



ICT R&I Funding opportunities under H2020, WP2018-20

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European Commission

DG CONNECT – Cloud & Software

European Data Infrastructure (EDI)

*Exploit the data revolution in Europe and
contribute to global growth*

**HPC & Big Data
Test-beds**

**Big Data
Technologies**

**Cloud & Software
Technologies**

LEIT ICT-11a-2018-2019: HPC and Big Data enabled Large-scale Test-beds and Applications (IA)

What are we looking for?

- Large-scale HPC-enabled industrial pilot test-beds supporting BD applications and services
- Combining and/or adapting existing relevant technologies (HPC / BD / cloud) to *optimize the specific features* of processing very large data sets.
- Strong *industrial commitment*
- Fostering *innovation potential and digitisation* on in EU key industrial Sectors: e,g healthcare, manufacturing, energy, etc.
- Budget : *50 M€*
- Proposals expected average size : *12-13 M€*

LEIT ICT-11a-2018-2019: HPC and Big Data enabled Large-scale Test-beds and Applications (IA)

Scope

- Large-scale HPC-enabled industrial pilot test-beds supporting BD applications and services
- Combining and/or adapting existing relevant technologies (HPC / BD / cloud) optimize the specific features of processing very large data sets.
- Massive amounts of diverse types of big data
- Clearly demonstration of innovation and value creation.
- Description of the data assets/standards/ interoperability
- Simple secure access and secure service provisioning of highly demanding data use cases for industry, via the cloud.

LEIT ICT-11a-2018-2019: HPC and Big Data enabled Large-scale Test-beds and Applications

Expected Impact (KPI based)

- *Increase innovation and productivity in target sector*
- *Increase market share of BD technology providers*
- *Effective integration of HPC/BD/Cloud/IoT technologies in the target sector*
- *Widening the use of and access to advanced HPC, big data and cloud infrastructures*
- *Stimulating additional private and public target investments in HPC and BD technologies from industry and MS.*

ICT-11b (IA): the challenge

- A new generation of 'Lighthouse projects' (IA) taking advantage of integration of data processing technologies:
 - Big Data
 - Cloud/edge computing
- Leveraging on IoT data sources and technologies
- Contributing to the build-up of a European data Infrastructure

- Innovation and paradigm shifts for the application domains.
- Large Scale industrial deployments
- Industrial commitment and investments (PPP contractual agreements)

ICT-11b: Impact

- Demonstrated increase of innovation and productivity in the main target sector of the Large Scale Pilot Action
- Increase of market share of Big Data technology providers if implemented commercially within the main target sector of the Large Scale Pilot Action
- Effective integration of HPC/BD/Cloud/IoT technologies in the main target sector(s) of the Large Scale Action, resulting into integrated value chains and efficient business processes of the participating organizations
- Widening the use of and facilitating the access to advanced HPC, big data and cloud infrastructures stimulating the emergence of the data economy in Europe
- Stimulating additional private and public target investments in HPC and Big Data technologies from industry, Member States and Associated Countries, and other sources, as referred to in the contractual arrangements of the HPC and/or the Big Data Value Public Private Partnerships.
- **Now explicitly calling for synergies with other innovation programmes and national/regional initiatives for cooperation and co-funding**

The Call for proposals

ICT-11b-2018-2019

- The Call will open on 26/07/2018
- The Call will close on **14/11/2018** at 17:00 CET
- Budget: 40 M€
- Proposals expected average size (11b): 15-18 M€

- Article 30.3 (Commission right to object to transfers or licensing) to be added to all Grant Agreements

ICT-12 Big Data Technologies and extreme-scale analytics

a) Research and Innovation Actions

Challenge: Rapidly increasing volumes of diverse data from distributed sources create challenges for extracting valuable knowledge and commercial value from data.

This calls for novel methods, approaches and engineering paradigms in analytics and data management.

Impact

- Increased productivity and quality of system design and software development;
- Demonstrated, significant increase of speed of data throughput and access, as measured against relevant, industry-validated benchmarks;
- Demonstrated adoption of results of the extreme-scale analysis and prediction in decision-making (in industry and/or society)

ICT-12 Big Data Technologies and extreme-scale analytics

b) One CSA

Ensure coordination between the different existing activities in HPC/BD/Cloud technologies, including Public-Private Partnerships, digital innovation hubs, and relevant national and regional initiatives, in particular the European Network of National Big Data Centres of Excellence

Impact: Effective cooperation of the participating initiatives and platforms as measured by the jointly participating members/users, countries/regions/cities and projects, and the organisation of common events and joint initiatives, resulting in an increased prevalence of data value chains and related technologies (HPC/BD/Cloud/IoT) in the national and regional strategies.

The Call for proposals

ICT-12-2018-2019

- The Call will close on **17/04/2018** at 17:00 CET
- Budget:
 - **ICT-12a (RIA) 30 M€**
 - **ICT-12b (CSA) 1 M€**
- Proposals expected average size: 3-6 M€ (RIA)
- Proposal expected average size: 1 M€ (CSA)
- Article 30.3 (Commission right to object to transfers or licensing) to be added to all Grant Agreements

ICT-13 Supporting the emergence of data markets and the data economy

a) Innovation Actions

Challenge: Fostering the European Data Economy by setting-up data platforms of industrial and/or personal nature facilitating data sharing and trade so to create new business opportunities.

