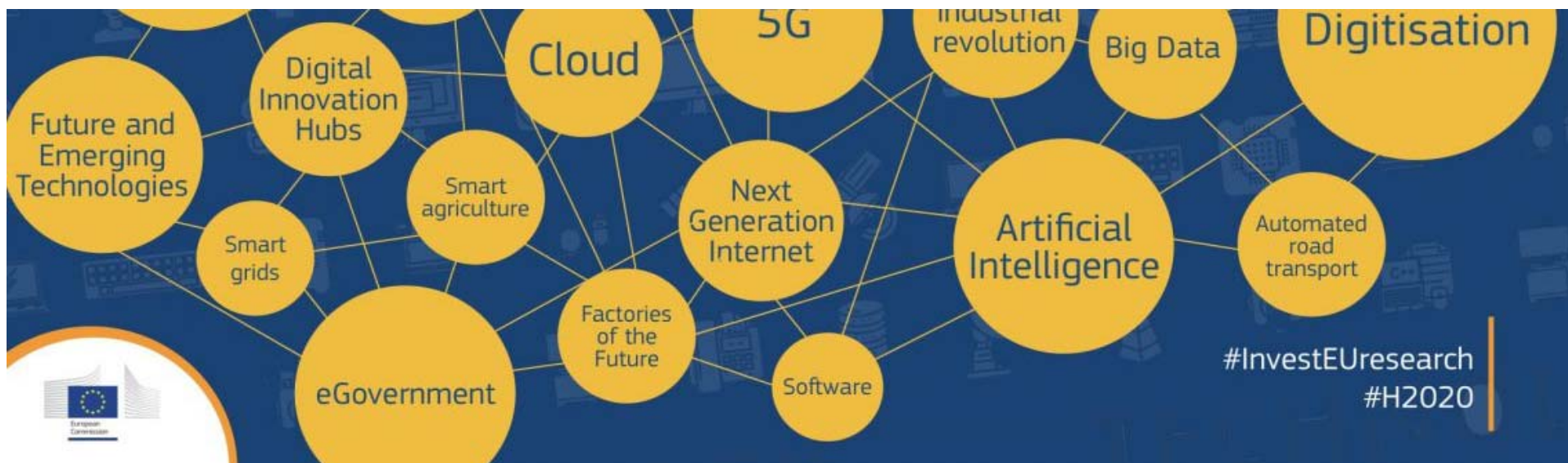




L'area ICT di Horizon 2020

26 novembre 2019



Francesco Laera

Commissione europea - Rappresentanza a Milano

Considerazioni generali

Temi prioritari 2018-2020

- **Intelligenza artificiale** → 400 milioni di euro su IA e robotica (pilot e test su ospedali smart, guida automatizzata, innovation hub per le PMI).
- Tecnologie digitali per rispondere alle **sfide della società** → 120 milioni di euro su salute, mobilità, energia, sicurezza.
- 5G → corridoi europei transfrontalieri.
- Next Generation Internet → Internet antropocentrico, aperto, decentralizzato, inclusivo, rispettoso della privacy.
- Blockchain → potenziale enorme per PA, imprese e società in generale.

ICT nel programma di lavoro 2018-2020

- Riguarda **tutta** la catena dell'innovazione, dalla ricerca di base alla commercializzazione:

Contributo dell'ICT alla ricerca "a monte" e all'innovazione → Pilastro "Eccellenze scientifiche", in particolare *future and emerging technologies* (FET) e *European research infrastructures* (eInfrastructures)

R&I su tecnologie ICT generiche → Pilastro "Leadership in Enabling and Industrial Technologies" (LEIT)

R&I multidisciplinari che fanno uso delle ICT per rispondere alle sfide del futuro → Pilastro "Societal Challenges"

Cosa cambia rispetto al passato?

(1/2)

- Struttura del programma di lavoro resta in linea con quelle precedenti di Horizon 2020.
- Qualche novità:

A) European Innovation Council (pilot) che raggruppa diversi schemi di sostegno all'innovazione (*SME Instrument, FTI, FET Open, Horizon Prizes*)

- Approccio **bottom-up** per le attività di sostegno alle PMI innovative raggruppate all'interno dello SME Instrument;
- FET Open combinerà ambizioni scientifiche di alto livello con implicazioni tecnologie concrete.

Cosa cambia rispetto al passato?

