.html*. Konts minÙtajŪ portŪlŪ jĪtami atvieglos dzīvi iepazīstoties ar HORIZONTS 2020 un citŪm finansÙjuma iespÙjŪm. Ģis konts ir labs palīgs projektu pieteikumu sagatavoģanŪ un veiksmes gadījumŪ arī projektu realizÙģanŪ. PieredzÙjuģiem zinŪtniekiem ir ieteicams pieteikties ekspertos gan HORIZON 2020 konkursiem, gan citiem darbiem, kur ekspertus meklÙ Eiropas Komisija.
(http://ec.europa.eu/research/participants/portal/desktop/en/experts/index.html)

TŪlŪk Ūtrai orientŪcijai ir dots HORIZONTS 2020 konkursu uzskaitījums to termiĀu hronologiskŪ secībŪ līdz 2017.gada vÙlam rudenim. Katram konkursam ir daudzskaitlīgs *„TOPIC"* saraksts un ir nepieciešams to rĪpīgi izpÙtīt, lai identificÙtu sev vajadzīgo.

KopumŪ ģis saraksts jums Ñaus sastŪdīt jĪsu, vai jĪsu zinŪtniskŪs grupas (*laboratorijas*) pirmŪ līmeĀa stratÙģisko plŪnu JĪsu līdzdalībai H-2020 konkursos divus gadus uz priekģu.

Daģviet esmu pievienojis pamataprakstus. *„TOPIC"* apakģlīmenī tas ir izdarīts pilnībŪ tikai konkursiem, kur, manuprŪt, LatvijŪ varÙtu rasties daudzskaitlīgŪka interese. KŪ bĪs redzams

tŪlŪk, tad konkursu un Ătopicò saraksts priekš Ăndustry Leadershipòun ĂSocietal Challengesò ir Ṅoti garš un sarežģīts un lai tajŪ orientŪtos ir vajadzīga piepūle daudzu stundu garumŪ. Konkursu apakštŪmas (*topics*) ir stipri specifiskas un līdzdalība eventuŪlŪ projekta pieteikuma konsorcijŪ būs atkarīga no, konkrŪtŪs zinŪtnieku grupas LatvijŪ, atpazīstamības starp tŪm institūcijŪm ES, no kurŪm nŪks koordinŪtori projektu pieteikumiem. Nepieciešamais nosacījums, lai Latvijas zinŪtnieku grupa varŪtu uzņemties koordinŪt konkurŪtspŪjīga projekta konsorciju ir kapacitŪtes apliecinŪjumi ar attiecīga līmeņa publikŪciju sarakstu, līdzdalība līdzīgos FP7 projektos un atpazīstamība attiecīgŪs tŪmas zinŪtnieku saimŪ LatvijŪ un pasaulŪ. Tas nav pietiekami, jo konkurŪtspŪjīga H-2020 projekta uzrakstīšanas koordinatora statusŪ izmaksas mŪrŪmas līdz 30 000 eiro un Latvijas gadījumŪ tŪs ir konkrŪtŪ zinŪtnieka Ăpersonīgās Ăinvestīcijas, kuras nav pieņemts uzskaitīt (*ir nu gan muļķis – neviens tam neliek to darīt!!!)*

Svarīgi, bet ne vienkŪrši priekš Latvijas, ir sagaidŪmie TEAMING, *TWINNING un ERA-Chairs* projektu konkursi sŪkot no 2016.gada novembri.

Specifiski un īpaši ir Eiropas zinŪtnes padomes *(ERC)* triju kategoriju granti: iesŪcŪjiem līdz 7 gadiem pŪc disertŪcijas aizstŪvŪšanas; konsolidatoriem līdz 12 gadiem pŪc disertŪcijas aizstŪvŪšanas un pieredzŪjušiem zinŪtniekiem.

Latvijas nŪkotnes vŪrdŪ ir jŪdara maksimŪli daudz, mudinot citu zemju zinŪtniekus braukt uz Latviju ar M-S-C un ERC grantiem. TŪ ir Ăwin-winò situŪcija. VarŪsim likt lietŪ nosacīti labo zinŪtnes infrastruktūru, kura radīta ar ERAF un citu finansŪjumu *(labi zinām, ka patreizējā noslodze pie mazā zinātnieku skaita ir vidēji krietni zem 20-30%)* un vienlaicīgi mūsu grupŪs un laboratorijŪs būs labi apmaksŪti un zinŪtnŪ motivŪti kolŪģi, ar kuriem varŪsim sadarboties tais brīvajos brīžos, kuri paliks pŪri dienišķo maizi pelnot blakus darbos. TŪ varbūt sagaidīsim laikus, kad sŪksim nezaudŪt *„kiberkarā",* kurš visŪs jomŪs izvŪrsts pret Latvijas tautu.

Tālāk ir HORIZONTS 2020 konkursu tabulas ar terminiem hronoloģiskā secībā līdz 2017.gada pēdējām dienām. Informācija, kuru izmantojot var viegli piekļūt informācijas paketei *(WEB vietnes meklējot GOOGLE),* **lai ātri varētu orientēties situācijā, kad atnāk uzaicinājums līdzdalībai projekta konsorcijā!**

Atvainojos! MateriŪls ir Ṅoti apjomīgs un noteikti nav izdevies izvairīties no kŪdŪm pŪrrakstīšanŪs kṄūdŪm.

H200	Industrial Leadership	SME-2 SME instrument phase 1	**7 September 2016** 9 November 2016 15 February 2017 3 May 2017 6 September 2017 8 November 2017

HORIZON 2020 DEDICATED SME INSTRUMENT 2016-2017

In phase 1*, a feasibility study shall be developed in order to verify the technological/practical as well as economic viability of an innovation idea/concept with considerable novelty to the industry sector in which it is presented (new products, processes, design, services and technologies or new market applications of existing technologies). The activities could, for example, comprise risk assessment, market study, user involvement, Intellectual Property (IP) management[[This is not limited to the costs of acquiring and enforcing European or international IPR titles but could include auditing and risk management schemes to protect IP assets across planned supply and distribution chains and more generally IP valorisation plans to enhance return on investment and lever commercial investment into the relevant project.]],*

H2020	SOCIETAL CHALLENGES	H2020-LCE-2016-2017	08 September 2016 29 November 2016 05 January 2017 14 February 2017 16 February 2017 07 Septembris 2017

COMPETITIVE LOW-CARBON ENERGY

1. **LCE-09-2016: Increasing the competitiveness of the EU PV manufacturing industry:** IA Innovation action. Single Stage. 08 September, 2016;
2. **LCE-13-2016: Solutions for reduced maintenance, increased reliability and extended life-time of off-shore wind turbines/farms:** IA Innovation action. Single Stage. 08 September, 2016;
3. **LCE-15-2016: Scaling up in the ocean energy sector to arrays:** IA Innovation action. Single Stage. 08 September, 2016;

4. **LCE-09-2016: Increasing the competitiveness of the EU PV manufacturing industry:** IA Innovation action. Single Stage. 08 September, 2016;
5. **LCE-19-2016-2017: Demonstration of the most promising advanced biofuel pathways:** IA Innovation action. Single Stage. Deadlines 08 September, 2016, 07 September, 2017;
6. **LCE-20-2016-2017: Enabling pre-commercial production of advanced aviation biofuel:** IA Innovation action. Single Stage. Deadlines 08 September, 2016, 07 September, 2017;
7. **LCE-22-2016: International Cooperation with Brazil on advanced lignocellulosic biofuels:** RIA Research and Innovation action. Single Stage. 08 September, 2016;
8. **LCE-06-2017: New knowledge and technologies:** RIA Research and Innovation action. Two Stage . Deadlines 29 November, 2016, 22 August 2017;
9. **LCE-31-2016-2017: Social Sciences and Humanities Support for the Energy Union :** RIA Research and Innovation action. Single Stage. 08 September, 2016;
10. **LCE-07-2016-2017: Developing the next generation technologies of renewable electricity and heating/cooling:** RIA Research and Innovation action. Two Stage . Deadlines 29 November, 2016, 22 August 2017;
11. **LCE-08-2016-2017: Development of next generation biofuel technologies:** RIA Research and Innovation action. Single Stage, 05 January 2017;
12. **LCE-21-2017: Market uptake of renewable energy technologies:** CSA Coordination and support action. Single Stage, 05 January 2017;
13. **LCE-27-2017: Measuring, monitoring and controlling the potential risks of subsurface operations related to CCS and unconventional hydrocarbons:** RIA Research and Innovation action. Single Stage, 05 January 2017;
14. **LCE-28-2017: Highly flexible and efficient fossil fuel power plants:** RIA Research and Innovation action. Single Stage, 05 January 2017;
15. **LCE-29-2017: CCS in industry, including Bio-CCS:** RIA Research and Innovation action. Single Stage, 05 January 2017;
16. **LCE-30-2017: Geological storage pilots:** RIA Research and Innovation action. Single Stage, 05 January 2017;
17. **LCE-01-2016-2017: Next generation innovative technologies enabling smart grids, storage and energy system integration with increasing share of renewables: distribution network:** RIA Research and Innovation action. Single Stage, 14 February 2017.
18. **LCE-04-2017: Demonstration of system integration with smart transmission grid and storage technologies with increasing share of renewables:** RIA Research and Innovation action. Single Stage, 14 February 2017.
19. **LCE-05-2017: Tools and technologies for coordination and integration of the European energy system:** RIA Research and Innovation action. Single Stage, 14 February 2017.
20. **LCE-36-2016-2017: Support to the energy stakeholders to contribute to the SET-Plan:** RIA Research and Innovation action. Single Stage, 14 February 2017.
21. **LCE-10-2017: Reducing the cost of PV electricity:** IA Innovation action. Single Stage. 07 September, 2017;
22. **LCE-11-2017: Near-to-market solutions for reducing the water consumption of CSP Plants:** IA Innovation action. Single Stage. 07 September, 2017;
23. **LCE-12-2017: Near-to-market solutions for the use of solar heat in industrial processes:** IA Innovation action. Single Stage. 07 September, 2017;
24. **LCE-14-2017: Demonstration of large >10MW wind turbine:** IA Innovation action. Single Stage. 07 September, 2017;
25. **LCE-16-2017: 2nd Generation of design tools for ocean energy devices and arrays development and deployment :** IA Innovation action. Single Stage. 07 September, 2017;
26. **LCE-17-2017: Easier to install and more efficient geothermal systems for retrofitting buildings:** IA Innovation action. Single Stage. 07 September, 2017;
27. **LCE-18-2017: EGS in different geological conditions:** IA Innovation action. Single Stage. 07 September, 2017;
28. **LCE-19-2016-2017: Demonstration of the most promising advanced biofuel pathways:** IA Innovation action. Single Stage. Deadlines 08 September, 2016, 07 September, 2017;

H2020	Excellent science	H2020-MSCA-IF-2017	**14-09-2016** 14-09-2017

MARIE SKŁODOWSKA-CURIE INDIVIDUAL FELLOWSHIPS

MSCA-IF-EF-CAR Career Restart panel , MSCA-IF-EF-RI Reintegration panel,
MSCA-IF-EF-SE Society and Enterprise panel,
MSCA-IF-EF-ST Standard EF,
MSCA-IF-GF Global Fellowships

Topic Description

Objective:

The goal of the Individual Fellowships is to enhance the creative and innovative potential of experienced researchers, wishing to diversify their individual competence in terms of skill acquisition through advanced training, international and intersectoral mobility.

Individual Fellowships provide opportunities to acquire and transfer new knowledge and to work on research and innovation in a European context (EU Member States and Associated Countries) or outside Europe. The scheme particularly supports the return and reintegration of researchers from outside Europe who have previously worked here. It also develops or helps to restart the careers of individual researchers that show great potential, considering their experience.

Scope:

Support is foreseen for individual, trans-national fellowships awarded to the best or most promising researchers of any nationality, for employment in EU Member States or Associated Countries. It is based on an application made jointly by the researcher and the beneficiary in the academic or non-academic sectors.

Only one proposal per individual researcher will be evaluated.

Fellowships take the form of European Fellowships or Global Fellowships. European Fellowships are held in EU Member States or Associated Countries and are open to researchers either coming to Europe from any country in the world or moving within Europe. The researcher must comply with the rules of mobility in the country where the European Fellowship is held.

Return and reintegration of researchers into a longer term research position in Europe, including in their country of origin, is supported via a separate multi-disciplinary reintegration panel of the European Fellowships. For the reintegration panel, there shall be mobility into Europe.

Support to individuals to resume research in Europe after a career break, e.g. after parental leave, is ensured via a separate multi-disciplinary career restart panel of the European Fellowships. To qualify for the career restart panel, researchers must not have been active in research for at least 12 months immediately prior to the deadline for submission.

Researchers seeking to work on research and innovation projects in an organisation from the non-academic sector will be supported via a separate multi-disciplinary society and enterprise panel of the European Fellowships. The objective of this panel is to facilitate career moves between the academic and non-academic sectors and to open attractive career opportunities for researchers outside academia.

Global Fellowships are based on a secondment to a third country and a mandatory 12 month return period to a European host. The researcher must comply with the rules of mobility in the country where the Global Fellowship secondment takes place, not for the country of the return phase.

Researchers receiving an Individual Fellowship may opt to include a secondment phase in Europe, notably in the non-academic sector, within the overall duration of their fellowship. For a fellowship of 18 months or less, the secondment phase may last up to three months. For a fellowship of more than 18 months, the secondment phase may last up to six months. The secondment phase can be a single period or be divided into shorter mobility periods. The secondment should significantly add to the impact of the fellowship.

A Career Development Plan should be established jointly by the supervisor(s) and the researcher. In addition to research or innovation objectives, this plan comprises the researcher's training and career needs, including training on transferable skills, planning for publications and participation in conferences.