Expected Impact:

- Personal data protection is improved, and compliance with GDPR
- Citizens' trust is improved across data platforms and Big Data applications.
- Better value-creation from personal and proprietary/industrial data.
- 20% annual increase in the number of data provider organisations in the personal and industrial data platforms
- 30% annual increase in the number of data user/buyer organisations using industrial data platforms
- 50% annual increase in number of users in the personal data platforms
- 20% annual increase in volume of business (turnover) channelled through the platforms

ICT-13 Supporting the emergence of data markets and the data economy

b) Research & Innovation Actions

Challenge:

- Provide secure, privacy respecting operations for industrial and personal data platforms.
- Make data providers confident in participating in data sharing mechanism
- Provide citizens privacy safeguards
- Make industrial/personal data platform GDPR compliant

Expected Impact:

- Personal data protection is improved, and compliance with GDPR
- Citizens' trust is improved across data platforms and Big Data applications.
- Better value-creation from personal and proprietary/industrial data.
- 20% annual increase in the number of data provider organisations in the personal and industrial data platforms
- 30% annual increase in the number of data user/buyer organisations using industrial data platforms
- 50% annual increase in number of users in the personal data platforms
- 20% annual increase in volume of business (turnover) channelled through the platforms

ICT-13 Supporting the emergence of data markets and the data economy

c) One Coordination and Support Action

Challenge:

- Support the emergence of a data economy by ensuring SME inclusion, entrepreneurial support and trust-building, address the data skills gap. The CSA action shall liaise with and complement related initiatives, and shall support and work in collaboration with the platforms under ICT-13 a).
- In line with the Communication on ICT Standardisation Priorities for the Digital Single Market, promote standardization, interoperability and policy support in the field of data and federated/networked computing systems.

Expected Impact:

- Demonstrated success stories among clients as a result of the services offered by the CSA and at least 50 clients (e.g. start-ups, SMEs) served annually in partner finding, matchmaking, venture capital raising, training, coaching etc.
- Improved standardisation and interoperability especially in the context of cross-sector applications and technology convergence (data, Cloud, IoT, connectivity a.o.)

The Call for proposals

ICT-13 a)

- The Call will open on 16/10/2018
- The Call will close on **28/03/2019** at 17:00 CET
- **Budget: 48 M€**
- Proposals expected average size: 4-6 M€

ICT-13 b) and c)

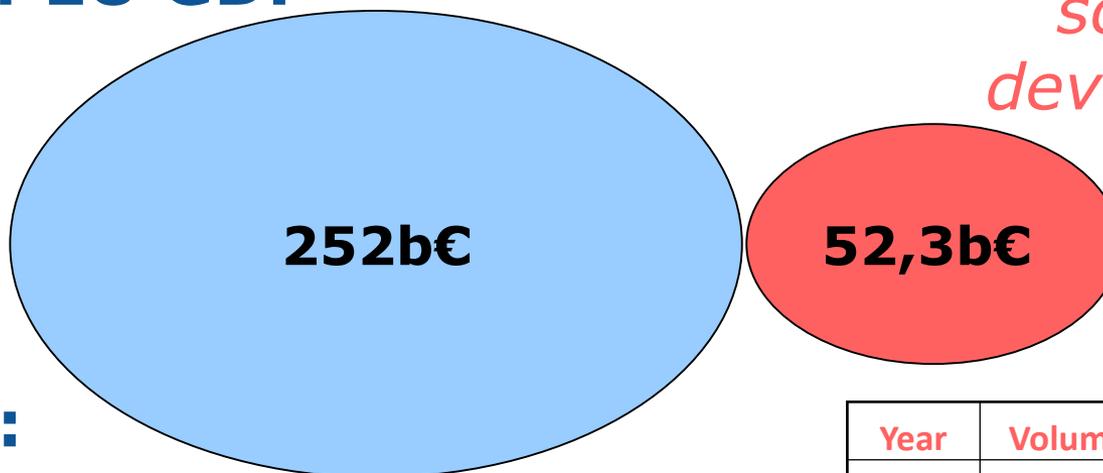
- The Call will open on 31/10/2017
- The Call will close on **17/04/2018** at 17:00 CET
- Budget:
 - **ICT-13b (RIA) 10 M€**
 - **ICT-13c (CSA) 3 M€**
- Article 30.3 (Commission right to object to transfers or licensing) to be added to all Grant Agreements

ICT-16 Software Technologies

Impact of Software in the EU economy

Software and Software-based services market (SSBS)

- **1,8% of EU GDP**



- **Market Growth:**

2009-2015 → 1,5%

Expected 2015-2020 →
2,9%(290b EUR in 2020)

Year	Volume (b€)	SBSS share
2015	52,3	20,80%
2020	57,2	19,70%

ICT-16 Software Technologies

Several sources of input



The Economic and Social Impact of Software & Services on Competitiveness and Innovation (SMART 2015/0015)

FINAL REPORT

 A study prepared for the European Commission DG Communications Networks, Content & Technology by:









NESSI

 Networked European Software and Services Initiative

SOFTWARE CONTINUUM

 Recommendations for ICT Work Programme 2018+

 11 May 2016 (Version 2)

Research Priorities in the area of Software Technologies



 Prepared by Diomidis Spinellis





 Available online at www.sciencedirect.com

ScienceDirect

 Procedia Computer Science 97 (2016) 34 – 42

Procedia

 Computer Science

 CLOUD FORWARD: From Distributed to Complete Computing, CF2016, 18-20 October 2016, Madrid, Spain

Current and Future Challenges of Software Engineering for Services and Applications

 Giuliano Casale¹, Cristina Chesta², Peter Deussen³, Elisabetta Di Nitto^{4,*}, Panagiotis Gouvas⁵, Sotiris Koussours⁶, Vlado Stankovski⁷, Andreas Symeonidis⁸, Vlassios Vlassios⁹, Anastasios Zafeiropoulos⁹, Zhiming Zhao⁹

*Cluster of European Projects on Software Engineering for Services and Applications
<http://technical.ec.europa.eu/ict/software-engineering-for-services-and-applications/>

Abstract

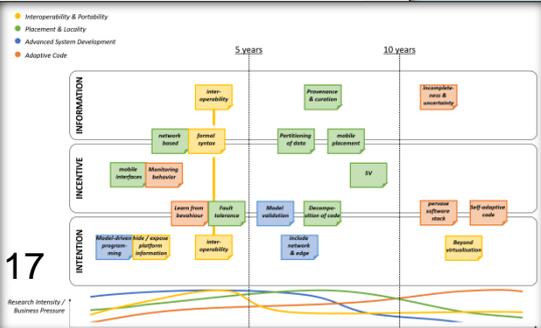
 ICT (Information and Communication Technology) and, in particular, software is more and more pervasive and it cannot be considered anymore as a minor element of a complex system. In domains like cloud, big data, IoT (Internet of Things), CPS (Cyber-Physical Systems) in the core element. We need to consolidate the software engineering disciplines which, despite the impressive achievements in the area of software technology, is probably one of the youngest scientific and technological disciplines with almost 70 years of history. This paper summarizes the challenges that the Software Engineering for Services and Cloud Computing is encountering in relevant.

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Keywords: Research Challenges; Collaborative; Software Development

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 Research Intensity / Business Pressure



Innovation Potential of Software Technologies in the context of Horizon 2020


 THE IRISH SOFTWARE RESEARCH CENTRE



ICT-16 Software Technologies

Challenge:

- *The impact of software defined and virtualized infrastructures in the software development & management processes*
- *Transition from traditional development processes towards new paradigm which treats software, data and compute resources as abstract elements.*
 - Enable data to flow freely over heterogeneous infrastructures in a **scalable, distributed** and **human-understandable** fashion.
- *Increased need for reusable code and software components*

ICT-16: Software Technologies

Research & Innovation Actions (RIA)

10 MEuros

Integrated programming models & techniques for exploiting the potential of virtualised and software defined infrastructures.

- Code and resources (data, computing and networking) abstractions.
- Advanced software systems development.

Innovation Actions (IA)

9 MEuros

Software ecosystems exploiting the potential of existing code bases. Development platforms and mechanisms for code re-usability.

Coordination & Support Actions (CSA)

1 MEuro

- Stakeholders coordination, projects results dissemination, R&I road mapping.**
- Help projects establish software ecosystems and transform their results into exploitable and viable solutions.**

ICT-16 Software Technologies: Expected Impact

- *Research & Innovation Actions (RIA)*
 - Increase the capacity of the European software industry to **exploit the capabilities of virtualised infrastructures through software**.
 - Overcome fragmentation in the European supply base, optimizing investments and use of resources **to yield multi-domain software-based products and related software services through R&I**.
- *Innovation Actions (RIA)*
 - Overcome fragmentation in the European supply base, optimizing investments and use of resources **to yield reusable software-based products and related software services**.
- *Coordination & Support Actions (CSA)*
 - **Creation of a sustainable European forum of stakeholders** representing the Software research, industry and end users.

Provide appropriate metrics for claimed impacts

ICT-15 Cloud Computing

Challenge: Develop competitive cloud solutions based on advanced cloud platforms and services and cloud-based software and data applications, as well as the opportunities brought by considering the edge devices capacities.

Scope:

a) Research and Innovation Actions (RIA)

- New modelling techniques and mechanisms are needed to compose and coordinate resources across heterogeneous clouds.
- Edge computing (fog computing) technologies.
- New management strategies aimed to design and develop an efficient, coordinated, robust, secure and service agnostic management of the set of resources brought by combining cloud, IoT, Big Data and fog computing

b) Coordination and Support Actions (CSA)

- Facilitate awareness of stakeholders in research and policy matters
- Coordinate stakeholders in Cloud Computing and act as support to R&D programmes/activities

2019 Topic, Submission deadline 28 March 2019

ICT-15 Cloud Computing

Expected impact

a) Research and Innovation Actions (RIA)

- i. Contribute to the development of an ecosystem that will respond to the future digitisation needs of industry and the public sector;*
- ii. Assist the development of new cloud-based services and infrastructures in Europe and foster an industrial capability in the cloud computing sector;*
- iii. Create new opportunities to encourage European-based providers to offer cloud-based services based on the most advanced technologies;*
- iv. Leverage research and innovation projects to support the development and deployment of innovative cloud-based services and next generation applications.*

b) Coordination and Support Actions (CSA)