(2/2)

B) Focus areas → numero ristretto di grandi azioni che superano i confini dei sottoprogrammi specifici → allineamento bandi e sinergie con progetti in corso

- costruire un futuro a bassa emissione di CO₂ e resistente ai cambiamenti climatici → 3,7 miliardi €
- economia circolare → 1 miliardo €
- digitalizzazione e trasformazione dell'industria e dei servizi europei → 1,8 miliardi €
- sicurezza e cybersecurity → 1 miliardo €

Bandi ICT in Horizon 2020

ICT in “Excellent science”

(1/2)

Tecnologie del futuro e emergenti (FET)

- FET Open → 40% di tutto il budget FET di Horizon, bottom-up, parte del pilota European Innovation Council nel WP2018-20, copre tutti i settori tecnologici
- FET Proactive → sostegno alle tecnologie emergenti. Due bandi: High Performance Computing e Boosting emerging technologies
- FET flagships → Oltre ai progetti Graphene e Human Brain si aggiunge un terzo su Quantum Technologies

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
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| Excellent Science | | | | | | |
|--|---|-------------------------|----------------------------------|----------|----------------------|----------|
| Future and Emerging Technologies (FET) | | | | | | |
| FET Open: novel ideas for radically new technologies | | | | | | |
| FETOPEN-01-2018-2019-2020 | FET-Open Challenging Current Thinking | 181.2 163.3 354.2 | 07/11/17 | 16/05/18 | 24/01/19 18/09/19 | 13/05/20 |
| FETOPEN-02-2018 | FET-Open Coordination and Support Actions | 2.0 | 07/11/17 | 11/04/18 | | |
| FETOPEN-03-2018-2019-2020 | FET Innovation Launchpad | 2.5 2.7 3.0 | 07/11/17 07/11/17 09/10/19 | 16/10/18 | 08/10/19 | 14/10/20 |

| FET Proactive topics in the EIC Enhanced Pilot (2019-2020) | | | | | | |
|---|---|------|----------|----------|--|----------|
| FETPROACT-EIC-07-2020 | FET Proactive: emerging paradigms and communities | 50.0 | 19/11/19 | | | 22/04/20 |
| FETPROACT-EIC-08-2020 | Environmental Intelligence | 18.0 | 19/11/19 | | | 22/04/20 |
| The topic(s) below are not part of the European Innovation Council Enhanced Pilot | | | | | | |
| FETPROACT-09-2020 | Neuromorphic computing technologies | 15.0 | 19/11/19 | | | 22/04/20 |
| FET Proactive - High Performance Computing | | | | | | |
| FETHPC-01-2018 | International Cooperation on HPC | 4.0 | 01/02/18 | 15/05/18 | | |
| FETHPC-04-2020 | International Cooperation on HPC | 0.5 | 19/11/19 | | | 22/04/20 |

| FET Flagships - Tackling grand interdisciplinary science and technology challenges | | | | | | |
|--|-----------------------------------|------|----------|--|--|----------|
| FETFLAG-04-2020 | Quantum Flagship - ERA-NET Cofund | 15.0 | 06/02/20 | | | 07/05/20 |

ICT in “Excellent science”

(2/2)

Infrastrutture di ricerca (FET)

- realizzare lo European Open Science Cloud
- integrazione e apertura tra le infrastrutture di ricerca di interesse europeo
- infrastruttura dei dati europea → HPC
- dalla scienza aperta all'innovazione aperta

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
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Research Infrastructures

Implementing the European Open Science Cloud

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|-------------------|--|------|----------|--|--|----------|
| INFRAEOSC-03-2020 | Integration and consolidation of the existing pan-European access mechanism to public research infrastructures and commercial services through the EOSC Portal | 40.9 | 19/11/19 | | | 22/04/20 |
|-------------------|--|------|----------|--|--|----------|

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|-------------------|---|------|----------|--|--|----------|
| INFRAEOSC-07-2020 | Increasing the service offer of the EOSC Portal | 24.0 | 19/11/19 | | | 22/04/20 |
|-------------------|---|------|----------|--|--|----------|