Expected Impact:

At a researcher level:

- Increased set of skills, both research-related and transferable ones, leading to improved employability and career prospects both in and outside academia
- Increase in higher impact R&I output, more knowledge and ideas converted into products and services
- Greater contribution to the knowledge-based economy and society

At organisation level:

- Enhanced cooperation and stronger networks
- Better transfer of knowledge between sectors and disciplines
- Boosting of R&I capacity among participating organisations

At system level:

- Increase in international, interdisciplinary and intersectoral mobility of researchers in Europe
- Strengthening of Europe's human capital base in R&I with more entrepreneurial and better trained researchers
- Better communication of R&I results to society
- Increase in Europe's attractiveness as a leading destination for R&I
- Better quality research and innovation contributing to Europe's competitiveness and growth

Cross-cutting Priorities:

Socio-economic science and humanities
International cooperation
Gender

H2020	Societal Challenges	H2020-EEB-2016-2017	**15.September 2016** 21 January 2017;

			07. June 2017;

CALL: ENERGY EFFICIENCY CALL 2016-2017

Topics:

8. ***EE-06-2016-2017: Engaging private consumers towards sustainable energy****. CSA Coordination and support action Single Stage, Deadlines 15 September, 2016; 07 June 2017;*

9. ***EE-09-2016-2017: Engaging and activating public authorities****. CSA Coordination and support action Single Stage, Deadlines 15 September, 2016; 07 June 2017;*

10. ***EE-11-2016-2017: Overcoming market barriers and promoting deep renovation of buildings****. CSA Coordination and support action Single Stage, Deadlines 15 September, 2016; 07 June 2017;*

11. ***EE-13-2016: Cost reduction of new Nearly Zero-Energy buildings****. CSA Coordination and support action Single Stage, Deadline 15 September, 2016;*

12. ***EE-14-2016-2017: Construction skills****. CSA Coordination and support action Single Stage, Deadlines 15 September, 2016; 07 June 2017;*

13. ***EE-16-2016-2017: Effective implementation of EU product efficiency legislation****. CSA Coordination and support action Single Stage, Deadlines 15 September, 2016; 07 June 2017;;*

14. ***EE-21-2016: ERA-NET Cofund actions supporting Joint Actions towards increasing energy efficiency in industry and services****.* ERA-NET-Cofund ERA-NET Cofund. *Deadline 15 September, 2016;*

15. **EE-22-2016-2017:Project Development Assistance****.** *CSA Coordination and support action Single Stage, Deadlines 15 September, 2016; 07 June 2017;*

16. ***EE-24-2016-2017: Making the energy efficiency market investible****. CSA Coordination and support action Single Stage, Deadlines 15 September, 2016; 07 June 2017;*

17. ***EE-25-2016:Development and roll-out of innovative energy efficiency services****: CSA Coordination and support action Single Stage, Deadline 15 September, 2016;*

18. ***EE-01-2017:Waste heat recovery from urban facilities and re-use to increase energy efficiency of district or individual heating and cooling systems****: IA Innovation action, Single Stage, Deadline 19 January,, 2017;*

19. ***EE-04-2016-2017: New heating and cooling solutions using low grade sources of thermal energy****: IA Innovation action, Single Stage, Deadline 19 January,, 2017;*

20 ***EE-07-2016-2017: Behavioural change toward energy efficiency through ICT****: IA Innovation action, Single Stage, Deadline 19 January,, 2017;*

21. ***EE-02-2017: Improving the performance of inefficient district heating networks*** *. CSA Coordination and support action Single Stage, Deadline 07 June, 2017;*

22. ***EE-12-2017: Integration of Demand Response in Energy Management Systems while ensuring interoperability through Public Private Partnership (EeB PPP)****. IA Innovation action, Single Stage, Deadline 19 January,, 2017;*

23. ***EE-17-2016-2017: Valorisation of waste heat in industrial systems (SPIRE PPP)*****:** *IA Innovation action, Single Stage, Deadline 19 January,, 2017;*

24. ***EE-20-2017:Bringing to market more energy efficient and integrated data centres****. IA Innovation action, Single Stage, Deadline 19 January,, 2017;*

25. ***EE-15-2017:Increasing capacities for actual implementation of energy efficiency measures in industry and services****. CSA Coordination and support action Single Stage, Deadline 07 June,, 2017;*

26. ***EE-18-2017:Energy efficiency of industrial parks through energy cooperation and mutualised energy services****. CSA Coordination and support action Single Stage, Deadline 07 June,, 2017;*

27. ***EE-19-2017:Public Procurement of Innovative Solutions for energy efficiency****. CSA Coordination and support action Single Stage, Deadline 07 June,, 2017;*

28. ***EE-22-2016-2017: Project Development Assistance*****:** *CSA Coordination and support action Single Stage, Deadline 07 June,, 2017;*

29. ***EE-23-2017: Innovative financing schemes****: CSA Coordination and support action Single Stage, Deadline 07 June,, 2017.*

H2020	Excellent Science	H2020-MSCA-COFUND-2016	**29-09-2016** 28-09-2017

COFUND - CO-FUNDING OF REGIONAL, NATIONAL AND INTERNATIONAL PROGRAMMES

Topic Description

Objective:

The COFUND scheme aims to stimulate regional, national or international programmes to foster excellence in researchers' training, mobility and career development, spreading the best practices of Marie Skłodowska-Curie actions.

This will be achieved by co-funding new or existing regional, national, and international programmes to open up to, and provide for, international, intersectoral and interdisciplinary research training, as well as transnational and cross-sectoral mobility of researchers at all stages of their career.

Scope:

Each proposal funded under the COFUND scheme shall have a sole beneficiary that will be responsible for the availability of the necessary matching funds to execute the proposal.

Applicants submit multi-annual proposals for new or existing doctoral programmes or fellowship programmes which are expected to have an impact on enhancing research- and innovation related human resources on regional, national or international level.

Applicants having benefited from COFUND under previous calls (under the Seventh Framework Programme or under Horizon 2020) will explain how their proposal adds value in relation to previous grant(s). This can also take the form of increased networking with organisations in less represented countries or capacity building measures there.

Researchers supported under this scheme shall comply with the mobility rules of the Marie Skłodowska-Curie actions.

Limitations regarding the researchers' origin and destination should be avoided. Support cannot be awarded to researchers who are already permanently employed by the organisation hosting them.

Proposed programmes are encouraged to cover all research disciplines ("bottom-up"), but can also focus on specific disciplines. In this case the range of covered disciplines should allow reasonable flexibility for the researchers.

Programmes that prioritise specific research disciplines based on national or regional Research and Innovation Strategies for Smart Specialisation (RIS3 strategies) can also be supported. Synergies with the European Structural & Investment Funds (ESIF) are encouraged.

COFUND takes the form of:

A) Doctoral programmes

Doctoral programmes address the development and broadening of the research competencies of early-stage researchers. The training follows the EU Principles on Innovative Doctoral Training. Collaboration with a wider set of partner organisations, including from the non-academic sector, which may provide hosting or secondment opportunities or training in research or transferable skills, as well as innovative elements of the proposed programme, will be positively taken into account during the evaluation.

Each researcher must be enrolled in a doctoral programme. Attention is paid to the quality of supervision and mentoring arrangements as well as career guidance.

B) Fellowship programmes

Fellowship programmes fund individual research training and career development fellowships for experienced researchers. The programmes supported should have regular selection rounds following fixed deadlines or regular cut-off dates, allowing fair competition between the researchers applying. The selections should be based on open, widely advertised competition, with transparent international peer review and the selection of candidates on merit. Mobility types supported by fellowship programmes may be similar to the ones supported under Marie Skłodowska-Curie Individual Fellowships. On top of transnational mobility, applicants are encouraged to include elements of cross-sectoral mobility into their programmes. Fellowship programmes should be based on individual-driven mobility, i.e., researchers should be able to freely choose a research topic and the appropriate organisation to host them, fitting their individual needs.

Given that the aim of the co-funded fellowship programmes is the support of individual fellows, research teams will not be funded.

Expected Impact:

At researcher level:

- Increased set of skills, both research-related and transferable ones, leading to improved employability and career prospects both in and outside academia (leading in the longer-term to more successful careers)
- Increase in higher impact R&I output, more knowledge and ideas converted into products and services
- Greater contribution to the knowledge-based economy and society

At organisation level:

- Development of high quality human resources
- Boosting R&I capacity among participating organisations
- Enhanced cooperation and transfer of knowledge between sectors and disciplines
- Strengthening of international and intersectoral collaborative networks

At system level:

- Aligning of practices and policies in the context of the EU Human Resources Strategy for Researchers, enhanced implementation of the European Charter and Code and the EU Principles for Innovative Doctoral Training at regional, national or international level
- Increase in international, interdisciplinary and intersectoral mobility of researchers in Europe
- Improvement in the working and employment conditions for researchers in Europe at all levels of their career, starting from the doctoral stage
- Strengthening of Europe's human capital base in R&I
- Increase in Europe's attractiveness as a leading destination for R&I
- Better quality R&I contributing to Europe's competitiveness and growth

Cross-cutting Priorities:

Socio-economic science and humanities
Gender

H2020	Societal Challenges	H2020-SC1-2016-2017	**04-10-2016** 31-01-2017 11-04-2017

PERSONALISED MEDICINE

Topics:

1. ***SC1-PM-02-2017: New concepts in patient stratification* :** *RIA Research and Innovation action. Two-Stage. Deadlines: 04 October 2016, 11 April 2017;*
2. ***SC1-PM-07-2017: Promoting mental health and well-being in the young*: RIA Research and Innovation action. Two-Stage. Deadlines: 04 October 2016, 11 April 2017;**
3. ***SC1-PM-08-2017: New therapies for rare diseases* : RIA Research and Innovation action. Two-Stage. Deadlines: 04 October 2016, 11 April 2017;**
4. ***SC1-PM-10-2017: Comparing the effectiveness of existing healthcare interventions in the adult population* : RIA Research and Innovation action. Two-Stage. Deadlines: 04 October 2016, 11 April 2017;**
5. ***SC1-PM-15-2017: Personalised coaching for well-being and care of people as they age*: RIA Research and Innovation action. Single-Stage. Deadline: 31 January 2017;**
6. ***SC1-PM-16-2017: In-silico trials for developing and assessing biomedical products*: RIA Research and Innovation action. Single-Stage. Deadline: 14 March 2017;**
7. ***SC1-PM-17-2017: Personalised computer models and in-silico systems for well-being*: RIA Research and Innovation action. Single-Stage. Deadline: 14 March 2017;**
8. ***SC1-PM-19-2017: PPI for uptake of standards for the exchange of digitalised healthcare records*: PPI Public Procurement of Innovative solutions. Single-Stage. Deadline: 14 March 2017;**
9. ***SC1-PM-03-2017: Diagnostic characterisation of rare diseases* : RIA Research and Innovation action. Single-Stage. Deadline 11 April 2017;**
10. **SC1-PM-11-2016-2017: Clinical research on regenerative medicine:** *RIA Research and Innovation ction. Single-Stage. Deadline 11 April 2017;*
11. ***SC1-PM-20-2017: Development of new methods and measures for improved economic evaluation and efficiency measures in the health sector*: RIA Research and Innovation action. Single-Stage. Deadline 11 April 2017.**
12. ***SC1-HCO-07-2017: Global Alliance for Chronic Diseases (GACD)*: RIA Research and Innovation action. Single-Stage. Deadline 11 April 2017;**
13. ***SC1-HCO-03-2017: mplementing the Strategic Research Agenda on Personalised Medicine* : ERA-NET-Cofund ERA-NET Cofund. Single-Stage. Deadline 11 April 2017;**
14. ***SC1-HCO-08-2017: Actions to bridge the divide in European health research and innovation*: CSA Coordination and support action. Single-Stage. Deadline 11 April 2017;**
15. ***SC1-HCO-17-2017: Support for large scale uptake of Digital Innovation for Active and Healthy Ageing*. CSA Coordination and support action. Single-Stage. Deadline 31 January 2017;**

H2020	Industrial Leadership	SME-2 SME instrument phase 2	**13 October 2016** 18 January 2017 6 April 2017 1 June 2017 18 October 2017

HORIZON 2020 DEDICATED SME INSTRUMENT 2016-2017

In phase 2, innovation projects will be supported that address the specific challenges identified and that demonstrate high potential in terms of company competitiveness and growth underpinned by a strategic business plan. Activities should focus on innovation activities such as demonstration, testing, prototyping, piloting, scaling-up, miniaturisation, design, market replication and the like aiming to bring an innovation idea (product, process, service etc.) to industrial readiness and maturity for market introduction, but may also include some research.

H2020	Excellent Science	ERC-2017-STG	**October 18,016**

ERC STARTING GRANT

Topic Description

Objectives

ERC Starting Grants are designed to support excellent Principal Investigators at the career stage at which they are starting their own independent research team or programme. Applicant Principal Investigators must demonstrate the ground-breaking nature, ambition and feasibility of their scientific proposal.

Size of ERC Starting Grants

Starting Grants may be awarded up to a maximum of **EUR 1 500 000** for a period of **5 years** (The maximum award is reduced pro rata temporis for projects of a shorter duration. This does not apply to ongoing projects).

However, up to an **additional EUR 500 000** can be requested in the proposal to cover (a) eligible "start-up" costs for Principal Investigators moving to the EU or an Associated Country from elsewhere as a consequence of receiving the ERC grant and/or (b) the purchase of major equipment and/or (c) access to large facilities (As any additional funding is to cover major one-off costs it is not subject to pro-rata temporis reduction for projects of shorter duration. All funding requested is assessed during evaluation).

Profile of the ERC Starting Grant Principal Investigator

The Principal Investigator shall have been awarded their first PhD **at least 2 and up to 7 years prior to 1 January 2017**. The effective elapsed time since the award of the first PhD can be reduced in certain properly documented circumstances.

A competitive Starting Grant Principal Investigator must have already shown the potential for research independence and evidence of maturity, for example by having produced **at least one important publication as main author or without the participation of their PhD supervisor**. Applicant Principal Investigators should also be able to demonstrate a promising track record of early achievements appropriate to their research field and career stage, including significant publications (as main author) in major international peer-reviewed multidisciplinary scientific journals, or in the leading international peer-reviewed journals of their respective field. They may also demonstrate a record of invited presentations in well-established international conferences, granted patents, awards, prizes etc.

H2020	Industrial Leadership	H2020-INNOSUP-2016-2017	**18-10-2016** 8-03-2017 27-03-2017 28-03-2017 18.10-2017

FOR A BETTER INNOVATION SUPPORT TO SMES

Scene Setter:

Small, innovative companies create the majority of new jobs in the European economy. A strong rationale exists for public support to SMEs' innovation activities in order to overcome market failures specific to SMEs and to fully realise their growth potential. The public supports 'SME innovation' with grants, subsidised loans, equity and a wide range of innovation support services. However, SMEs receiving innovation support often remain dissatisfied with the services they receive; while at the same time the public expects a higher return from the support provided. The nature of innovation is changing: open data, open software, open hardware design and crowd-funding make it easier and cheaper to start enterprises with limited own resources – but the challenge arises from scaling these initial offerings to create growth and jobs. Social innovation is required at the interface between public services and private enterprise to maintain the high standard and security of living in Europe. While small enterprises face challenges in recruiting talent - among others as a result of increased mobility – researchers have problems pursuing academic careers and work below their qualifications.

As the nature and environment for innovation changes the public innovation support has not only to follow those developments but also become proactive in shaping them.

The following call for proposal is one element of a broader action to develop the ecosystem of innovation support to SMEs in Europe. Where appropriate, a highly specialised support service may be established at European level to complement existing national and regional services. Generally, the actions are designed to provide opportunities to Member States and regions to enhance their services through collaboration, peer-learning and uptake of new approaches. In the work programme 2016-17 emphasis is put on testing three new approaches to a better innovation support in large pilot actions that should deliver results in time for the start of discussion on the next framework programme for research and innovation. The Enterprise Europe Network, present in all European regions and co-financed by them, the National Contact Points (NCPs) and the Member States are expected to play an important role in implementing these pilot actions and transferring the result 'in-real-time' to their regions.

Topics:

1. ***INNOSUP-05-2016-2017: Peer learning of innovation agencies:*** CSA-LS CSA Lump sum. Deadlines: 18 October 2016; 8 March 2017; 18 October 2017;
2. ***INNOSUP-07-2017: Innovating SMEs - segmentation along lifecycle and sectors (analytical research activity):*** RIA Research and Innovation action. Single-stage. 28 March 2017;
3. ***INNOSUP-08-2017: A better access to industrial technologies developed overseas :*** SGA-CSA Specific Grant agreement and Coordination and Support Action. Single-stage.Deadline 28 March 2017;
4. ***INNOSUP-01-2016-2017: Cluster facilitated projects for new industrial value chains:*** IA Innovation action. Two ï stage. Deadlines: 6 April 2016; 8 September 2016;

5. ***INNOSUP-03-2017: Technology services to accelerate the uptake of advanced manufacturing technologies for clean production by manufacturing SMEs:*** CSA Coordination and support action. Single-stage. Deadline 27 March 2017.

H2020	Societal Challenges	H2020-SESAR-2016-1	**25 October 2016**

SESAR 2020 RPAS EXPLORATORY RESEARCH CALL

Call summary

Scene Setter:

The growing drone market shows significant potential for Europe. The development of the drone industry is dependent on the ability of drones to operate in all areas of airspace, including at very low levels. Stimulating research and innovation in this domain and in relation to the traffic management of drones operations is therefore a "must-have" to safely unlock growth.

Note that the term ódroneô has been widely adopted to describe all types of Unmanned Aircraft Systems (UAS), including Remotely Piloted Aircraft Systems (RPAS) and autonomous vehicles. For convenience, the term ódroneôis used throughout this call.