- Creation of a sustainable European forum of stakeholders representing the Cloud Computing research, industry and users.*

Budget: 30 M€ (RIA 28.5M€, CSA 1.5M€)

Projects of 3-5 M€ (RIA)



5G PPP - Addressing 5G as a strategic and global issue

- About 10 years to develop a new network generation, R&I started around 2012 in many countries, Europe at the forefront
- Today, **huge efforts world-wide** in the context of Public-Private partnerships
- Critical for Europe to lead in 5G, both as a **supply centre of excellence** and as an **early adopter through lead markets**
- **Europe has developed its 5G path** on which traction is now being created and **needs to reach its objectives**
- **The 5G PPP is a fundamental building block of the EU 5G Policy strategy**

Public Private Partnership (PPP) R&I Programme

- Industry driven initiative, including vertical industries
- Support EU positioning in global race to 5G
- Up to 700 million € public funding under H2020
 - To be matched by private funding of at least 3.5 billion €
- Support implementation of EU vision and policies (Pre-standardisation, Spectrum, International cooperation, trials and deployment)
- Implementation through 5G Infrastructure Association
- 3 Phases until 2020
- ***BUT NOT BUSINESS AS USUAL!***
Focus on programme results and impact

Collaboration matters!

The projects are the engine of the 5GPPP:

- ✓ Support implementation of EU Vision and policies
- ✓ Populating the 5G association's working groups and collaboration structures
- ✓ Providing substantial inputs (ex: standardization, spectrum, KPIs)
- ✓ Integration to and contribution towards international developments and deployment

Collaboration agreement between projects through Complementary grants, Art 41.4 MGA (in the model of Phases 1 and 2)

- ✓ Joint definition of issues of common interests
- ✓ Sharing of results
- ✓ common approaches to standardization
- ✓ common dissemination and awareness raising activities

More than just projects – it's a PROGRAMME!

5G PPP Phase 3 WP18-20, published

5G R&I for "Long Term Evolution"

User needs, partnerships with vertical industries

Early 5G introduction
Lower frequency bands

Later 5G introduction
Higher frequency bands

Phase 3 b) Integrated Verification Trial
- radio+network+applications -

Kick off at EUCNC
Conference 12-15 June,
Oulu, Fin

5G Connected Cars in EU X
border corridors

Phase 3 a) Verification
Demo/Trial Platform
- Integration radio+ network

Phase I Core Technologies

Phase 2 - Demos
PoC*- Core Techs
Components

*Proof of Concept

Y2015

2016

2017

2018

2019

2020

2021

2022

5G PPP Phase 3 topics closing in 2018

	Title	Closing Dates
ICT-17-2018	5G End to End Facility	31 January 2018
ICT-22-2018	EU-China 5G Collaboration	
EUJ-02-2018	EU-Japan Joint Call - 5G and beyond	
EUK-02-2018	EU-Korea Joint Call - 5G	
ICT-18-2018	5G for cooperative, connected and automated mobility (CCAM)	17 April 2018
ICT-21-2018	EU-US Collaboration for advanced wireless platforms	
ICT-19-2019	Advanced 5G validation trials across multiple vertical industries	14 November 2018

ICT-18-2018: 5G for cooperative, connected and automated mobility (CCAM) - General Context

- **Connected and Cooperative Assisted Mobility (CCAM) identified as a strategic industrial sector in the EU**
 - **5G identified as the connectivity platform of choice (long term) for CCAM use cases, as per the 5G Action Plan**
 - **European Alliance of Telecom and Automotive (EATA) launched by Commissioner Oettinger in September 2016**
 - **Industry has launched the 5GAA**
 - **Member State Support with Letter of Intent, signed at ministerial level in March 2017**
 - **In the short term, non-cellular technology (G5) expected to develop in the EU for early C-ITS requirements**
- ➔ ICT 18 aims at validating 5G for CCAM in this wider techno-policy context**

ICT-18-2018: 5G for cooperative, connected and automated mobility (CCAM) - Scope

- Validation of 5G in a broad CCAM context is realised through cross border trials along 5G corridors
- Core technological innovation expected from 5G, such as (but not limited to):
 - New Radio, new frequency bands
 - C-RAN
 - Mobile Edge Computing
 - network virtualisation
 - new network architecture
 - cross domains data flows
- define options for deployment, taking into account the evolution from earlier cellular technology (e.g. LTE-V2X), and possible co-existence with other technologies (e.g IEEE 802.11p)
- Includes cost/complexity assessment of the various technology deployment options. Identifies who has to invest and who will benefit commercially

ICT-18-2018: 5G for cooperative, connected and automated mobility (CCAM) - Expected Impact

- **Validation of 5G technologies and architecture in an "extended CCAM" context**
- **Validated cost/benefit analysis of cross border 5G deployment enabling CCAM along 5G corridors potentially including several operator's domains**
- **Availability of deployment scenarios and strategies with broad base industry and administration consensus**
- **Identification of spectrum and standardisation gaps. Participation of key European industrial partners of both the ICT and the automotive sectors and with high standardisation impact is desired**

ICT-18-2018: 5G for cooperative, connected and automated mobility (CCAM)