Integrating and opening research infrastructures of European interest

| | | | | | | |
|----------------------|---|-------|----------|----------|----------|--|
| INFRAIA-01-2018-2019 | Integrating Activities for Advanced Communities | 101.5 | 05/12/17 | 22/03/18 | | |
| | | 125.0 | 14/11/18 | | 20/03/19 | |

| | | | | | | |
|-----------------|---|-------|----------|--|--|----------|
| INFRAIA-02-2020 | Integrating Activities for Starting Communities | 115.0 | 28/11/19 | | | 17/03/20 |
|-----------------|---|-------|----------|--|--|----------|

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|-----------------|---|------|----------|--|--|----------|
| INFRAIA-03-2020 | Pilot for a new model of Integrating Activities | 45.0 | 28/11/19 | | | 17/03/20 |
|-----------------|---|------|----------|--|--|----------|

Demonstrating the role of Research Infrastructures in the translation of Open Science into Open Innovation

| | | | | | | |
|--------------------|--|-----|----------|--|----------|--|
| INFRAINNOV-01-2019 | Stimulate the innovation potential of SMEs | 8.0 | 16/10/18 | | 29/01/19 | |
|--------------------|--|-----|----------|--|----------|--|

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|--------------------|--|-----|----------|--|----------|--|
| INFRAINNOV-02-2019 | Network of research infrastructure Industrial Liaison and Contact Officers | 1.5 | 14/11/18 | | 20/03/19 | |
|--------------------|--|-----|----------|--|----------|--|

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|--------------------|---|------|----------|--|--|----------|
| INFRAINNOV-03-2020 | Co-Innovation platform for research infrastructure technologies | 35.0 | 28/11/19 | | | 17/03/20 |
|--------------------|---|------|----------|--|--|----------|

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|--------------------|-------------------|------|----------|--|--|----------|
| INFRAINNOV-04-2020 | Innovation pilots | 30.0 | 28/11/19 | | | 17/03/20 |
|--------------------|-------------------|------|----------|--|--|----------|

ICT in “Leadership in Enabling and Industrial Technologies – LEIT”

- Parti dedicate a ICT sono state riviste e allineate alle priorità nel campo del digitale:

IA e digitalizzazione dell'industria europea e dei servizi

Infrastruttura dei dati europea (EDI)

5G

Next Generation Internet (NGI)

Cybersecurity

- tre bandi previsti dal WP2018-20 (**due** nel 2020):

ICT

Digitalizzazione e trasformazione industria e servizi

| Industrial Leadership | | | | | | |
|--|---|------|----------|--|--|----------|
| LEIT - Information and Communication Technologies | | | | | | |
| Information and Communication Technologies | | | | | | |
| Artificial Intelligence and Technologies for Digitising European Industry and Economy | | | | | | |
| ICT-46-2020 | Robotics in Application Areas and Coordination & Support | 83.0 | 19/11/19 | | | 22/04/20 |
| ICT-47-2020 | Research and Innovation boosting promising robotics applications | 20.0 | 19/11/19 | | | 22/04/20 |
| ICT-48-2020 | Towards a vibrant European network of AI excellence centres | 50.0 | 09/07/19 | | | 13/11/19 |
| ICT-49-2020 | Artificial Intelligence on demand platform | 20.0 | 19/11/19 | | | 22/04/20 |
| ICT-38-2020 | Artificial intelligence for manufacturing | 48.0 | 09/07/19 | | | 16/01/20 |
| ICT-36-2020 | Disruptive photonics technologies | 47.5 | 19/11/19 | | | 22/04/20 |
| ICT-37-2020 | Advancing photonics technologies and application driven photonics components and the innovation ecosystem | 48.0 | 19/11/19 | | | 22/04/20 |
| ICT-50-2020 | Software Technologies | 30.0 | 09/07/19 | | | 16/01/20 |
| European Data Infrastructure: HPC, Big Data and Cloud technologies | | | | | | |
| ICT-51-2020 | Big Data technologies and extreme-scale analytics | 31.5 | 09/07/19 | | | 16/01/20 |
| ICT-40-2020 | Cloud Computing: towards a smart cloud computing continuum | 20.0 | 19/11/19 | | | 22/04/20 |
| 5G | | | | | | |
| ICT-52-2020 | 5G PPP – Smart Connectivity beyond 5G | 55.0 | 19/11/19 | | | 22/04/20 |
| ICT-41-2020 | 5G PPP – 5G innovations for verticals with third party services | 49.0 | 19/11/19 | | | 22/04/20 |
| ICT-42-2020 | 5G PPP – 5G core technologies innovation | 49.0 | 09/07/19 | | | 16/01/20 |
| ICT-53-2020 | 5G PPP – 5G for Connected and Automated Mobility (CAM) | 30.0 | 09/07/19 | | | 13/11/19 |
| Next Generation Internet (NGI) | | | | | | |
| ICT-54-2020 | Blockchain for the Next Generation Internet | 20.0 | 09/07/19 | | | 16/01/20 |
| ICT-55-2020 | Interactive Technologies | 17.0 | 09/07/19 | | | 13/11/19 |
| ICT-56-2020 | Next Generation Internet of Things | 48.5 | 09/07/19 | | | 16/01/20 |
| ICT-57-2020 | An empowering, inclusive Next Generation Internet | 7.0 | 19/11/19 | | | 22/04/20 |
| ICT-44-2020 | Next Generation Media | 17.5 | 09/07/19 | | | 16/01/20 |