As part of SESAR 2020, the SESAR Joint Undertaking is seeking through this call to stimulate innovative players to explore initial solutions for a new unmanned traffic management ("UTM") system supporting the cohabitation/sharing of airspace of manned and unmanned systems, which represents a critical market enabler that has not yet been sufficiently addressed at the European level.

The SESAR Exploratory Research into Remotely Piloted Aircraft Systems (RPAS) and Unmanned Aircraft Systems (UAS) will address the key research questions impacting the operation of UAS and RPAS in the very low level (VLL), including beyond visual line of sight (B-VLOS) operations, as well as visual flight rules (VFR) environments (noting that the topic of instrument flight rules (IFR) integration will be addressed in other components of the SESAR 2020 Programme).

Two work areas are defined under this call; these are UAS/RPAS integration operational issues and UAS/RPAS integration technical issues. The first work area on UAS/RPAS integration operational issues (Work Area 1) includes one topic while Work Area 2 is split into 6 further topics.

Work Area 1: Operational issues

This Work Area covers the SESAR unmanned traffic management (UTM) Concept Definition and will develop an operational concept to enable the operation of drones of all capabilities in the very low-level (VLL) environment, while co-existing safely with existing manned aviation and respecting the needs of society at large. Work in this area should capitalise on on-going work carried out elsewhere (such as JARUS, EASA and NASA). To ensure a coherent concept definition the 4 operational topics identified under the SJU Work Programme 2016 have been combined into the one call topic.

Work Area 2: Technical issues

This Work Area will address the feasibility of technology options which support drone operations and integration, where required in the VLL and VFR domains. Research should help mature emerging technologies and applications for UTM ï from advanced fields such as IT, telecoms, intelligent systems or robotics ï which can be fast-tracked into providing solutions to specific problems that are core to the near term development of the EU drone industry. It should also help bridge SESAR UTM research with the wider scientific community and will provide the science necessary to support the safe integration of VLL drones, considering higher levels of automation.

The purpose of this procedure is to award a maximum of 10 Grant Agreements (GAs), including a maximum of 1 GA for Work Area 1 and a maximum of 9 GAs for Work Area 2. The maximum duration of the GAs and therefore the projects is 24 months.

The maximum budget for Work Area 1 is 0,8M EUR and for Work Area 2 is 8,2M EUR.

Please note that in addition to all provisions below, the key reference documents for this Call for Proposal are the SJU Work Programme 2016 and SESAR 2020 Multi-Annual Work Programme. They set out the purpose and scope of the ER Call for Proposals that will be implemented via the resulting Grant Agreements as well as the conditions for participation and award.

The applicable agreement type is the SJU Model Grant Agreement (MGA), provided as part of the call. General guidance can be found in the Annotated Model Grant Agreement (AMGA).

TOPICS

1. ***RPAS-01: SESAR UTM Concept Definition:*** *SESAR-RIA Research and Innovation action. Single Stage. 25 October 2016;*
2. ***RPAS-02: Drone information management:*** *SESAR-RIA Research and Innovation action. Single Stage. 25 October 2016;*
3. ***RPAS-03: Aircraft systems:*** *SESAR-RIA Research and Innovation action. Single Stage. 25 October 2016;*
4. ***RPAS-04: Ground-based technology:*** *SESAR-RIA Research and Innovation action. Single Stage. 25 October 2016;*
5. ***RPAS-05: Datalink:*** *SESAR-RIA Research and Innovation action. Single Stage. 25 October 2016;*
6. ***RPAS-06: Security & cyber-resilience:*** *SESAR-RIA Research and Innovation action. Single Stage. 25 October 2016;*

7. ***RPAS-07: Science for higher levels of automation**: SESAR-RIA Research and Innovation action. Single Stage. 25 October 2016;*

H2020	Industrial Leadership	H2020-IND-CE-2016-17	**27 October 2016** 19 January 2017 21 January 2017 4 May 2017

INDUSTRY 2020 IN THE CIRCULAR ECONOMY
Call summary

This focus area is at the heart of how Horizon 2020 contributes to sustainably boosting economic growth and renewing Europe's industrial capacities in a world of finite resources. It will demonstrate the economic and environmental feasibility of the circular economy approach, and at the same time give a strong impetus to the re-industrialisation of the EU, by developing and deploying new approaches and technologies. This focus area will bring together complementary activities, which as a whole will address the overall objectives of enhancing European industrial competitiveness and moving towards a circular economy.

Actions will support the goals outlined in the Communications õTowards a circular economy: A zero waste programme for Europeôand õEuropean Industrial Renaissanceô and are in line with the Commission's new Roadmap for a Circular Economy Strategy. They follow up the European Council conclusions of March and June 2014, in particular the Council's call for a systemic approach to cleantech.

There are synergies to be reaped from working across different pillars of Horizon 2020 in tapping new sources of green growth and maximising the uptake of new opportunities by industry, including SMEs. These are expected to boost investment and job creation, and consolidate Europe's global green leadership. This call supports systemic innovation, which is understood as innovation that aims at responding to a societal challenge by obtaining a systems-wide transformation through affecting the system's economic, social and environmental dimensions. This implies a trans-disciplinary perspective that integrates technology, business models and economic organisation, finance, governance and regulation as well as skills and social innovation. Systemic innovation therefore calls for the adoption of a challenge-driven, solutions-oriented research and innovation strategy that crosses disciplinary boundaries and involves co-creation of knowledge and co-delivery of outcomes with economic, industrial and research actors, public authorities and/or civil society.

he industrial side of this call is based on the contractual Public-Private Partnerships (cPPPs) on Factories of the Future (FoF) and Sustainable Process Industries (SPIRE), with a strong element on industrial pilot lines for nanotechnology and advanced materials. It will help develop and deploy the necessary key enabling technologies to support EU manufacturing across a broad range of sectors. It will help European industry to meet the increasing global consumer demand for greener, more customised and higher quality products through the necessary transition to a demand-driven industry with less waste and a better use of resources.

To underpin the systemic approach, circular economy models play an important role as they boost innovation and involve all stakeholders in value chain(s) increasing resource efficiency. The circular economy is an economy in which production and consumption are organised in a way that the value of products, components, materials and resources is maintained or enhanced throughout the value chain and the life of the products. The circular economy decouples the creation of wealth and jobs from the consumption of resources (e.g. energy, water and primary raw materials), maximises resource productivity and minimises resource extraction and waste.

Specific objectives of the actions in this call include a reduction of costs and emissions, a more efficient use of energy and resources, and a cascade use of materials. Pioneering new production and consumption patterns and related technological and non-technological solutions will strengthen EUôs position and that of its industry in new markets. Systemic solutions need to be examined, developed and demonstrated throughout value chains, while addressing all influencing factors: policy and framework conditions that affect business and finance models; industrial manufacturing and processing; eco-design of products including design for repair, disassembly and durability, energy efficiency; reduction of GHG emissions; new and efficient use of primary and secondary raw materials; green and innovative public procurement (GPP); management, governance, social innovation; and new forms of consumer behaviour. Strong multi-stakeholder involvement and the active contribution of social sciences and humanities disciplines will be essential.

This call also builds on and aligns with the European Innovation Partnerships (EIPs) on Water Efficiency and on Raw Materials, the relevant European Technology Platforms (ETPs), the Bio-Based Industries Joint Undertaking (BBI-JU) , the ERA-NET on Eco-innovation (ECO-INNOVERA), and the European Institute of Innovation and Technology's Knowledge and Innovation Communities (KICs).

This call is accompanied by a coordination and support action (NMBP-36-2016) in the NMBP call H2020-NMBP-CSA-2016, which provides policy support for Industry 2020 in the circular economy.

Full details are provided under the Horizon 2020 Work Programme Part ï Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing (Part 5.ii. of this Work Programme).

Topics:

1. ***PILOTS-03-2017: Pilot Lines for Manufacturing of Nanotextured surfaces with mechanically enhanced properties:*** *IA Innovation action, Two stage: 27 October 2016, 4 May 2017*
2. ***PILOTS-04-2017: Pilot Lines for 3D printed and/or injection moulded polymeric or ceramic microfluidic MEMS:*** *IA Innovation action, Two stage: 27 October 2016, 4 May 2017*
3. ***PILOTS-05-2017: Paper-based electronics:*** *IA Innovation action, Two stage: 27 October 2016, 4 May 2017*
4. **CIRC-01-2016-2017: Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects:** *IA Innovation action, Two stage:7 March 2017, 5 September 2017;*
5. ***CIRC-02-2016-2017: Water in the context of the circular economy:*** *IA Innovation action, Two stage:7 March 2017, 5 September 2017;*
6. ***FOF-06-2017: New product functionalities through advanced surface manufacturing processes for mass production:*** *IA Innovation action, Single stage: 19 January 2017;*
7. ***FOF-07-2017: Integration of unconventional technologies for multi-material processing into manufacturing systems:*** *IA Innovation action, Single stage: 19 January 2017;*
8. ***FOF-08-2017: In-line measurement and control for micro-/nano-enabled high-volume manufacturing for enhanced reliability:*** *IA Innovation action, Single stage: 19 January 2017;*
9. ***FOF-09-2017: Novel design and predictive maintenance technologies for increased operating life of production systems:****IA Innovation action, Single stage: 19 January 2017;*
10. ***FOF-10-2017: New technologies and life cycle management for reconfigurable and reusable customised products:*** *IA Innovation action, Single stage: 19 January 2017;*
11. ***FOF-12-2017: ICT Innovation for Manufacturing SMEs (I4MS):*** *CSA Coordination and support action, RIA Research and Innovation action: 19 January 2017;*
12. ***SPIRE-07-2017: Integrated approach to process optimisation for raw material resources efficiency, excluding recovery technologies of waste streams:*** *IA Innovation action, Single stage: 19 January 2017;*
13. ***SPIRE-08-2017: Carbon dioxide utilisation to produce added value chemicals:*** *RIA Research and Innovation action, Single stage: 19 January 2017;*
14. ***SPIRE-09-2017: Pilot lines based on more flexible and down-scaled high performance processing:*** *IA Innovation action, Single stage: 19 January 2017;*
15. ***SPIRE-10-2017: New electrochemical solutions for industrial processing, which contribute to a reduction of carbon dioxide emissions:*** *CSA Coordination and support action, Single stage: 19 January 2017;*
16. ***SPIRE-11-2017: Support for the enhancement of the impact of SPIRE PPP projects:*** *CSA Coordination and support action, Single stage: 19 January 2017;*
17. ***SPIRE-12-2017: Assessment of standardisation needs and ways to overcome regulatory bottlenecks in the process industry:*** *CSA Coordination and support action, Single stage: 19 January 2017;*
18. ***SPIRE-13-2017: Potential of Industrial Symbiosis in Europe:*** *CSA Coordination and support action, Single stage: 19 January 2017.*

H2020	Industrial Leadership	H2020-NMBP-2016-2017	**October 27, 2016** January 19, 2017 May 4, 2017

CALL FOR NANOTECHNOLOGIES, ADVANCED MATERIALS, BIOTECHNOLOGY AND PRODUCTION

Topics:

1. ***BIOTEC-05-2017: Microbial platforms for CO2-reuse processes in the low-carbon economy:*** *RIA Research and Innovation action, Single Stage, October 27, 2016;*
2. ***BIOTEC-06-2017: Optimisation of biocatalysis and downstream processing for the sustainable production of high value-added platform chemicals:*** *RIA Research and Innovation action, Single Stage, October 27, 2016;*
3. ***BIOTEC-07-2017: New Plant Breeding Techniques (NPBT) in molecular farming: Multipurpose crops for industrial bioproducts:*** *RIA Research and Innovation action, Single Stage, October 27, 2016;*
4. ***BIOTEC-08-2017: Support for enhancing and demonstrating the impact of KET Biotechnology projects:*** *CSA Coordination and support action, Single Stage, October 27, 2016;*
5. ***NMBP-04-2017: Architectured /Advanced material concepts for intelligent bulk material structures :*** *RIA Research and Innovation action, Single Stage, October 27, 2016;*
6. ***NMBP-05-2017: Advanced materials and innovative design for improved functionality and aesthetics in high added value consumer goods:*** *RIA Research and Innovation action, Single Stage, October 27, 2016;*

7. ***NMBP-06-2017: Improved material durability in buildings and infrastructures, including offshore*** *: RIA Research and Innovation action, Single Stage, October 27, 2016;*
8. ***NMBP-07-2017: Systems of materials characterisation for model, product and process optimisation*** *: RIA Research and Innovation action, Single Stage, October 27, 2016;*
9. ***NMBP-12-2017: Development of a reliable methodology for better risk management of engineered biomaterials in Advanced Therapy Medicinal Products and/or Medical Devices****: RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
10. ***NMBP-13-2017: Cross-cutting KETs for diagnostics at the point-of-care****: RIA Research and Innovation action, Single Stage, January 19. 2017;*
11. ***NMBP-14-2017: Regulatory Science Framework for assessment of risk benefit ratio of Nanomedicines and Biomaterials****: RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
12. ***NMBP-15-2017: Nanotechnologies for imaging cellular transplants and regenerative processes in vivo*** *: RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
13. ***NMBP-15-2017: Nanotechnologies for imaging cellular transplants and regenerative processes in vivo*** *: CSA Coordination and support action, Single Stage, January 19, 2017;*
14. ***NMBP-19-2017: Cost-effective materials for "power-to-chemical" technologies:*** *RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
15. ***NMBP-20-2017: High-performance materials for optimizing carbon dioxide capture*** *: RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
16. ***NMBP-22-2017: Business models and industrial strategies supporting novel supply chains for innovative product-services:*** *RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
17. ***NMBP-25-2017: Next generation system integrating tangible and intangible materials model components to support innovation in industry****: IA Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
18. ***NMBP-28-2017: Framework and strategies for nanomaterial characterisation, classification, grouping and read-across for risk analysis****: RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
19. ***NMBP-29-2017: Advanced and realistic models and assays for nanomaterial hazard assessment****: RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
20. ***NMBP-35-2017: nnovative solutions for the conservation of 20th century cultural heritage****: RIA Research and Innovation action, Two Stage, October 27, 2016, May 4, 2017;*
21. ***NMBP-34-2017: Governing innovation of nanotechnology through enhanced societal engagement****: CSA Coordination and support action, Single Stage, January 19, 2017;*
22. ***NMBP-37-2017: Mapping a path to future supply chains:*** *CSA Coordination and support action, Single Stage, January 19, 2017;*
23. ***NMBP-38-2017: Support for the enhancement of the impact of PILOT projects****: CSA Coordination and support action, Single Stage, January 19, 2017.*

H2020	Industrial Leadership	H2020-ICT-2016-2017	**8 November 2016** 25 April 2017

INFORMATION AND COMMUNICATION TECHNOLOGIES CALL

Scene Setter:

The novelty in Horizon 2020 is the Pilot on Open Research Data which aims to improve and maximise access to and re-use of research data generated by projects. Projects funded under the ICT call of the Work Programme 2016-17 will by default participate in the Pilot on Open Research Data in Horizon 2020.

Projects have the possibility to opt out of the Pilot. Participation in the Pilot is not taken into account during the evaluation procedure. In other words, proposals will not be evaluated favourably because they are part of the Pilot and will not be penalised for opting out of the Pilot.

A further new element in Horizon 2020 is the use of Data Management Plans (DMPs) detailing what data the project will generate, whether and how it will be exploited or made accessible for verification and re-use, and how it will be curated and preserved. The use of a DMP is required for projects participating in the Open Research Data Pilot. Other projects are invited to submit a DMP if relevant for their planned research. Only funded projects are required to submit a DMP.