- Opening 31/10/2017
- Closing 17/04/2018
- Target is 2 to 4 projects (12,5-25 M€)
- Type of action: Innovation action
- Special conditions!
 - The limit for a full proposal is 100 pages
 - Complementary grant agreements will be implemented across projects originating from 5G-PPP Phase 3 topics

up to 50 M€

ICT-19-2019: Advanced 5G validation trials across multiple vertical industries - General Context

- **Trials and demonstrations are key to demonstrate 5G applicability to vertical industries and to prepare for mature cross sector business cases**
- **Trials may also be considered in support of the 5G AP Trial Roadmap developed under the 5G PPP**
- **5G technology can only be validated in its fullest extent if used by several applications at the same time with different requirements (cloud like behaviour and isolation)**
- **Multi domain management of resources is important in such shared technology environments, including strong isolation and security aspects**
- **Trials expected to support later releases of 3G PP standards enabling full coverage of vertical requirements**

ICT-19-2019: Advanced 5G validation trials across multiple vertical industries – Scope

RIAs:

- **Trials of various scales, depending on the target technology, demonstrating that performance conforming to 5G PPP KPIs requirements are met in the context of specific vertical use cases**
- **Technology/architecture trials targeting concurrent usage of resource by multiple verticals, addressing eMBB, mMTC, URLLC use cases**
- **To demonstrate that 5G architecture and technologies enabling multi domain management of resources are in line with concurrent vertical performance requirements**
- **Vertical use cases may focus on those outlined in the 5G PPP White paper "5G empowering vertical industries"; High density location and very high data volumes applications should be covered**
- **Preferably implemented over the 5G end to end platforms developed under ICT-17-2018 and contribute to 5G demonstration in the context of large showcasing events**

ICT-19-2019: Advanced 5G validation trials across multiple vertical industries – Scope

CSAs:

- Cooperation of the implemented 5G Research and Innovation Actions (RIA) and Innovation Actions (IA) towards joint leveraging of results:
 - Management and orchestration of 5G PPP project cooperation for horizontal issues of common interests (e.g. KPIs, security, energy efficiency, spectrum, standardisation, societal impact of 5G)
 - Portfolio analysis, coverage, mapping and gap analysis, roadmaps
 - Support to key international co-operation activities (standards, spectrum)
 - Organisation of stakeholder events
 - Monitoring of the openness, fairness and transparency of the PPP process
 - Maintenance of the "5G web site"

ICT-19-2019: Advanced 5G validation trials across multiple vertical industries - Expected Impact

RIAs:

- **Validated core 5G technologies and architectures in the context of specific vertical use cases and deployment scenarios and for differentiated performance requirements**
- **Viable business models for innovative digital use cases**
- **Impactful contributions towards standardisation bodies, involving vertical actors. Participation of key European industrial partners with high standardisation impact is desired**
- **Validation of relevant KPIs linked to specific vertical sectors**
- **Europe 5G know how showcasing**

ICT-19-2019: Advanced 5G validation trials across multiple vertical industries - Expected Impact

CSAs:

- **Organisation of the 5G PPP as a programme**
- **Maximised output and exploitation of 5G PPP project results in key domains (standardisation, spectrum)**
- **Constituency building, stakeholder support, support to key international cooperation events and activities; dissemination, support to relevant stakeholder events; definition of future R&I actions**

ICT-19-2019: Advanced 5G validation trials across multiple vertical industries

- Opening Early September 2018
- Closing 14/11/2018
- Target is 6 to 9 projects (10-15 M€)
- Type of action: RIA (90 M€), CSA (2 M€)
- Special conditions!
 - The limit for a full proposal is 100 pages
 - Complementary grant agreements will be implemented across projects originating from all 5G-PPP Phase 3 topics

up to 92 M€

ICT-21-2018: EU-US Collaboration for advanced wireless platforms (closing 17 April 2018)

- **To establish EU US collaboration on advanced wireless research beyond 5G**
- **To develop notably research roadmaps, workshops, scientific exchanges, tools for experimentation, cross atlantic trials**
- **Proposals to foresee projects entities twinning, including NSF PAWR projects**
- **Expected impact: reinforced cooperation with the US in Wireless research towards beyond 5G connectivity systems and services**
- **Target: 1 CSA project (EU) with total funding up to 2 M€**

ICT-20-2019-2020: 5G Long Term Evolution (closing March 2019)

- **RIA projects**
- **The longer term vision targets the realisation of pervasive mobile virtual services**
- **3 strands:**
 - **Extension of virtualisation technologies and architectures for Network Management**
 - **Security**
 - **Radio network enabling technologies, architectures and advanced signal processing**

ICT-23-2019: EU-Taiwan 5G collaboration (Closing 15 January 2019)

- **Conduct 5G trials addressing technology and business validation of 5G end-to-end connectivity and associated management from applications in Taiwan**
- **Expected Impact**
 - **Validation of core 5G technologies and architectures in the context of specific vertical use cases.**
 - **Leverage cooperation towards industrial consensus between EU and Taiwan**
 - **Accelerate the pre-commercialization trials of the use cases introduced by IMT-2020 (eMBB, mMTC, URLLC)**
- **RIA projects with total funding up to 4 M€**



**NEXT
GENERATION
INTERNET**

Next Generation Internet (NGI)

Reshaping the internet over the next 10-15 years

Future
Interactive
Technologies

Multilingual and
inclusive NGI

Artificial
Intelligence

NGI CORE

Internet of Things

Future social networks,
media and platforms

ICT-24-2018-2019: Next Generation Internet – An Open Internet Initiative

What are you looking for? – The NGI initiative...

- *aims at developing a **more human-centric Internet***
- ***supporting values** of openness, cooperation across borders, decentralisation, inclusiveness and protection of privacy;*
- ***giving the control back to the users** in order to increase trust in the Internet*
- *should provide **more transparent services, more intelligence, greater involvement and participation***
- *leading towards **an Internet that is more open, robust and dependable**, more interoperable and more supportive of social innovation*

ICT-24-2018-2019: Next Generation Internet – An Open Internet Initiative

R&I project implementation through sub-granting

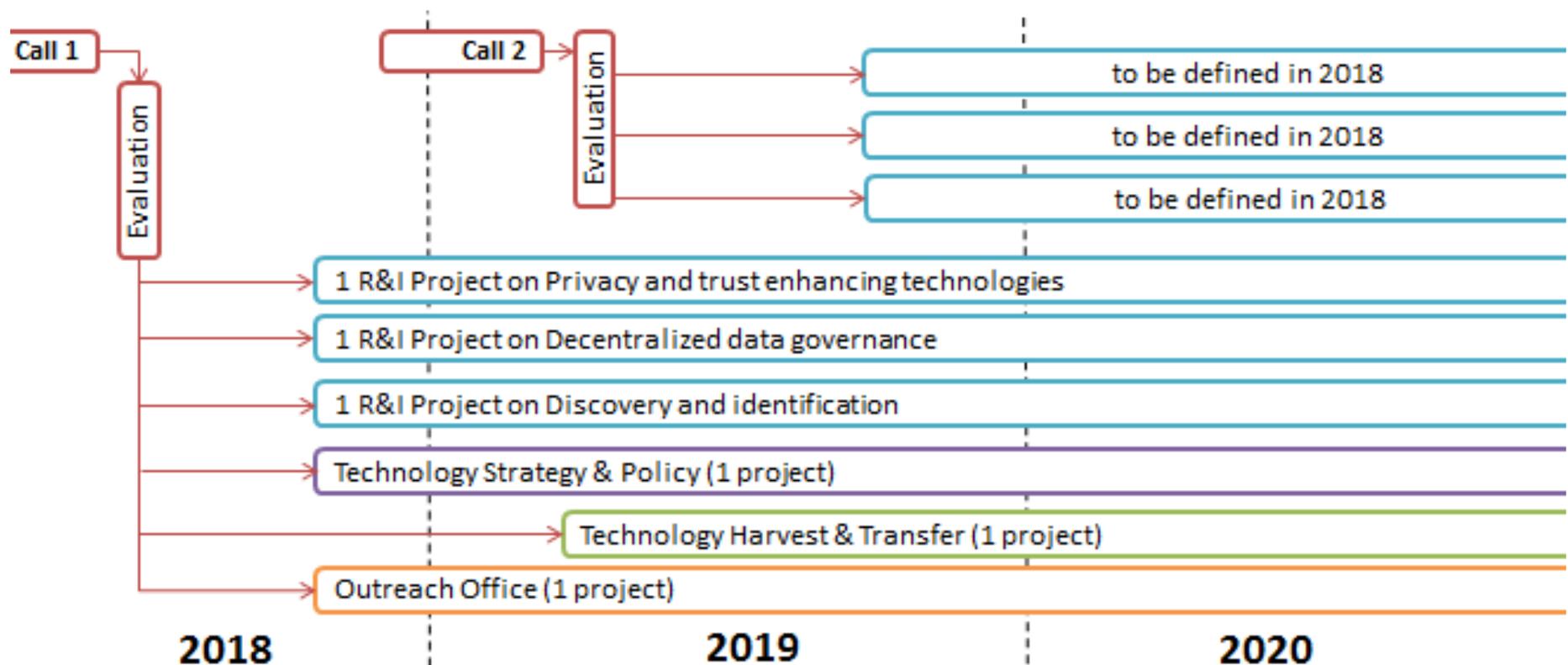
Project submitted to EC call:
Euro 7-7.5 mil, 2-3 years,
80% for sub-grantee
Pan European
Procedures adapted to stakeholders
Run by organisations in the ecosystem