1. ***ICT-04-2017:Smart Anything Everywhere Initiative****: CSA Coordination and support action, RIA Research and Innovation action, Single Stage, 8 November, 2016;*
2. ***ICT-07-2017:5G PPP Research and Validation of critical technologies and systems****: IA Innovation action, RIA, Research and Innovation action, Single Stage, 8 November, 2016;*
3. ***ICT-08-2017:5G PPP Convergent Technologies****: IA Innovation action, RIA, Research and Innovation action, Single Stage, 8 November, 2016;*
4. ***ICT-09-2017:Networking research beyond 5G****: RIA, Research and Innovation action, Single Stage, 8 November, 2016;*

5. ***ICT-19-2017:Media and content convergence**: CSA Coordination and support action, IA Innovation action, Single Stage, 8 November, 2016;*
6. ***ICT-05-2017:Customised and low energy computing**: CSA Coordination and support action, RIA Research and Innovation action, Single Stage, 25 April, 2017;*
7. ***ICT-11-2017:Collective Awareness Platforms for Sustainability and Social Innovation**: CSA Coordination and support action, RIA Research and Innovation action, Single Stage, 25 April, 2017;*
8. ***ICT-14-2016-2017: Big Data PPP: cross-sectorial and cross-lingual data integration and experimentation**: RIA Research and Innovation action, Single Stage, 25 April, 2017;*
9. ***ICT-15-2016-2017: Big Data PPP: Large Scale Pilot actions in sectors best benefitting from data-driven innovation**: RIA Research and Innovation action, Single Stage, 25 April, 2017;*
10. ***ICT-16-2017:Big data PPP: research addressing main technology challenges of the data economy**: RIA Research and Innovation action, Single Stage, 25 April, 2017;*
11. ***ICT-17-2016-2017:Big data PPP: Support, industrial skills, benchmarking and evaluation**: RIA Research and Innovation action, Single Stage, 25 April, 2017;*
12. ***ICT-20-2017:Tools for smart digital content in the creative industries**: RIA Research and Innovation action, Single Stage, 25 April, 2017;*
13. ***ICT-23-2017:Interfaces for accessibility**: RIA Research and Innovation action, Single Stage, 25 April, 2017;*
14. **ICT-25-2016-2017: Advanced robot capabilities research and take-up**: IA Innovation action, RIA Research and Innovation action. Single-stage. *25 April, 2017;*
15. **ICT-27-2017: System abilities, SME & benchmarking actions, safety certification**: IA Innovation action, PCP Pre-Commercial Procurement, RIA Research and Innovation action. Single-stage. *25 April, 2017;*
16. ***ICT-27-2017:System abilities, SME & benchmarking actions, safety certification**: IA Innovation action, PCP Pre-Commercial Procurement, RIA Research and Innovation action, Single Stage, 25 April, 2017;*
17. ***ICT-28-2017:Robotics Competition, coordination and support**: CSA Coordination and support action, Single Stage, 25 April, 2017;*
18. ***ICT-30 - 2017:Photonics KET 2017**: CSA Coordination and support action, IA Innovation action, RIA Research and Innovation action, Single Stage, 25 April, 2017;*
19. ***ICT-31-2017:Micro- and nanoelectronics technologies**: CSA Coordination and support action, IA Innovation action, RIA Research and Innovation action, Single Stage, 25 April, 2017;*
20. ***ICT-32-2017:Startup Europe for Growth and Innovation Radar**: CSA Coordination and support action, IA Innovation action, Single Stage, 25 April, 2017;*
21. ***ICT-33-2017:Innovation procurement networks**: CSA Coordination and support action, Single Stage, 25 April, 2017;*
22. ***ICT-39-2016-2017: International partnership building in low and middle income countries**: IA Innovation action, Single Stage, Deadline 25 April, 2017;*
23. **ICT-40-2017: Reinforcing European presence in international ICT standardisation**: *CSA Coordination and support action, Single Stage, 25 April, 2017;*
24. **ICT-41-2017: Next Generation Internet** : *CSA Coordination and support action, Single Stage, 25 April, 2017;*

H2020	Spreading excellence and widening participation	H2020-WIDESPREAD-2016-2017	**15-11-2016** **05 October 2017;** **15 November 2017**

Call summary

1. ***WIDESPREAD-04-2017: Teaming Phase 1**: CSA Coordination and support action, Single Stage, 15 November, 2016;*
2. ***WIDESPREAD-03-2017: ERA Chairs**: CSA Coordination and support action, Single Stage, 05 October, 2017;*
3. ***WIDESPREAD-05-2017: Twinning**: **WIDESPREAD-03-2017: ERA Chairs**: CSA Coordination and support action, Single Stage, 15 November, 2017.*

H2020	Societal Challenges	H2020-SC6-CO-CREATION-2016-2017	**15 November 2016** **2 February 2017**

CALL: CO-CREATION FOR GROWTH AND INCLUSION

Scene Setter:

Europe has many competitive strengths: the talent and creativity of its people, a strong industrial base, a vibrant services sector, a performing education system, its position as the world's biggest trading bloc and leading destination for foreign direct investment. Likewise, Europe can also count on its strong values,

democratic institutions, its consideration for economic, social and territorial cohesion and solidarity, and its respect for the environment and cultural diversity.

Europe is facing the need to identify the obstacles to and to find untapped sources of growth and employment, renewing the legitimacy of public policy-making, especially through greater citizensôinvolvement, and of delivering better public services for all.

These issues need to be understood and addressed (cf. stronger evidence-base) in order for Europe to progress at socio-economic, political, educational and cultural levels, taking into account an increasingly interconnected and interdependent world. An emerging approach for tackling many of these issues is to encourage creativity and collaboration between various societal actors through co-creation. It is therefore proposed to focus on co-creation for growth and inclusion: engaging citizens, users, academia, social partners, public authorities, businesses including SMEs, creative sectors and social entrepreneurs in processes that span from identifying problems to delivering solutions.

The potential for societal and innovative development through co-creation in all sectors of society is widely recognised and the current socio-economic context, despite many difficulties, provides for manifold opportunities to fully exploit it.

A clear link with co-creation and social innovation in culture may also be found in CULT-COOP call.

Topics:

1. ***CO-CREATION-02-2016: User-driven innovation: value creation through design-enabled innovation:*** CSA Coordination and support action, RIA Research and Innovation action. Single Stage. Deadline 15 November 2016;
2. ***CO-CREATION-03-2016: Piloting demand-driven collaborative innovation models in Europe:*** IA Innovation action. Single Stage. 15 November 2016;
3. ***CO-CREATION-01-2017: Education and skills: empowering Europe's young innovators:*** IA Innovation action. Single Stage. 02 February 2017;
4. ***CO-CREATION-04-2017:Applied co-creation to deliver public services:*** IA Innovation action. Single Stage. Deadline 02 February 2017;
5. ***CO-CREATION-06-2017:Policy-development in the age of big data: data-driven policy-making, policy-modelling and policy-implementation:*** CSA Coordination and support action, RIA Research and Innovation action. Single Stage. Deadline 02 February 2017;
6. ***CO-CREATION-07-2017:Towards a new growth strategy in Europe - Improved economic and social measurement, data and official statistics:*** CSA Coordination and support action, RIA Research and Innovation action. Single Stage. Deadline 02 February 2017;
7. ***CO-CREATION-08-2016-2017: Better integration of evidence on the impact of research and innovation in policy making:*** RIA Research and Innovation action. Single Stage. Deadline 02 February 2017;

H2020	Excellent Science	H2020-FETOPEN-2016-2017-RIA	**17 January 2017** 27 September 2017

FET-OPEN - NOVEL IDEAS FOR RADICALLY NEW TECHNOLOGIES

Topic Description

Specific Challenge:

The successful exploration of new foundations for radically new future technologies requires supporting a large set of early stage, high risk visionary science and technology projects to investigate new ideas. Here agile, risk-friendly and highly interdisciplinary research approaches are needed with collaborations that are open to all sciences and disciplines and that dissolve the traditional boundaries between them. The renewal of ideas is complemented by the renewal of actors taking these new ideas forward. Therefore, this topic encourages the driving role of new high-potential actors in research and innovation, such as excellent young, both female and male, researchers and high-tech SMEs that may become the scientific and industrial leaders of the future.

Scope:

This topic supports the early stages of research to establish a new technological possibility. Proposals are sought for **collaborative research with all of the following characteristics** ('FET gatekeepers'):

- **Long-term vision**: the research proposed must address a new and radical long-term vision of a science- and technology-enabled future that is far beyond the state of the art and not currently foreseen by technology roadmaps.
- **Breakthrough scientific and technological target**: research must target a scientifically ambitious and technologically concrete breakthrough, argued to be a crucial step towards achieving the long-term vision. The plausibility of the proposed breakthrough(s) to be attained within the life-time of the project must be argued in the proposal.
- **Novelty**: the research proposed for achieving the breakthrough must be based on cutting-edge knowledge, new ideas and concepts, rather than in the mere application or incremental refinement of existing ones.

- **Foundational**: the breakthroughs that are envisaged must be foundational in the sense that, if achieved, they would establish an essential basis for a new kind of technology and its future uses, not currently anticipated.
- **High-risk**: the inherently high risk of the research proposed will be reflected in a flexible but effective methodology for exploring alternative directions and options, supported by open and agile research and innovation practices.
- **Interdisciplinary**: the proposed collaborations are expected to go beyond 'waterfall' configurations in multi-disciplinary science- and technology research. Instead they should seek new solutions through genuine exchanges, mutual learning, cross-fertilisation and synergistic advances among distant disciplines in order to open unexplored areas of investigation and new directions for joint research.

The Commission considers that proposals requesting a contribution from the EU of up to EUR 3 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

- Initiating or consolidating a baseline of feasibility for a radically new line of technology and its future uses by establishing the essential proofs-of-principle and their foundational scientific underpinnings.
- Strengthening European leadership in the early exploration of visionary, new and emerging technologies, beyond academic excellence and with global recognition. This impact can be reinforced by involving also new high-potential actors such as young, both female and male, researchers and high-tech SMEs that may become the European scientific and technological leaders and innovators of the future.
- Impact is also sought in terms of the take up of new research and innovation practices for making leading-edge science and technology research more open, collaborative, creative and closer to society.[1]

Cross-cutting Priorities:

Gender

Socio-economic science and humanities

H2020	Excellent Science	H2020-FETOPEN-2016-2017-RIA	**17 January 2017** 27 September 2017

FET-OPEN - NOVEL IDEAS FOR RADICALLY NEW TECHNOLOGIES

CSA Coordination and support action

Topic Description

Specific Challenge:

The challenge is to make Europe the best place in the world for collaborative research and innovation on future and emerging technologies that will renew the basis for future European competitiveness and growth, and that will make a difference for society in the decades to come.

Scope:

Proposals should address one of the following topics:

a. FET Futures [2017] [1]: identifying strategy options, challenges and opportunities to stimulate and organise interdisciplinary research and innovation towards new and visionary technologies of any kind. Actions should rely on evidence from FET activities (e.g., portfolio, constituency, results) and from other sources (including other funding bodies or private initiatives worldwide, like those using prize schemes or challenges). They should aim at open and dynamic stakeholder participation using creative methods and on-line tools/social networks. This topic should include public engagement processes as discussed in the introduction of this FET Work Programme.

b. FET Exchange [2017]: actions for structuring and strengthening an emerging FET-relevant science and technology research and innovation topic and the interdisciplinary communities involved in this topic. This may include, for example, research roadmapping, stimulating (formal and informal) learning and exchange, expanding the range of disciplines (including the life sciences and humanities where relevant), involving new actors such as young researchers, entrepreneurs and high-tech SMEs, and broadening stakeholder engagement (multi-actor or citizen).

For scope item a) at most one action will be funded.

The Commission considers that proposals requesting a contribution from the EU of between EUR 0.3 and 0.5 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

- Strengthening globally recognised European leadership in the early exploration of visionary, new and emerging technologies, beyond academic excellence and with a strong engagement of scientists, citizens, innovators and policy makers.
- Improved long-term innovation potential in Europe both from the abundance of novel ideas and the range of actors ready to take them forward.

- Improved understanding of the range of possible impact mechanisms for long-term science and technology research.
- Improved readiness across Europe to engage in silo-breaking research collaboration and to take up new research and innovation practices.

Cross-cutting Priorities:
Socio-economic science and humanities
[1]*This activity directly aimed at supporting the development and implementation of evidence base for R&I policies is excluded from the delegation to REA and will be implemented by the Commission services.*

H2020	Industrial Leadership	H2020-GV-2016-2017	**19 January 2017**

CALL FOR ENERGY-EFFICIENT BUILDINGS

TOPICS

1. ***EEB-05-2017: Development of near zero energy building renovation**: IA Innovation action. Single-stage. Deadline January 19, 2017;*
2. ***EEB-06-2017: Highly efficient hybrid storage solutions for power and heat in residential buildings and district areas, balancing the supply and demand conditions**: RIA Research and Innovation action. Single-stage. Deadline January 19, 2017.*
3. ***EEB-07-2017: Integration of energy harvesting at building and district level**: IA Innovation action. Single-stage. Deadline January 19, 2017;*
4. ***EEB-08-2017: New business models for energy-efficient buildings through adaptable refurbishment solutions**: CSA Coordination and support action. Single-stage. Deadline January 19, 2017;*

H2020	Societal Challenges	H2020-ART-2016-2017	**26 January 2017** 27 September 2017

CALL: 2016-2017 AUTOMATED ROAD TRANSPORT

Scene Setter:

Road vehicle automation is one of the major trends that will shape the future of road transport and of our mobility. It holds the promise to help address many of the major challenges of today's transport system, such as user safety, energy efficiency, air quality and congestion, and to enhance the drivers' individual comfort and convenience. At the same time, it represents a critical testing ground for the ability of the European automotive industry to preserve and consolidate its global leadership. Automakers around the world are unanimous in predicting the emergence of systems for automated driving sometime in the near future.

Current technology will evolve further towards semi-automation and eventually towards full automation in real moving traffic. This evolution is very promising and may help to drastically reduce road fatalities to near zero, as more than 90% of road accidents are partly or fully due to human errors. Nevertheless, there are still many challenges related to technology, digital infrastructure, user and societal acceptance, driver behavior, regulation and legislation, and business models, which need to be tackled to enable the deployment of automated driving on European roads.

The main contribution of this call will be to support the short term introduction of passenger cars automated driving level 3 (Conditional Automation - Full driving performed by an automated driving system with the expectation that the human driver will respond appropriately to a request to intervene in real traffic conditions)[[The SAE International's standard J3016 identifies six levels of driving automation from "no automation" to "full automation"]] including safe stops, and of truck platooning in real traffic conditions from 2020 onwards. The main focus of this call is on demonstrations of automated driving systems for passenger cars, trucks and urban transport. Demonstrations will be complemented by further research on digital infrastructure to ensure the necessary level of safety, reliability and efficiency of automated driving systems and by a comprehensive analysis of safety aspects in relation to mixed traffic conditions and their influence on end user acceptance. This call includes also an action to assess road infrastructure requirements for higher levels of vehicle automation and to coordinate and support all research and innovation activities on automated driving both at European and international levels.

Cooperative systems and connectivity, based on communication of real-time vehicle data, as important means to increase the performance of automated driving will also be addressed in other calls, such as Mobility for Growth (topic MG-6.2-2016 on 'Large-scale demonstration(s) of cooperative ITS'). There is considerable complementarity between the development and deployment of Intelligent Transport Systems and that of Automated Road Transport. ICT components e.g. sensors and microsystems and data fusion which are important elements of automated road transport will be addressed in the LEIT/ICT Work Programme, as well as in the ECSEL Joint Undertaking. The 'Internet of Things' call [Work Programme Part Cross-cutting activities (Focus Areas) ï Annex 20] addresses a pilot on 'Autonomous vehicles in a connected environment' which focuses on technology research in a broader IoT context, including horizontal elements such as ethics and privacy, trust and security, validation, standards and interoperability, user acceptability and human factor, liability and sustainability. There is also complementarity with the LEIT/Space Work

Programme part, in particular with the call 'Applications in Satellite Navigation ï Galileo', topic 'Galileo-1-2017 ï EGNSS Transport'.

TOPICS:

1. **ART-01-2017:ICT infrastructure to enable the transition towards road transport automation.** IA Innovation action. Two-stage. Deadlines January 26, September 27, 2017.
2. **ART-03-2017:Multi-Brand platooning in real traffic conditions.** IA Innovation action. Two-stage. Deadlines January 26, September 27, 2017.
3. **ART-03-2017:Multi-Brand platooning in real traffic conditions.** IA Innovation action. Two-stage. Deadlines January 26, September 27, 2017.
4. **ART-07-2017:Full-scale demonstration of urban road transport automation.** IA Innovation action. Two-stage. Deadlines January 26, September 27, 2017.

H2020	Societal Challenges	H2020-MG-2016-2017	**26 January 2017;** 01 February 2017; 19 October 2017

CALL: 2016-2017 MOBILITY FOR GROWTH

Scene Setter:

Transport is on the brink of a new era of "smart mobility" where infrastructure, transport means, travellers and goods will be increasingly interconnected to achieve optimised door-to-door mobility, higher safety, less environmental impact and lower operational costs. In order to achieve efficiency at system-level, targeted efforts are needed to develop and validate new solutions that can be rapidly deployed, notably on corridors and in urban areas. They will address transport means and infrastructure and integrate them into a user friendly European transport system of smart connected mobility and logistics. Research and innovation on equipment and systems for vehicles, aircraft and vessels will make them smarter, more automated, cleaner and quieter, while reducing the use of fossil fuels. Research and innovation on smart infrastructure solutions is necessary to deploy innovative traffic management and information systems, advanced traveller services, efficient logistics, construction and maintenance technologies.

As indicated in the Specific Programme, the ñactivities will be organised in such a way as to allow for an integrated and mode-specific approach as appropriateò. Therefore, the contents of the ôMobility for Growthôcall have been structured as follows:

A) Areas addressing mode-specific challenges (technical and socio-economic)
1. Aviation
2. Waterborne
B) Areas addressing cross-modal and/or transport integration specific challenges (technical and socio-economic)
3. Safety
4. Urban
5. Logistics
6. Intelligent Transport Systems
7. Infrastructure
C) Cross-cutting issues
8. Socio-economic and behavioral research and forward looking activities for policy making

Topics:

1. ***MG-1.3-2017: Maintaining industrial leadership in aeronautics:*** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
2.
3. ***MG-1-4-2016-2017: Breakthrough innovation:*** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
4.
5. ***MG-2.1-2017: Innovations for energy efficiency and emission control in waterborne transport:*** IA Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
6. ***MG-2.4-2017: Complex and value-added specialised vessels:*** IA Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
7. ***MG-3.2-2017: Protection of all road users in crashes*:** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
8. ***MG-4.1-2017: Increasing the take up and scale-up of innovative solutions to achieve sustainable mobility in urban areas:*** IA Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
9. ***MG-4.2-2017: Supporting 'smart electric mobility' in cities:*** IA Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
10. ***MG-5.2-2017:Innovative ICT solutions for future logistics operations*:** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017;

11. ***MG-5.4-2017:Potential of the Physical Internet:*** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
12. ***MG-5.4-2017:Potential of the Physical Internet:*** CSA Coordination and support action. Single-stage, Deadline February 01, 2017;
13. ***MG-4.3-2017: Innovative approaches for integrating urban nodes in the TEN-T core network corridors:*** CSA Coordination and support action. Single-stage, Deadline February 01, 2017;
14. ***MG-1-2-2017: Reducing aviation noise:*** RIA Research and Innovation action. Single-stage. Deadline February 01,2017;
15. ***MG-1-5-2016-2017: Identification of gaps, barriers and needs in the aviation research:*** CSA Coordination and support action. Single-stage, Deadline February 01, 2017;
16. ***MG-7.1-2017:Resilience to extreme (natural and man-made) events:*** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017.
17. ***MG-7.2-2017:Optimisation of transport infrastructure including terminals:*** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
18. ***MG-7.3-2017:The Port of the future:*** RIA Research and Innovation action. Two-stage. Deadlines January 26, October 19, 2017;
19. ***MG-7.3-2017:The Port of the future:*** CSA Coordination and support action. Single-stage, Deadline February 01, 2017;
20. ***MG-8.2-2017:Big data in Transport: Research opportunities, challenges and limitations;*** CSA Coordination and support action. Single-stage, Deadline February 01, 2017;
21. ***MG-8.4-2017:Improving accessibility, inclusive mobility and equity: new tools and business models for public transport in prioritised areas;*** RIA Research and Innovation action. Single-stage. Deadline February 01,2017;
22. ***MG-8.5-2017:Shifting paradigms: Exploring the dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility choices:*** RIA Research and Innovation action. Single-stage. Deadline February 01,2017;
23. ***MG-8-7-2017: Future research needs and priorities in the area of transport.*** CSA Coordination and support action. Single-stage, Deadline February 01, 2017.
24.

H2020	Societal Challenges	H2020-GV-2016-2017	**01 February 2017**

CALL: 2016-2017 GREEN VEHICLES

Scene Setter:

The European Green Vehicles Initiative (EGVI) represents an essential component of road transport research and innovation. It includes research, technological developments, innovation and demonstration in support of improvements in energy efficiency of road transport vehicles and the use of new types of non-conventional energies in road transport such as electricity, CNG and LNG, renewable and tailored fuels. All this is also aimed at achieving a positive impact on health issues due to polluting and noise emissions, particularly in urban environments.

The scope of the EGVI activities include both advanced power-train technologies and new vehicle architectures, weight reduction, improved aerodynamics and rolling resistance and component development for alternative fuel vehicles. Concerning new forms of energy, the interfaces between the vehicles and the recharging infrastructure will also need to be taken into account with particular attention to standardisation issues. Demonstration activities will play an essential role in ensuring a proper and timely deployment of the new technologies.

This call has been defined taking into account the other calls and initiatives where the Transport Challenge is concerned, particularly the calls on "Mobility for Growth" and "Smart Cities and Communities" and the "Fuel Cells and Hydrogen 2" joint undertakings. Multi-sectorial research involving other research and innovation areas such as Energy and Environment coupled with research on new materials, advanced production and Information and Communication Technologies will be encouraged, particularly in fields such as advanced energy storage systems and interfaces between vehicles and energy recharging infrastructures.

Topics:

5. ***GV-01-2017:Optimisation of heavy duty vehicles for alternative fuels use:*** IA Innovation action. Single-stage. Deadline February 01, 2017.
6. ***GV-04-2017:Next generation electric drive trains for fully electric vehicles, focusing on high efficiency and low cost:*** RIA Research and Innovation action. Single-stage. Deadline February 01, 2017;
7. ***GV-05-2017:Electric vehicle user-centric design for optimised energy efficiency:*** RIA Research and Innovation action. Single-stage. Deadline February 01, 2017;
8. ***GV-06-2017:Physical integration of hybrid and electric vehicle batteries at pack level aiming at increased energy density and efficiency:*** IA Innovation action. Single-stage. Deadline February 01, 2017;

9. ***GV-07-2017:Multi-level modelling and testing of electric vehicles and their components*:** RIA Research and Innovation action. Single-stage. Deadline February 01, 2017;
10. ***GV-08-2017:Electrified urban commercial vehicles integration with fast charging infrastructure*:** IA Innovation action. Single-stage. Deadline February 01, 2017;
11. ***GV-09-2017:Aerodynamic and flexible trucks*:** IA Innovation action. Single-stage. Deadline February 01, 2017;
12. ***GV-10-2017:Demonstration (pilots) for integration of electrified L-category vehicles in the urban transport system*:** IA Innovation action. Single-stage. Deadline February 01, 2017;
13. ***GV-13-2017: Production of next generation battery cells in Europe for transport applications*:** RIA Research and Innovation action. Single-stage. Deadline February 01, 2017.

H2020	Societal Challenges	H2020-SC6-CULT-COOP-2016-2017	**2 February 2017**

CALL: UNDERSTANDING EUROPE - PROMOTING THE EUROPEAN PUBLIC AND CULTURAL SPACE

Scene Setter:

The resilience and cohesion of European societies are strongly conditioned by beliefs and identities, as well as by collective representations and constructions of past and present realities and expectations about the future. Research in the humanities and social sciences is well-placed for making important contributions to creating a new narrative for Europe by studying the drivers of and obstacles to the emergence of a European public sphere and a European cultural space. The role that technology can play in promoting a better understanding of the richness of Europeôs heritage and diversity equally deserves further exploration as well as solutions-driven options.

A thorough and continuous reflection of Europe's cultural and social diversity and its past facilitates tackling societal challenges that European societies face today and will face tomorrow due to endogenous as well as external factors.

Understanding Europe is therefore a sine qua non condition for preparing and shaping the future, thus fostering truly reflective societies in Europe. A better understanding of Europe's cultural, social unity and diversity of its past will inform the reflection about present challenges/opportunities and help to find solutions for shaping Europe's future. Special attention should be dedicated to the accessibility for all and universal design in relation to the role that technology can play in promoting this better understanding.

This call has a link with the CO-CREATION call and with the cultural heritage related Topics of Societal Challenge 5 and other relevant parts of H2020.

TOPICS:

1. ***CULT-COOP-01-2017: Democratic discourses and the rule of law*:** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
2. ***CULT-COOP-02-2017:Improving mutual understanding among Europeans by working through troubled pasts*;** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
3. ***CULT-COOP-03-2017:Cultural literacy of young generations in Europe*:** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
4. ***CULT-COOP-04-2017:Contemporary histories of Europe in artistic and creative practices*:** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
5. ***CULT-COOP-05-2017:Religious diversity in Europe - past, present and future:*** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
6. ***CULT-COOP-06-2017:Participatory approaches and social innovation in culture:*** CSA Coordination and support action, Single-Stage. Deadlines 02 February 2017, 13 September 2017;
7. ***CULT-COOP-06-2017:Participatory approaches and social innovation in culture:*** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
8. ***CULT-COOP-07-2017:Cultural heritage of European coastal and maritime regions*:** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
9. ***CULT-COOP-08-2016:Virtual museums and social platform on European digital heritage, memory, identity and cultural interaction:*** CSA Coordination and support action, RIA Research and Innovation action. Single-Stage. Deadline 02 February 2017;
10. ***CULT-COOP-09-2017:European cultural heritage, access and analysis for a richer interpretation of the past:*** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;
11. ***CULT-COOP-10-2017: Culture, integration and European public space*:** ERA-NET-Cofund ERA-NET Cofund. Single-Stage. Deadline 02 February 2017;
12. ***CULT-COOP-11-2016-2017: Understanding the transformation of European public administrations*:** RIA Research and Innovation action. Single-Stage. Deadline 02 February 2017;
13. ***CULT-COOP-12-2017: The significance of cultural and core values for the migration challenge:*** RIA Research and Innovation action. Two-Stage. Deadlines 02 February 2017, 13 September 2017;

H2020	Societal Challenges	H2020-SC6-ENG-GLOBALLY-2016-2017	**02-02-2017**

CALL: ENGAGING TOGETHER GLOBALLY

Scene Setter:

1. The global environment in which the EU operates is constantly evolving. Recent developments show just how dynamically the strategic and geopolitical contexts are changing. These developments represent intricate challenges but also opportunities for Europe to develop and vary its analysis and build more robust anticipative, proactive and reactive capacities.
2. In such turbulent times, greater emphasis should be placed on fostering new types of actions that allow for engaging together globally, which strengthen the position of Europe on the global scene, including by improving the coordination between EU Member States and broadening its means of external action.
3. To better anticipate and address challenges in key regions, it is essential to maximise the EUôs clout in global affairs. Research activities will look into the best means of ensuring synergies and consistency between Member States, EU foreign policy goals and instruments. Maximising its clout also presupposes understanding Europe in a global context and its historical and cultural legacy.
4. It is also imperative to implement the EU strategy for international cooperation in research and innovation by strengthening activities to promote the position of Europe on the global scene, attract international partners to Horizon 2020, enhance research and innovation exchanges and dialogue, and strengthen the European R&I presence in strategic partner countries and regions.
5. In Work Programme 2014-2015 topics focused on issues in the immediate EU neighbourhood regions (both South and East), as well as joint challenges with strategic partners such as cultural, scientific and social relations with Latin America.
6. In complement, this Work Programme presents Topics 1, 2 and 3 on challenges of radicalisation and migration that appear in cross-cutting way in several Topics and Calls of SC6[[Topics REV-INEQUAL-02-2016 and REV-INEQUAL-04-2016 address radicalisation and migration trends within Europe.]] and SC7, as well as integration and science diplomacy. Proposals to this set of topics are encouraged to address issues across these challenges.
7. Topic 4 targets the use of scientific knowledge on the EU's neighbouring countries and regions for EU policy-making. Topic 5 investigates EU external trade strategies and their inter-linkages, coherence and effectiveness vis-à-vis other external policies.
8. Topics 6, 7 and 8 broaden the geographical coverage of the first Work Programme focusing on Asia-Pacific, Central Asia, and China specifically.
9. Topic 9 addresses the challenge of strengthening the position of Europe as a global actor by reinforcing the presence of European research and innovation actors in selected international partner countries and regions.
10. In all Topics the participation of entities from the international partner countries and regions concerned is strongly encouraged.

Topics:

1. ***ENG-GLOBALLY-01-2017: Strengthening Europe's position in the global context: science diplomacy and intercultural relations*****: R***IA Research and Innovation action, Single stage, Deadline 02 February, 2017;*
2. ***ENG-GLOBALLY-02-2017: Shifting global geopolitics and Europe's preparedness for managing risks, mitigation actions and fostering peace:*** *RIA Research and Innovation action, Single stage, Deadline 02 February, 2017;*
3. ***ENG-GLOBALLY-03-2017: The European Union and the global challenge of migration*****:** *RIA Research and Innovation action, Single stage, Deadline 02 February, 2017;*
4. ***ENG-GLOBALLY-04-2017: Science diplomacy for EU neighbourhood policies:*** CSA Coordination and support action; *Single stage, Deadline 02 February, 2017;*
5. ***ENG-GLOBALLY-05-2017: The strategic potential of EU external trade policy*****:** *RIA Research and Innovation action, Single stage, Deadline 02 February, 2017;*
6. ***ENG-GLOBALLY-06-2017: The Asia-Pacific as a strategic region for Europe:*** *RIA Research and Innovation action, Single stage, Deadline 02 February, 2017;*
7. ***ENG-GLOBALLY-07-2017: The European Union and Central Asia****: RIA Research and Innovation action, Single stage, Deadline 02 February, 2017;*
8. ***ENG-GLOBALLY-07-2017: The European Union and Central Asia****:* CSA Coordination and support action*, Single stage, Deadline 02 February, 2017;*
9. **ENG-GLOBALLY-08-2016/2017:EU-China cooperation on sustainable urbanisation.** *RIA Research and Innovation action, Single stage, Deadline 02 February, 2017;*
10. ***ENG-GLOBALLY-10-2017: Migration and asylum systems****: RIA Research and Innovation action, Single stage, Deadline 02 February, 2017;*

H2020	Societal Challenges	H2020-SC6-REV-INEQUAL-2016-2017	**2 February 2017**

CALL: REVERSING INEQUALITIES AND PROMOTING FAIRNESS

Scene Setter:

Current trends in European societies bring with them opportunities for a more inclusive and united Europe on the one hand and risks and challenges on the other. Large disparities in human and social capacities are counterproductive to a sustainable and creative economy and participatory governance and inclusion. They jeopardise economic growth while threatening the very foundations of democracy, the rule of law and respect of human rights in Europe. These questions have to be analysed from a theoretical perspective and practical solutions to overcome inequalities have to be recommended.