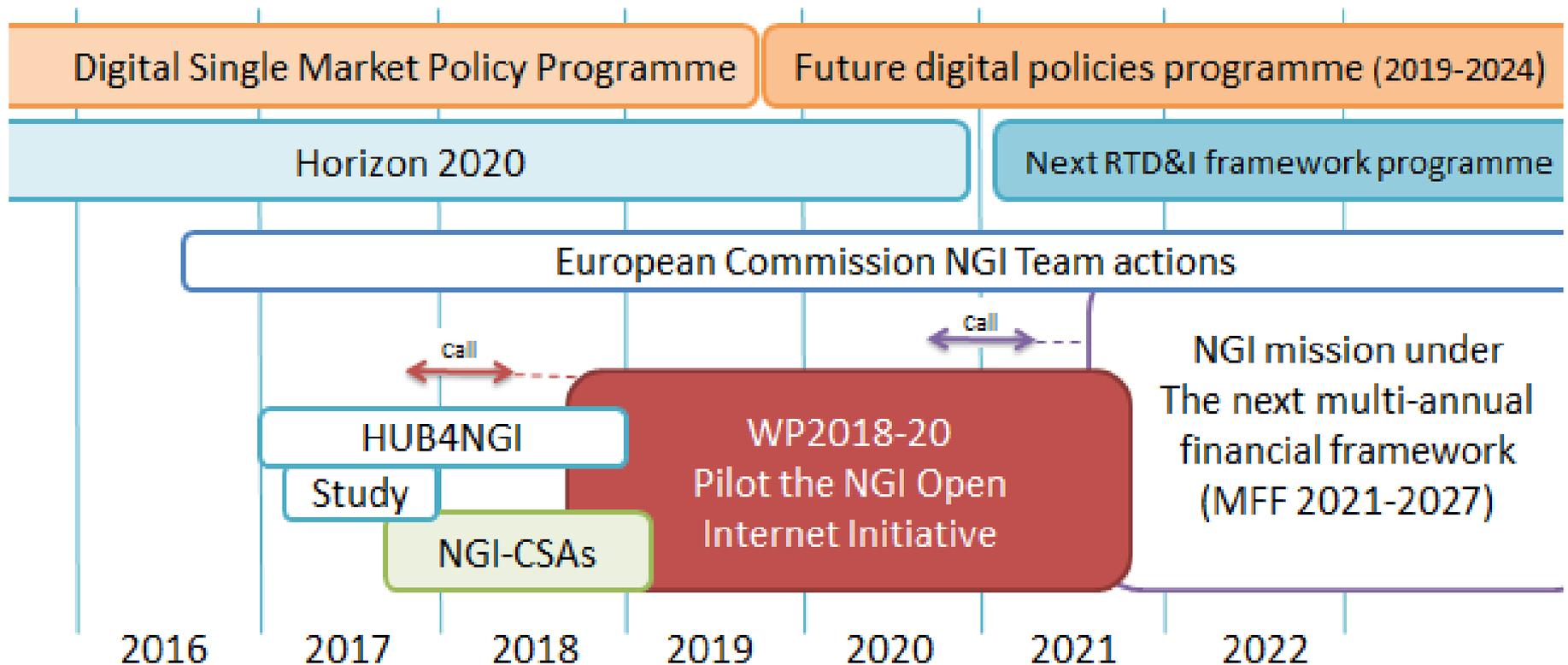
- Activities include inter-alia:
- Call for & selection of top-teams
 - Monitoring
 - Mentoring, Coaching, Sharing
 - Communications
 - Community building

- Sub-grantee:
- One legal entity with one specific project
 - **Young researchers from outstanding academics, hi-tech startups and SMEs**
 - Carry out the R&I work
 - 50.000 – 200.000 Euro, 9 – 12 month

Programme logic of objective ICT-24



Roadmap



ICT-25-2018-2020 Interactive Technologies (CSA)

What are we looking for?

Community and ecosystem building in Interactive Technologies

- *Augmented Reality, Virtual Reality, Speech Recognition, Haptics,...*
- *Coordinate stakeholders*
- *Design, build, use and promote a platform to gather and share knowledge, algorithms and tools*
- *Supporting research and development teams (50k€)*

Deadline 17 April 2018

ICT-25-2018-2020 Interactive Technologies (RIA)

What are we looking for?

Future interaction

focus either on:

- *multi-user interactions*
researching and developing technologies augmenting human interaction in groups within both professional and private contexts.
- *higher quality experiences*
mobile, additional senses, higher accuracy, bio or environmental sensors...

Deadline 14 November 2018

ICT26-Artificial Intelligence

What are you looking for?

- **RIA – Research and Innovation Action**

!!!! Including: Research – Innovation – Coordination – Strategy building

- **Proposal size: 20M€**

- **Critical components:**

- **Ecosystem building**

⇒ mobilise the major players in Europe to lead the platform

⇒ Build in mechanisms to involve all European AI stakeholders

- **Select few major representative challenges (techno / appli.) to drive the platform development [should cover from Research to exploitation]**

- **Research – fill gaps / build on strength**

- **Mechanism to develop the platform (processes, structure, sw,etc.)**

- **Mechanism to exploit the platform**

- **Mechanism to develop strategy – involving the relevant stakeholders (incl. non-technical aspects)**

What do you <u>NOT</u> want?	What do you want?
Standard RIA project	This is a program covering from Research to Exploitation & Community & Strategy building
Projects focusing on a single specific application/technology	It should include a set of substantial and representative challenges It should combine Research and Innovation + community&strategy building
Small consortia	The major labs (RTOs, Academia) and major industrial players should be on board Cover whole value chain/network
Pure monolithic technology platform	Rather an aggregation of/ and link to existing tools and resources - ecosystem
Simple repository of SW and Data	The service layer is key

ICT-27 Internet of Things

- *Scope: A support action which will support IoT policies under the Digitising European Industry strategy especially in the context of human-centered IoT.*
- *Expected Impact:*
 - Broad consensus on a strategy on human-centred IoT evolution improving usability and user acceptance, notably through strengthened security, privacy and user trust.
 - Identified roadmap that enables taking the right measures to put Europe in the lead for IoT research and innovation through a long-term evolution of IoT platform strategy and through scientific progress enabling novel, future semi-autonomous IoT applications.
 - Capacity to create and sustain a vibrant technology cluster involving all stakeholders including industry, technology, and end-users.
- *One project of 1.5 M*

ICT-28 Future Hyper-connected Sociality

Specific Challenge & Scope

- Foundation for next generation Social Media platforms towards a "Global Social Sphere", based on peer-to-peer/decentralised, community approaches and free/open source principles, and integrating new technologies
- Positive vision as to the role of Social Media & Networks
- Provide measures against fake news and stimulate trust
- Enhance the role of prosumers, communities and small businesses
- Contribute to overcome the current concentration of power by central intermediaries

ICT-28-2018 – four subtopics, 21 MEUR

Trustful and Secure Data Ecosystem for SM Media (IA) – 10 MEUR

- a) Content verification. Development of intermediary-free solutions addressing information veracity for Social Media
- b) Secure Data Ecosystem. Creation of media and social media data business and innovation ecosystem

Future Social Networks (RIA) – 10 MEUR

- c) Support of new SM initiatives. Transition to peer-to-peer federated social networks based on smart decentralised architectures; open decentralised platform enabling the development of innovative services

Federation of Social Media actors (CSA) – 1 MEUR

- d) Support of SM ecosystem community building

ICT-28-2018 Expected impact

- Increased trust and improved governance and value for Social Media and Media
- New federated Social Media platforms and innovative media data driven services
- Societal change towards digital literacy and citizen participation

Contribution from the EU of maximum 2,5 MEUR for subtopic a), 5 MEUR for subtopics b) and c) and 1 MEUR for subtopic d). This does not preclude submission and selection of proposals requesting other amounts.

At least one proposal will be selected for subtopics a) and b). Proposals should clearly state which subtopic they address

ICT-29-2018: A multilingual Next Generation Internet

Budget: 25 MEUR

- *a) Innovation Action: A **European Language Grid***
Budget: 7 MEUR → one action
- *b) Research and Innovation Actions: **Domain-specific/challenge-oriented Human Language Technology***
Budget: 18 MEUR → several actions

a) IA: A European Language Grid

- i. architecture and components for a public, open and interoperable grid connecting resources and tools to support effective development and deployment of language technologies (software and services) across Europe*
- ii. Coordinate the work of European Language grid*
- iii. Pilot the European Language Grid ... through small scale demonstrators (mini-projects for third parties)*
- iv. Establish competence centres / nodes in Member States*

b) RIA: Domain-specific/challenge-oriented Human Language Technology

- *researchers and industrial users of language technologies working together on R&I challenges:*
 - **in a specific sector of high commercial and/or societal impact, or**
 - **a technological challenge common/relevant to several sectors**
- *challenges defined by industrial users*
- *aim of sectorial projects: create a sustainable ecosystem of multilingual applications and services tailored for the specific needs of the addressed sector*

ICT-31-2018-2019: EU-US collaboration on NGI

What are you looking for? The aim is...

- *to build upon the EU-US collaboration in previous work programmes in the area of research experimentation*
- *to reinforce cooperation and strategic partnerships in the area of Next Generation Internet*
- *to establish a continuous dialogue among the key actors in the US and European programmes*
- *to implement focused projects for joint developments (call 2019)*

ICT-31-2018-2019: EU-US collaboration on NGI

NOT a joint Call:

- **EC funds the EC side** and the NSF is considering matching funds and actions for the US side
- Aim is the **exchange of knowledge** rather than transfer of people (i.e. meetings, short fellowships etc.)

This collaboration will be implemented in accordance with the "Implementation arrangement between the European Commission and the government of the United States of America cooperation between researchers funded separately by the European Union's and the United States framework programmes on research and innovation" signed on 17 October 2016.

ICT-31-2018-2019: EU-US collaboration on NGI

THINK TANK

- *Organise workshops and other support activities*

FELLOWSHIP PROGRAMME

- *Support 3 to 6 months fellowships for Internet researchers.*
- *Broaden the understanding of different approaches, perspectives and values,*

→The project will only provide financial support for travel and subsistence, and only citizens of the EU and associated countries will be eligible for funding.

Future outlook: Call 2019 - RIA 'Joint Experimentation'

ICT 2020 topics

European Data Infrastructure: HPC, Big Data and Cloud technologies

- *ICT-12-2020 Big Data technologies and extreme-scale analytics*
- *ICT-15-2020 Cloud Computing*
- *ICT-40-2020 Advanced testbeds for innovative cloud technologies*

5G

- *ICT-20-2020 5G Long Term Evolution*
- *ICT-41-2020 Network innovations with 5G third party services*
- *ICT-42-2020 5G core technologies innovation*
- *ICT-43-2020 EU-Brazil 5G collaboration*

Next Generation Internet

- *ICT-25-2020 Interactive Technologies*
- *ICT-26-2020 Artificial Intelligence: Consolidation of the European AI-on-demand platform*
- *through Research and Use-cases*
- *ICT-27-2020 Internet of Things*
- *ICT-44-2020 Next Generation Media*
- *ICT-30-2020 An empowering, inclusive Next Generation Internet*

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