For more inclusive societies to take shape in the medium term, coherent visions will need to be devised on how to foster a social and economic framework that promotes fairness and sustainability in Europe as key policy objectives, while enhancing social dialogue, respecting the continentõs diversity and considering the global context.

The rise in inequalities in Europe and other parts of the world comprises hitherto unknown quantitative and qualitative dimensions: in the wake of the financial and economic crisis, highly increased levels of inequality (e.g. income and wealth concentration, gender inequality) can be detected alongside novel types of inequalities (e.g. debt inequality, inequality in access to justice or political life, spatial inequality). Options to reverse inequalities should be evidence-based and suggested at EU level.

These recent trends will need to be fully understood and effectively tackled through comprehensive research and innovation activities. Based on a sound understanding of inequality trends, policies and measures aimed at reversing various kinds of inequalities need to be examined. Different options for policies and measures (e.g. social dialogue, tax policy, new forms of evidence-based education, public service innovation, welfare state reforms, labour market, employment and consumer policies and practices) should be identified and their usefulness be compared. Specific emphasis should be given to the objective of reversing territorial inequalities, equal enjoyment of human rights and the conditions enabling comprehensive urban policies, the mobile provision of social services and an equal access to ICT use.

Most of the Topics of REV-INEQUAL concern primarily the EU, although a certain number of issues clearly have an international dimension. This is particularly the case for Topic 2 on radicalisation and Topic 4 on mobility and migration. The content of these Topics is linked with the ENG-GLOBALLY call (Topics 1 and 3) and with the Societal Challenge 7 Topic SEC-06-FCT-2016: ñ*Developing a comprehensive approach to violent radicalization in the EU from early understanding to improving protection*ò. In these Topics the participation of entities from the international partner countries and regions concerned is strongly encouraged.

Topics:

1. **REV-INEQUAL-09-2017:Boosting inclusiveness of ICT-enabled research and innovation**. CSA Coordination and support action. Single Stage. Deadline 02 February 2017;

H2020	Excellent Science	ERC-2017-STG	**09 February 2016**

ERC Consolidator GRANT

H2020	Societal Challenges	H2020-BB-2016-2017	**14 February 2017** 13 September2017

BIO-BASED INNOVATION FOR SUSTAINABLE GOODS AND SERVICES - SUPPORTING THE DEVELOPMENT OF A EUROPEAN BIOECONOMY

Topics:

1. ***BB-02-2017: Towards a method for the collection of statistical data on bio-based industries and bio-based products:*** RIA Research and Innovation action. Two Stage. *Deadlines: 17 February 2017; 13 September;*
2. ***BB-03-2017: Adaptive tree breeding strategies and tools for forest production systems resilient to climate change and natural disturbances:*** RIA Research and Innovation action. Two Stage. *Deadlines: 17 February 2017; 13 September;*
3. ***BB-05-2017: Bio-based products: Mobilisation and mutual learning action plan:*** *CSA Coordination and support action. Single-stage. Deadline: 17 February 2017;*
4. ***BB-07-2017: Plant Molecular Factory:*** IA Innovation action. *Single-stage. Deadline: 17 February 2017;*
5. ***BB-08-2017: Strategies for improving the bioeconomy knowledge of the general public:*** *CSA Coordination and support action. Single-stage. Deadline: 17 February 2017;*

H2020	Societal Challenges	H2020-SFS-2016-2017	**14 February 2017** 13September2017

SUSTAINABLE FOOD SECURITY – RESILIENT AND RESOURCE-EFFICIENT VALUE CHAINS

1. ***SFS-04-2017: New partnerships and tools to enhance European capacities for in-situ conservation****. CSA Coordination and support action. Single-stage.Deadline: 14 February 2017;*
2. ***SFS-05-2017: Robotics Advances for Precision Farming****. **RI**A Innovation action. Single-stage. Deadlines: 14 February 2017;*
3. ***SFS-07-2016-2017: Organic breeding – Increasing the competitiveness of the organic breeding and farming sectors****: RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;*
4. ***SFS-08-2017: Organic inputs – contentious inputs in organic farming****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
5. ***SFS-10-2017: Research and approaches for emerging diseases in plants and terrestrial livestock****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
6. ***SFS-13-2017: Validation of diagnostic tools for animal and plant health****:* IA Innovation action. Single-stage. Deadlines: 14 February 2017;
7. ***SFS-15-2016-2017: Breeding livestock for resilience and efficiency****: RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;*
8. ***SFS-16-2017: Bee health and sustainable pollination****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
9. ***SFS-17-2017: Innovations in plant protection****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
10. ***SFS-18-2017: Support to the development and implementation of FOOD 2030 - a European research and innovation policy framework for food and nutrition security****: CSA Coordination and support action. Single-stage.Deadline: 14 February 2017;*
11. ***SFS-20-2017: Towards a science-based regionalisation of the Common Fisheries Policy****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
12. ***SFS-21-2016-2017: Advancing basic biological knowledge and improving management tools for commercially important fish and other seafood species****: RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;*
13. **SFS-22-2017: Smart fisheries technologies for an efficient, compliant and environmentally friendly fishing sector:** IA Innovation action, Single-stage. Deadlines: 14 February 2017;
14. ***SFS-27-2017: Permanent grassland – farming systems and policies****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
15. ***SFS-28-2017:Functional biodiversity – productivity gains through functional biodiversity: effective interplay of crop pollinators and pest predators****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
16. ***SFS-29-2017:Socio-eco-economics – socio-economics in ecological approaches****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
17. ***SFS-30-2017:Closing loops at farm and regional levels to mitigate GHG emissions and environmental contamination - focus on carbon, nitrogen and phosphorus cycling in agro-ecosystems****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
18. ***SFS-32-2017:Promoting and supporting the eco-intensification of aquaculture production systems: inland (including fresh water), coastal zone, and offshore*** **:** RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
19. ***SFS-34-2017: Innovative agri-food chains: unlocking the potential for competitiveness and sustainability****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
20. ***SFS-35-2017: Innovative solutions for sustainable food packaging*****:** IA Innovation action, Single-stage. Deadlines: 14 February 2017;
21. ***SFS-36-2017: Co-fund on "One Health" (zoonoses – emerging threats)****:* COFUND-EJP COFUND (European Joint Programme). Single-stage. Deadlines: 14 February 2017;
22. ***SFS-37-2016: The impact of consumer practices in food safety: risks and mitigation strategies****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
23. ***SFS-39-2017: How to tackle the childhood obesity epidemic?****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
24. ***SFS-40-2017:Sweeteners and sweetness enhancers****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
25. ***SFS-43-2017:Earth observation services for the monitoring of agricultural production in Africa*****:** RIA Research and Innovation action. Single-Stage. 14 February 2017;
26. ***SFS-46-2017:Alternative production system to address anti-microbial drug usage, animal welfare and the impact on health****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
27. ***SFS-47-2017:Management of soil water resources in the EU and China and its impact on agro-ecosystem functions****:* RIA Research and Innovation action, two-stage. Deadlines: 14 February 2017, 13 September 2017;
28. **SFS-49-2017: Better understanding the challenges facing agriculture and the impacts of policies - A European platform to support modelling in agriculture:** CSA Coordination and support action. Single-Stage. 14 February 2017;

29. **SFS-50-2017: Supporting international cooperation activities on agriculture soil contribution to climate change mitigation and adaptation:** CSA Coordination and support action. Single-Stage. 14 February 2017;

H2020	Societal Challenges	H2020-RUR-2016-2017	**14 February 2017** 13 September 2017

RURAL RENAISSANCE - FOSTERING INNOVATION AND BUSINESS OPPORTUNITIES

Topics

1. ***RUR-02-2017: Coastal-rural interactions: Enhancing synergies between land and sea-based activities:*** RIA Research and Innovation action. Two Stage. 14 February 2017, 13 September 2017;
2. ***RUR-03-2017: Towards 2030 - policies and decision support tools for an integrated approach to the management of land as a resource:*** RIA Research and Innovation action. Two Stage. 14 February 2017, 13 September 2017;
3. ***RUR-05-2017: Novel public policies, business models and mechanisms for the sustainable supply of and payment for forest ecosystem services:*** IA Innovation action. Single Stage. 14 February 2017;
4. ***RUR-09-2017: Business models for modern rural economies:*** RIA Research and Innovation action. Two Stage. 14 February 2017, 13 September 2017;
5. ***RUR-10-2016-2017: Thematic Networks compiling knowledge ready for practice:*** CSA Coordination and support action Single- Stage. 14 February 2017;
6. ***RUR-12-2017: Networking European farms to boost thematic knowledge exchanges and close the innovation gap:*** CSA Coordination and support action Single- Stage. 14 February 2017;
7. ***RUR-13-2017: Building a future science and education system fit to deliver to practice:*** RIA Research and Innovation action. Two Stage. 14 February 2017, 13 September 2017;
8. ***RUR-15-2017: The benefits of working with others – fostering social capital in the farming sector:*** CSA Coordination and support action Single- Stage. 14 February 2017;
9. ***RUR-16-2017: Optimising interactive innovation project approaches and the delivery of EU policies to speed up innovation in rural areas:*** RIA Research and Innovation action. Two Stage. 14 February 2017, 13 September 2017;

H2020	Societal Challenges	H2020-BG-2016-2017	**14 February 2017**

BLUE GROWTH - DEMONSTRATING AN OCEAN OF OPPORTUNITIES

Topics:

1. ***BG-02-2016-2017: High value-added specialised vessel concepts enabling more efficient servicing of emerging coastal and offshore activities:*** *IA Innovation action. Single-stage. Deadline 14 February, 2017;*
2. ***BG-04-2017: Multi-use of the oceans marine space, offshore and near-shore: Enabling technologies:*** *IA Innovation action. Single-stage. Deadline 14 February, 2017;*
3. ***BG-06-2017: Interaction between people, oceans and seas: a strategic approach towards healthcare and well-being :*** *CSA Coordination and support action. Single-stage. Deadline 14 February, 2017;*
4. ***BG-07-2017: Blue green innovation for clean coasts and seas:*** *CSA Coordination and support action. Single-stage. Deadline 14 February, 2017;*
5. ***BG-08-2017: Innovative sustainable solutions for improving the safety and dietary properties of seafood:*** *IA Innovation action. Single-stage. Deadline 14 February, 2017;*
6. ***BG-11-2017: The effect of climate change on Arctic permafrost and its socio-economic impact, with a focus on coastal areas:*** *RIA Research and Innovation action. Single-stage. Deadline 14 February, 2017;*
7. ***BG-14-2017: Monitoring and assessing fish stocks, other pelagic species and habitats with an automated, non-invasive, opto-acoustic system:*** *IA Innovation action. Single-stage. Deadline 14 February, 2017.*

H2020	Societal Challenges	H2020-SCC-2016-2017	**14 February 2017** **07 March 2017**

CALL: SMART AND SUSTAINABLE CITIES

Call summary

European cities are forerunners in the transition towards a low carbon and resource efficient economy. A fast growing percentage (currently 72%) of the EU population lives in urban areas, using 70% of our energy. Quality of city life and the attractiveness of cities as environments for learning, innovation, doing business and job creation are now key parameters for success in the global competition for talent, growth and investments.

Key challenges for Smart and Sustainable Cities are to provide solutions to significantly increase cities' overall energy and resource efficiency through actions addressing the building stock, energy systems, mobility, climate change, water and air quality. Such actions should bring profound economic, social and environmental impacts, resulting in a better quality of life (including health and social cohesion), competitiveness, jobs and growth.

This new ñSmart and Sustainable Citiesò cross-cutting focus area has a clear aims to bring together cities, industry and citizens to demonstrate solutions and business models that can be scaled up and replicated, and that lead to measurable benefits in energy and resource efficiency, new markets and new jobs. The scope will include the creation of urban spaces powered by secure, affordable and clean energy, smart electro-mobility, smart tools and services, innovative nature-based solutions and showcasing economic viability.

articular focus will be on creating the right enabling frameworks for large-scale innovation at urban scale, including the development and testing of new business, financing and governance models that allow for quick replication at scale.

This cross-cutting call on Smart and Sustainable Cities comprises two distinct but mutually reinforcing parts.

mart Cities and Communities (SSC1) focusses on demonstrating sustainable, cost-effective and replicable district-scale solutions at the intersection of energy, transport enabled by ICT. They should integrate smart homes, energy efficiency measures, very high shares of renewables, smart grids, energy storage, electric vehicles and smart charging infrastructures, using latest generation ICT platforms (and infrastructure) based on open specifications. This should in turn help to manage a successful transformation towards intelligent, user-driven and demand-oriented city infrastructure and services.
It continues with the 'lighthouse project' approach of the Smart Cities calls since 2014. The 2020 goal is to have a significant number of new lighthouse cities of all sizes all over Europe, in a very large number of Member States with various, climatic and economical positions.

ustainable cities though Nature-based solutions (SSC2-4) focusses on providing evidence that re-naturing of cities through the deployment of innovative, locally adapted, systemic solutions - that are inspired and supported by nature - can be a cost-effective and economically viable way to make cities more sustainable, resilient, greener, and healthier. This will also help to increase their attractiveness for citizens, new economic activities and investments.

The replication of successfully demonstrated solutions can be further spread by the European Innovation Partnership on Smart Cities and Communities.

A novelty in Horizon 2020 is the Pilot on Open Research Data which aims to improve and maximise access to and re-use of research data generated by projects. Projects funded under 'Smart and Sustainable Cities' will by default participate in the Pilot on Open Research Data in Horizon 2020.

Topics:

1. **SCC-02-2016-2017: Demonstrating innovative nature-based solutions in cities: I**A Innovation action. Two Stage. Deadline 07 March, 2017; 05 September 2017;
2. **SCC-1-2016-2017: Smart Cities and Communities lighthouse projects:** IA Innovation action. Single Stage. 14 February 2017.

H2020	Industrial Leadership	H2020-COMPET-2017	**01-03-2017**

COMPETITIVENESS OF THE EUROPEAN SPACE SECTOR: TECHNOLOGY AND SCIENCE

Call summary

Scene Setter:

Competitiveness of European Space Technology

Competitiveness, non-dependence and innovation of the European space sector must be ensured by fostering the development of space technologies. The overarching objective is to contribute at European level, in conjunction with Member States and ESA, to the safeguarding and further development of a competitive and entrepreneurial space industry (including SMEs) and the strengthening of European non-dependence in space systems. This implies enabling advances in space technologies and operational concepts from idea to demonstration in representative terrestrial environments and/or in space.

Attention will be given to some clear trends in space technology development; on the one hand miniaturization on system and subsystem level, as well as in the development of instrumentation. On the

other hand the development to generic technologies coming available for a number of different science and application areas. This leads to obvious synergies that should be promoted.

Competitiveness of European space industry is strongly dependent on performance in a global market, which has a high variability when compared to the institutional market. The ability to react to contract opportunities world-wide with recurring technologies for satellites is a critical success factor, and depends on ready access for integrators to subsystem and equipment capacities in Europe.

To ensure the competitive advantage, subsystems and/or equipment have to be technologically mature *(i.e. at adequate technology readiness level (TRL[[Technology Readiness Levels are defined in part G of the General Annexes. In the specific area of space, TRL are defined under the standard ISO 16290. Further details on the TRL scale can be consulted in the European Space Agency website "The ESA Science Technology Development Route": http://sci.esa.int/sre-ft/50124-technology-readiness-level/05.]]), possibly flight proven)* and be accompanied by adequate production rates. European focus in future space technologies, beyond the current state of the art, needs to be strengthened along the entire TRL scale: from low TRL key technologies to in-orbit demonstration and validation. Concrete support for IOD/IOV opportunities is planned for subsequent work programmes (2018-2020), considering previous results and evolving European priorities.

Technologies for satellite communication will be supported in particular in topics COMPET-2-2016 "Maturing satellite communication technologies" and in COMPET-3-2017 "High data rate chain". In addition, the topics COMPET-1-2016/2017 "Technologies for European non-dependence and competitiveness" and COMPET-3-2016 "In-space electrical propulsion and station keeping" address important objectives for the satellite communication industry.

Earth observation underpins the mitigation of Europe's climate change challenges by facilitating sustainable services enabled by Copernicus. Technologies for Earth observation will be supported in particular in topics COMPET-2-2017 "Competitiveness in Earth observation mission technologies" and COMPET-3-2017 "High data rate chain". In addition, the topics COMPET-1-2016/2017 "Technologies for European non-dependence and competitiveness" also contribute to enabling technologies for Earth observation.

Technologies for satellite navigation are addressed in the Galileo part of the work programme.

Technologies enabling recurrence of use contribute to enhancing industrial competitiveness. Research on building blocks, components and items with potential for use in a variety of programmes and applications is therefore encouraged. Standardisation of such items by existing initiatives such as the European Space Components Coordination (ESCC) and the European Cooperation for Space Standardisation (ECSS), and their interfaces across Europe can optimise the investments and when applied appropriately facilitate access to emerging commercial markets. Synergies with ongoing work with ESA and Member States in the area of technology standardisation will be sought.

Space exploration and science

In 2017 support for space sciences and space exploration will address the exploitation of space science data on astrophysics (including exoplanets), heliophysics and the Solar System exploration, including the Moon. Other scientific domains will be addressed in following years.

This call will also address space weather.

Topics

1. **COMPET-1-2017: Technologies for European non-dependence and competitiveness**: ***RIA*** *Research and Innovation action, Single Stage, Deadline 1 March 2017;;*
2. *IA Innovation action, Single Stage, Deadline 1 March 2017;*
3. **COMPET-2-2017: Competitiveness in Earth observation mission technologies**: ***RIA*** *Research and Innovation action, Single Stage, Deadline 1 March 2017; *
4. **COMPET-3-2017: High speed data chain**: ***RIA*** *Research and Innovation action, Single Stage, Deadline 1 March 2017;*
5. **COMPET-4-2017: Scientific data exploitation**: ***RIA*** *Research and Innovation action, Single Stage, Deadline 1 March 2017;*
6. **COMPET-5-2017: Space Weather**: ***RIA*** *Research and Innovation action, Single Stage, Deadline 1 March 2017;*
7. **COMPET-6-2017: Space portal**: CSA Coordination and support action . *Single Stage, Deadline 1 March 2017.*
8. **COMPET-7-2017: Technology transfer and business generators**: CSA Coordination and support action . *Single Stage, Deadline 1 March 2017.*

H2020	Industrial Leadership	H2020-EO-2017	**01-03-2017**

EARTH OBSERVATION

Scene Setter:

Horizon 2020 Earth observation (EO) activities are considered an essential element to accompany the investments made by the Union in Copernicus, the Union Earth observation and monitoring programme. Through Copernicus and Earth Observation activities in the Horizon 2020 the European Union also contributes to advancing the Global Earth Observation Systems of Systems (GEOSS).

In particular, activities under the societal challenge for climate action, environment, resource efficiency and raw materials focus on GEOSS, notably the development of comprehensive and sustained global environmental observation and information systems that stimulate the smart use of strategic resources, support the development of evidence-based policies, foster new environmental and climate services, and develop new opportunities in global markets. Activities under the Leadership in Industrial Technologies part focus on the evolution of Copernicus and the exploitation of existing European space infrastructure by promoting the development of innovative products and services based on remote sensing, geo-positioning or other types of satellite enabled data as well as geo-information generated already by services such as Copernicus services.

Moreover, taking into account the wider relevance of EO to all parts of Horizon 2020, proposals addressing application and uptake of EO for the development of innovative applications addressing specific challenges can also be submitted to the Horizon 2020 Societal Challenges where related references are included. To that end, applicants to those parts of Horizon 2020 can also access Copernicus data and information (licensing conditions may apply)[[Access to Copernicus Sentinel data and service information is provided to users on a free, full and open basis. For other satellites data, the DataWareHouse document 2.0 is available at http://www.copernicus.eu/main/library/technical-documents/ and licensing details can be consulted at http://gmesdata.esa.int/web/gsc/dap_document as well as http://gmesdata.esa.int/web/gsc/terms_and_conditions.]].

Earth observation underpins the mitigation of Europe's climate change challenges by facilitating sustainable services enabled by Copernicus.

To facilitate access to opportunities for applicants, the following list includes dedicated Earth observation activities in calls in other work programme parts, in addition to those in this call:

- Blue Growth ï demonstrating an ocean of opportunities (H2020-BG-2016-2017):
  - BG-9-2016: An integrated Arctic observing system
  - BG-12-2016: Towards an integrated Mediterranean Sea Observing System
- Sustainable Food Security ï resilient agri-food chains (H2020-SFS-2016-2017):
  - SFS-43-2017: Earth Observation services for the monitoring of agricultural production in Africa
- Climate Action, Environment, Resource Efficiency and Raw Materials - Earth Observation (H2020-SC5-2016-2017):
  - SC5-18-2017 - Novel in-situ observation systems
  - SC5-19-2017 - Coordination of citizens' observatories initiatives
  - SC5-20-2016 - European data hub of the GEOSS information system
- Earth Observation (H2020-EO-2016 and H2020-EO-2017)
  - EO-1-2016 and EO-1-2017: Downstream applications
  - EO-2-2016: Downstream applications for public sector users
  - EO-3-2016: Evolution of Copernicus services
  - EO-2-2017: EO Big Data Shift
  - EO-3-2017: Preparation for a European capacity to monitor CO_2 anthropogenic emissions
- Competitiveness of the European Space Sector: Technology and Science (H2020-COMPET-2017)
  - COMPET-2-2017: Competitiveness in Earth observation mission technologies
- SME Instrument (H2020-SMEInst-2016-2017), although not dedicated uniquely to Earth Observation, is particularly well suited for SMEs addressing space based applications
  - SMEInst-04-2016-2017: Engaging SMEs in space research and development
  - SMEInst-12-2016-2017: Boosting the potential of small businesses in the areas and priorities of Societal Challenge 5

Topics

9. **EO-1-2017: Downstream applications**: *IA Innovation action, Single Stage, Deadline 1 March 2017;*
10. **EO-2-2017: EO Big Data Shift**: **R***IA Research and Innovation action, Single Stage, Deadline 1 March 2017;*
11. **EO-3-2017: Preparation for a European capacity to monitor CO2 anthropogenic emissions**: CSA Coordination and support action . *Single Stage, Deadline 1 March 2017.*

H2020	Industrial Leadership	H2020-GALILEO-GSA-2017	**01-03-2017**

APPLICATIONS IN SATELLITE NAVIGATION – GALILEO – 2017

Scene Setter:

The European Global Navigation Satellite System (EGNSS) encompasses the satellite navigation system established under the Galileo programme and the European Geostationary Overlay System (EGNOS). The Galileo system will provide position, navigation and timing services and increase availability and reliability of other GNSS, while ensuring the European non-dependence from other GNSS. The EGNOS system improves the accuracy and provides information on the reliability of the GPS system, and in the future also of the Galileo system.

Satellite navigation technology is an increasingly common component of innovative applications in different market segment. Over the years satellite navigation has become more affordable and more reliable. GNSS is used all around the globe, with 2.8 billion GNSS devices in use in 2013. By 2019, this is forecasted to increase to over 7 billion – on average one device per person. This large base of satellite navigation powered devices opens a huge opportunity for innovation in terms of applications in transport, consumer and professional markets. In addition, the new generation of GNSS, such as Galileo, brings new specific features and increased performance that can trigger innovation and enable more accurate and robust applications.
Development of downstream applications is key to maximise adoption of Galileo and EGNOS and also to stimulate the EU GNSS downstream industry competitiveness, while capturing public benefits. Small and Medium Enterprises (SMEs) are key players for innovation in the sector of GNSS applications for their capacity of innovating quickly, adapting to this fast growing and changing domain. While EGNOS is already fully operational, Galileo is still in deployment phase and will gradually start to deliver services from 2016 onwards up to a full capability in 2020. The use of the available Galileo initial services and test beds[[List of Galileo test infrastructure is available: http://gnss-test-portal.eu/tools/list_all_in_category/3]] in the course of the proposed projects is encouraged if and when necessary and beneficial for the project.

GNSS technology is advancing fast. Current trends that will influence innovation in the field of GNSS applications should be taken into account by applicants. These trends concern for example the appearance of a multi-constellation environment, leading to new multi-frequency devices that are becoming accessible also for mass market applications, as well as the increased combination of GNSS with other sensors and positioning techniques (e.g. Bluetooth beacons, localisation through Wi-Fi base stations, etc.). GNSS receivers itself are undergoing miniaturisation and are more and more "always connected". Proposals are invited against the following topics[[In accordance with the Commission decision C(2014)4995 these tasks will be implemented by the European GNSS Agency in indirect management and maximum annual Commission contribution will be decided annual in the Horizon 2020 work programme.]]:
Galileo 1 – 2017 – EGNSS Transport Applications;
Galileo 2 – 2017 – EGNSS Mass Market Applications;
Galileo 3 – 2017 – EGNSS Professional Applications;
Galileo 4 – 2017 – EGNSS Awareness raising and capacity building.

To facilitate access to opportunities for applicants the following list includes dedicated 'Applications in Satellite Navigation – Galileo' activities in related calls and topics from the societal challenge Smart, Green and Integrated Transport in addition to those in this call:

- *Societal Challenge Smart Green and Integrated Transport:*
  - *Automated Road Transport:*
    - *ART-02-2016: Automation pilots for passenger vehicles*
  - *Mobility for Growth:*
    - *MG-5.2-2017: Innovative ICT solutions for future logistics operations*
- *SME Instrument (H2020-SMEInst-2016-2017), although not dedicated uniquely to Satellite Navigation, is particularly well suited for SMEs addressing space based applications:*
  - *SMEInst-04-2016-2017: Engaging SMEs in space research and development*

Topics:

1. ***GALILEO-1-2017:EGNSS Transport applications:*** *IA Innovation action, Single Stage, Deadline 1 March 2017;*
2. ***GALILEO-2-2017:EGNSS mass market applications:*** *IA Innovation action, Single Stage, Deadline 1 March 2017;*
3. ***GALILEO-3-2017:EGNSS professional applications:*** *IA Innovation action, Single Stage, Deadline 1 March 2017;*
4. ***GALILEO-4-2017:EGNSS awareness raising and capacity building:*** *CSA Coordination and support action, Single Stage, Deadline 1 March 2017;*

H2020	Societal Challenges	H2020-SC5-2016-2017	**07-03-2017** 05-09-2017

CALL: GREENING THE ECONOMY

Topics:

1. ***SC5-01-2016-2017:Exploiting the added value of climate services :***
   RIA Research and Innovation action. Single Stage. Deadline 07 March, 2017;
2. ***SC5-02-2017:Integrated European regional modelling and climate prediction system*:** RIA Research and Innovation action. Single Stage. Deadline 07 March, 2017;
3. ***SC5-04-2017:Towards a robust and comprehensive greenhouse gas verification system:*** RIA Research and Innovation action. Single Stage. Deadline 07 March, 2017;
4. ***SC5-07-2017:Coordinating and supporting research and innovation actions on the decarbonisation of the EU economy:*** CSA Coordination and support action. Single Stage. Deadline 07 March, 2017;
5. ***SC5-08-2017:Large-scale demonstrators on nature-based solutions for hydro-meteorological risk reduction:*** RIA Research and Innovation action. Two Stage. Deadlines 07 March and 05 September, 2017;

6. ***SC5-18-2017:Novel in-situ observation systems:*** RIA Research and Innovation action. Single Stage. Deadline 07 March, 2017;
7. ***SC5-19-2017:Coordination of citizens' observatories initiatives:*** CSA Coordination and support action. Single Stage. Deadline 07 March, 2017;
8. ***SC5-22-2017:Innovative financing, business and governance models for adaptive re-use of cultural heritage:*** RIA Research and Innovation action. Single Stage. Deadline 07 March, 2017;
9. ***SC5-26-2017:Pre-commercial procurement on soil decontamination :*** PCP Pre-Commercial Procurement. Single Stage. Deadline 07 March, 2017;

H2020	Excellent science	H2020- INFRAINNOV-01-2017	**29-03-2017**

Fostering co-innovation for future detection and imaging technologies

Topic Description

Specific Challenge:

Research infrastructures, as providers of advanced services and as procurers of leading-edge technologies, have an innovation potential that has not always been sufficiently exploited. Opportunities provided by the development of components, instruments, services and knowledge for the implementation and upgrade of research infrastructures, could be better exploited to push the limits of existing technologies. There is a clear innovation potential associated with procurement from industry during the construction and upgrade of research infrastructures.

A co-innovation approach to continuously generate, scale and deploy breakthrough technologies with market and social value needs to be adopted by research infrastructures.

Scope:

The aim is the establishment of an open initiative oriented towards a novel research and innovation collaborative framework engaging both the research communities in Europe using Research Infrastructures and the industry (including SMEs), for the mutual benefit of these stakeholders and the European society at large.

This initiative should address:

- The identification of a wide spectrum of technology opportunities with breakthrough potential across Europe; the assessment of the feasibility and scalability of the identified opportunities; the selection and clustering of those opportunities with a clear potential for industrial implementation; and the support of those opportunities towards industrial applications having societal value;
- The support of technology and innovation transfer and joint development measures of high-tech components;
- The enabling of the best conditions for full exploitation by industrial partners of the innovation potential of Research Infrastructures (e.g. in the field of instrumentation and detectors);

As a pilot initiative, the proposals should mainly address the development of future detection and imaging technologies, which have applications in the fields of medicine, manufacturing industry, aerospace, ICT, engineering, environmental sciences and beyond, and should constitute a driver enabling the transfer of fundamental research towards industrial application.

This action allows for the provision of financial support to third parties in line with the conditions set out in Part K of the General Annexes. The financial support to third parties is the primary aim of the action.

The Commission considers that proposals requesting a contribution from the EU of up to EUR 20 million would allow this topic to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

This activity will:

- establish a co-innovation platform in the field of detection and imaging technologies
- provide financial support and guidance towards industrial applicability to the identified co-innovation opportunities
- increase the capacity to generate, absorb and use new technologies in Europe;
- enhance the innovation capability of European Research Infrastructures;
- increase the involvement of industry (including SMEs) in the development of research infrastructures, raising the technological level and competitiveness of European companies and generating market opportunities for them;
- raise the awareness of industry (including SMEs) regarding opportunities offered by research infrastructure to improve their products, e.g. as experimental test facilities, innovation hubs, knowledge-based centres;
- support the integration of research infrastructures into local, regional and global innovation systems;
- when applicable, the socio-economic impact of past investments in research infrastructures from the European Structural and Investment Funds is enhanced.

H2020	Excellent scienc	H2020 - INFRADEV-01-2017	29-03-2017

Design Studies

RIA Research and Innovation action

Topic Description

Specific Challenge:

New leading-edge research infrastructures in all fields of science and technology are needed by the European scientific community in order to remain at the forefront of the advancement of research, and to be able to help industry strengthen its base of knowledge and its technological know-how. The aim of this activity is to support the conceptual and technical design for new research infrastructures which are of a clear European dimension and interest. Major upgrades of existing infrastructures may also be considered if the end result is intended to be equivalent to a new infrastructure.

Scope:

Design studies should address all key questions concerning the technical and conceptual feasibility of new or upgraded fully fledged user facilities (proposals considering just a component for research infrastructures are not targeted by this topic). Design studies lead to a 'conceptual design report' showing the maturity of the concept and forming the basis for identifying and constructing the next generation of Europe's and the world's leading research infrastructures. Conceptual design reports will present major choices for design alternatives and associated cost ranges, both in terms of their strategic relevance for meeting today's and tomorrow's societal challenges, and (where applicable) in terms of the technical work underpinning the development of new or upgraded research infrastructures of European interest. All fields of science are considered.

The activities to be performed in a Design Study proposal include both:

- Scientific and technical work, i.e. (1) the drafting of concepts, architecture and engineering plans for the construction, taking into due account resource efficiency and environmental (including climate-related) impacts, as well as, when relevant, the creation of prototypes; (2) scientific and technical work to ensure that the scientific user communities exploit the new facility from the start with the highest efficiency.
- Conceptual work, i.e. (1) plans to coherently integrate the new infrastructure into the European landscape of related facilities in accordance, whenever appropriate, with the EU objective of a balanced territorial development; (2) the estimated budget for construction and operation; (3) plans for an international governance structure; (4) the planning of research services to be provided at international level, (5) procedure and criteria to choose the site of the infrastructure.

The main output of a design study will be the conceptual design reports for a new or upgraded research infrastructure of strategic importance for Europe.

The Commission considers that proposals requesting a contribution from the EU of between EUR 1 and 3 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

- Funding bodies for research infrastructures become aware of the strategic and funding needs of the scientific community.
- Policy bodies at the national level (e.g. funding bodies, governments), at European level (e.g. ESFRI) and internationally (e.g. the Group of Senior Officials on Research Infrastructures ï GSO) have a sound decision basis to establish long-range plans and roadmaps for new research infrastructures of pan-European or global interest.
- The technical work carried out under this topic will contribute to strengthening the technological development capacity and effectiveness as well as the scientific performance, efficiency and attractiveness of the European Research Area.
- When relevant, the improvement of the environmental (including climate-related) impact as well as the optimisation of resource and energy use are integrated in the very early phase of development of new research infrastructures.

Cross-cutting Priorities:

Socio-economic science and humanities

H2020	Excellent science	H2020 - INFRASUPP-02-2017	29-03-2017

Policy and international cooperation measures for research infrastructures

CSA Coordination and support action

Topic Description

Specific Challenge:

In the context of the communication for a reinforced ERA partnership for excellence and growth[1], the focus of the policy support measures is related to the effective investment and use of research

infrastructures. Following the communication of the Commission on International Cooperation in Research and Innovation (COM(2012)497), international cooperation for research infrastructures is needed with a number of key third countries/regions seen as strategic for the development, exploitation and management of world-class research infrastructures necessary to address research challenges with a global dimension.

Scope:

Proposals will address only one of the following areas:

1. Develop a model describing the socio-economic impact of Research Infrastructures and of their related financial investments. The model should be adaptable to a broad range of scientific domains and types of infrastructures. It should contribute to a common approach at international level and facilitate investments in Research Infrastructures by funding agencies and other stakeholders. Proposals will take stock of the different existing models for research infrastructures and integrate, as appropriate, their findings in one single model. The activity should take into account the work of the Research Infrastructure Socio-Economic Impact Working group, being established by the OECD Global Science Forum, and involve major key international players in this domain.
2. European support to the Research Data Alliance, RDA: Proposals are expected to support the development of global interoperable research data infrastructures that will greatly benefit the coordination at European level addressing all the points below. The objective is (a) support to the RDA secretariat for logistics, open access to RDA reference documents and dissemination activities (b) support the emergence of building blocks of an open, interoperable data infrastructure fostering interoperability across regions, organisations and scientific disciplines (c) support ESFRI infrastructures and new communities to engage in Open Science and data sharing principles. In particular, the proposal activities should provide financial support of the organisation and coordination of European stakeholders' active participation and contribution to the Research Data Alliance[2].

At least a proposal per area will be selected. The Commission considers that proposals requesting a contribution from the EU of up to EUR 1.5 million for the first area and between EUR 3 and 3.5 million for the second area (RDA) would allow this topic to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

This activity will help to:

- Develop cooperation with key international partners for research infrastructures;
- Enhance the role of the Union in international organisations and multilateral fora.

For the first area (model for socio-economic impact) further expected impact of the action is the enhancement of partnerships between policy makers, funding bodies, academia and industry and the promotion of the development of appropriate tools in support of decision making.

For the second area (European support to RDA) further expected impact of the action is the following: Europe will be in a leading position in enabling the use of the world's store of research data in multi-disciplinary, data intensive global scientific collaborations. It will help the development and adoption of relevant international open standards based on the best practices of a large spectrum of research communities. It will engage research communities at early stages of standards development and address common data requirements for new services bringing together users and technology providers. It will promote sustainable models for research data sharing and install trust in the adopted solutions.

Cross-cutting Priorities:

Socio-economic science and humanities

International cooperation

Open Science

[1]COM (2012) 392 final

[2]In line with the conditions set out in Part K of the General Annexes

H2020	Excellent science	H2020-MSCA-RISE-2016	**05-04-2017**

MARIE SKŁODOWSKA-CURIE RESEARCH AND INNOVATION STAFF EXCHANGE

Topic Description

Objective:

The RISE scheme will promote international and inter-sector collaboration through research and innovation staff exchanges, and sharing of knowledge and ideas from research to market (and vice-versa).

The scheme fosters a shared culture of research and innovation that welcomes and rewards creativity and entrepreneurship and helps to turn creative ideas into innovative products, services or processes.

Scope:

RISE involves organisations from the academic and non-academic sectors (in particular SMEs), based in Europe (EU Member States and Associated Countries) and outside Europe (third countries).

Support is provided for the development of partnerships in the form of a joint research and innovation project. This is aimed at knowledge sharing via international as well as intersectoral mobility, based on secondments of research and innovation staff (exchanges) with an in-built return mechanism.

The organisations constituting the partnership contribute directly to the implementation of a joint research and innovation project by seconding and/or hosting eligible staff members. Secondments shall always take place between legal entities independent from each other[1].

RISE should exploit complementary competences of the participating organisations, as well as other synergies, and enable networking activities, organisation of workshops and conferences to facilitate sharing of knowledge, new skills acquisition and career development for research and innovation staff members.

RISE projects can focus either on one dimension of mobility (intersectoral / international), or include a combination of both.

Exchanges can be for both early-stage and experienced researchers' levels and can also include administrative, managerial and technical staff directly involved in the research and innovation activities of the proposal.

Support for the exchanges between institutions within Europe (EU Member States and Associated Countries) covers only intersectoral secondments.

Exchanges with institutions from and to third countries can be intersectoral as well as within the same sector.

Secondments between institutions located in third countries or within the same EU Member State or Associated Country will not be supported.

Expected Impact:

At staff member level:

- Increased set of skills, both research-related and transferable ones, leading to improved employability and career prospects both in and outside academia
- Increase in higher impact R&I output, more knowledge and ideas converted into products and services
- Greater contribution to the knowledge-based economy and society

At organisation level:

- Enhanced cooperation and transfer of knowledge between sectors and disciplines
- Strengthening of international and intersectoral collaborative networks
- Boosting of R&I capacity among participating organisations

At system level:

- Increase in international, interdisciplinary and intersectoral mobility of researchers in Europe
- Strengthening of Europe's human capital base in R&I
- Increase in Europe's attractiveness as a leading destination for R&I
- Better quality R&I contributing to Europe's competitiveness and growth

Cross-cutting Priorities:

Socio-economic science and humanities

International cooperation

Gender

H2020	Societal Challenges	H2020-DS-2016-2017	25-04-2017 24-08-2017

DIGITAL SECURITY FOCUS AREAS

Scene Setter:

ICT-driven transformations bring opportunities across many important sectors but also vulnerabilities to critical infrastructures and digital services, which can have significant consequences on the functioning of society, economic growth and the technological innovation potential of Europe. These challenges are being addressed through innovative approaches that cross the boundaries of individual H2020 pillars, calls and challenges. Therefore the main research & Innovation activities in Digital Security are grouped in a dedicated focus area cutting across LEITi ICT and Societal Challenges parts of the work programme, including evidently the Societal Challenge 7 on "Secure Societies", but also the Societal Challenge 1 on "Health, demographic change and wellbeing".

Topics:

1. ***DS-06-2017: Cybersecurity PPP - Cryptography**: RIA Research and Innovation action, Single stage, Deadline 25 April 2017;*
2. ***DS-07-2017: Cybersecurity PPP - Addressing Advanced Cyber Security Threats and Threat Actors**: IA Innovation action, RIA Research and Innovation action, Single stage, Deadline 24 August 2017;*

***DS-08-2017:Privacy, Data Protection, Digital Identities**: IA Innovation action, Single stage, Deadline 24 August 2017.*

H2020	Industrial Leadership	H2020-IOT-2016-2017	April 25, 2017

INTERNET OF THINGS

TOPIC

1. **IoT-03-2017: R&I on IoT integration and platforms:** RIA Research and Innovation action. Single-Stage. Deadline 25 April, 2017

H2020	SOCIETAL CHALLENGES	H 2020- SEC 2016-2017	*24 August 2017;*

CALL: SECURITY

1. **SEC-05-DRS-2016-2017:Chemical, biological, radiological and nuclear (CBRN) cluster.** CSA Coordination and support action. *Single stage, Deadline 24 August 2017;*
2. **SEC-07-FCT-2016-2017:Human Factor for the Prevention, Investigation, and Mitigation of criminal and terrorist acts.** RIA Research and Innovation action. *Single stage, Deadline 24 August, 2017;*
3. **SEC-12-FCT-2016-2017: Technologies for prevention, investigation, and mitigation in the context of fight against crime and terrorism.** RIA Research and Innovation action. *Single stage, Deadline* 24 August 2017;
4. **SEC-21–GM-2016-2017:Pan European Networks of practitioners and other actors in the field of security.** CSA Coordination and support action. *Single stage, Deadline 24 August 2017;*
5. **SEC-04-DRS-2017:Broadband communication systems.** PCP Pre-Commercial Procurement. *Single stage, Deadline 24 August 2017;*
6. **SEC-09-FCT-2017:Toolkits integrating tools and techniques for forensic laboratories.** PCP Pre-Commercial Procurement. *Single stage, Deadline 24 August 2017;*
7. **SEC-10-FCT-2017: Integration of detection capabilities and data fusion with utility providers' networks.** IA Innovation action. *Single stage, Deadline 24 August 2017;*
8. **SEC-13–BES–2017:Next generation of information systems to support EU external policies.** PCP Pre-Commercial Procurement. *Single stage, Deadline 24 August 2017;*
9. **SEC-15-BES–2017:Risk-based screening at border crossing.** IA Innovation action. *Single stage, Deadline 24 August 2017;*
10. **SEC-16-BES–2017:Through-foliage detection, including in the outermost regions of the EU.** RIA Research and Innovation action. *Single stage, Deadline 24 August 2017;*
11. **SEC-17-BES-2017:Architectures and organizations, big data and data analytics for customs risk management of the international goods supply chain trade movements.** RIA Research and Innovation action. *Single stage, Deadline 24 August 2017;*
12. **SEC-18-BES–2017:Acceptance of "no gate crossing point solutions".** RIA Research and Innovation action. *Single stage, Deadline 24 August 2017;*

H2020	SOCIETAL CHALLENGES	H2020-CIP-2016-2017	24-08-2017

CALL: CRITICAL INFRASTRUCTURE PROTECTION

Topic:

CIP-01-2016-2017:Prevention, detection, response and mitigation of the combination of physical and cyber threats to the critical infrastructure of Europe. IA Innovation action. *Single stage, Deadlines 25 August 2016; 24 August 2017.*

H2020	Science with and for Society	H2020-SWAFS-2016-17	**30 August 2016** 30 August 2017

CALL: SCIENCE WITH AND FOR SOCIETY

TOPICS:

1. ***SwafS-03-2016-2017: Support to research organisations to implement gender equality plans*:** CSA Coordination and support action. Single-stage. Deadline August 30, 2017;
2. ***SwafS-05-2017: New constellations of Changing Institutions and Actors:*** CSA Coordination and support action. Single-stage. Deadline August 30, 2017.
3. ***SwafS-06-2017: Engaging industry – Champions for RRI in Industrial Sectors*:** CSA Coordination and support action. Single-stage. Deadline August 30, 2017.
4. ***SwafS-08-2017: European Community of Practice to support institutional change:*** CSA Coordination and support action. Single-stage. Deadline August 30, 2017.
5. ***SwafS-10-2017: Putting Open Science into action*:** RIA Research and Innovation action. Single-stage. Deadline August 30, 2017
6. ***SwafS-11-2017: Science education outside the classroom*:** RIA Research and Innovation action. Single-stage. Deadline August 30, 2017
7. ***SwafS-12-2017: Webs of Innovation Value Chains and Openings for RRI*:** RIA Research and Innovation action. Single-stage. Deadline August 30, 2017
8. ***SwafS-13-2017: Integrating Society in Science and Innovation – An approach to co-creation*:** RIA Research and Innovation action. Single-stage. Deadline August 30, 2017.
9. ***SwafS-14-2017: A Linked-up Global World of RRI*:** RIA Research and Innovation action. Single-stage. Deadline August 30, 2017.
10. ***SwafS-21-2017: Promoting integrity in the use of research results in evidence based policy: a focus on non-medical research*:** Coordination and support action. Single-stage. Deadline August 30, 2017.

11. ***SwafS-22-2017: The ethical dimensions of IT technologies: a European perspective focusing on security and human rights aspects:*** Coordination and support action. Single-stage. Deadline August 30, 2017.
12. ***SwafS-23-2017: Responsible Research and Innovation (RRI) in support of sustainability and governance, taking account of the international context:*** Coordination and support action. Single-stage. Deadline August 30, 2017;
13. ***SwafS-24-2017: Trans-national operation of the EURAXESS Service network*:** Coordination and support action. Single-stage. Deadline August 30, 2017;
14. ***SwafS-26-2017: Science4Refugees - Support to highly skilled refugee scientists:*** Coordination and support action. Single-stage. Deadline August 30, 2017;
15. ***SwafS-27-2017: Implementing a European Train-the-trainers initiative with regard to Ethics and Research Integrity:*** Coordination and support action. Single-stage. Deadline August 30, 2017

H2020	Industrial Leadership	H2020-CleanAir-2015-1	23-01-2018

HORIZON PRIZE – MATERIALS FOR CLEAN AIR

Scope:

In the European Union, the average life expectancy is estimated to be decreased by 8.6 months, because of exposure to particulate matter resulting from human activities. The inhalation of particulate matter can also lead to adverse effects in the respiratory, cardiovascular, immune, and neural systems. In addition to its effects on the human health, particulate matter can also have adverse effects on climate change and ecosystems.

The Horizon Prize on materials for clean air is a €3 million prize that will be awarded to the person or team who can most effectively meet the following challenge: develop the best innovative design-driven material solution to reduce the concentration of particulate matter in urban areas.

Objective:

The objective pursued by this inducement prize is to reduce particulate matter air pollution in urban areas through the development of innovative material solutions. These solutions should be design-driven, affordable and sustainable, and they should demonstrate that they can effectively remove and/or prevent the formation of particulate matter in the atmosphere (vehicle exhaust systems will be excluded).

InformĀcija par finansĀtiem projektiem to rezultĀtiem un ievieģanas gaitu atrodama INTERNETa lappusĀs ï *http://horizon2020projects.com/publications/* *http://cordis.europa.eu/fp7projects_en.htm/* *un* *http://cordis.europa.eu/fp6/projects.htm*,

Darba vietas zinĀtnĀ Eiropas SavienĪbĀ: *http://ec.europa.eu/euraxess/index.cfm/jobs/index/*