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
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| International Cooperation activities | | | | | | |
|--|---|------|----------|----------|----------|----------|
| ICT-58-2020 | International partnership building between European and African innovation hubs | 11.0 | 19/11/19 | | | 22/04/20 |
| Digitising and transforming European industry and services: digital innovation hubs and platforms | | | | | | |
| Support to Hubs | | | | | | |
| DT-ICT-04-2020 | Photonics Innovation Hubs | 19.0 | 19/11/19 | | | 22/04/20 |
| Platforms and Pilots | | | | | | |
| DT-ICT-07-2018-2019 | Digital Manufacturing Platforms for Connected Smart Factories | 48.0 | 31/10/18 | 17/04/18 | 02/04/19 | |
| | | 47.0 | 16/10/18 | | | |
| DT-ICT-08-2019 | Agricultural digital integration platforms | 30.0 | 26/07/18 | 14/11/18 | | |
| DT-ICT-09-2020 | Digital service platforms for rural economies | 30.0 | 19/11/19 | | | 22/04/20 |
| DT-ICT-10-2018-19 | Interoperable and smart homes and grids | 30.0 | 26/07/18 | 14/11/18 | | |
| DT-ICT-11-2019 | Big data solutions for energy | 30.0 | 16/10/18 | | 02/04/19 | |
| DT-ICT-12-2020 | The smart hospital of the future | 40.0 | 19/11/19 | | | 22/04/20 |

ICT in “Societal challenges”

Apporto dal mondo ICT atteso in 7 sfide per la società

- SC1: Salute, cambio demografico e benessere
- SC2: Sicurezza alimentare, agricoltura sostenibile, bioeconomia
- SC3: Energia sicura, pulita ed efficiente
- SC4: Trasporti intelligenti, “verdi” e integrati
- SC5: Clima, ambiente, uso efficiente delle risorse
- SC6: L’Europa in un mondo che cambia
- SC7: Società sicure

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
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Societal Challenges

Health, demographic change and wellbeing

Better Health and care, economic growth and sustainable health systems

Personalised medicine

| | | | | | | |
|---------------------------|---|------------|----------------------|----------|----------|----------|
| SC1-BHC-05-2018 | International flagship collaboration with Canada for human data storage, integration and sharing to enable personalised medicine approaches | 40.0 | 07/11/17 | 18/04/18 | | |
| SC1-BHC-06-2020 | Digital diagnostics – developing tools for supporting clinical decisions by integrating various diagnostic data | 40.0 | 04/07/19 | | | 07/04/20 |
| SC1-HCO-01-2018-2019-2020 | Actions in support of the International Consortium for Personalised Medicine | 8.0 4.0 | 07/11/17 26/07/18 | 18/04/18 | 16/04/19 | |
| SC1-HCO-02-2018 | Data integration and data-driven in-silico models for enabling personalised medicine - a European standardization framework | 2.0 | 07/11/17 | 18/04/18 | | |

Innovative health and care industry

| | | | | | | |
|-----------------|--|-----|----------|--|--|----------|
| SC1-HCO-18-2020 | Developing methodological approaches for improved clinical investigation and evaluation of high-risk medical devices | 2.0 | 04/07/19 | | | 07/04/20 |
|-----------------|--|-----|----------|--|--|----------|

Infectious diseases and improving global health

| | | | | | | |
|------------------|--|---------------------------------|----------|--|----------|----------|
| SC1-BHC-13-2019 | Mining big data for early detection of infectious disease threats driven by climate change and other factors | 30.0 | 26/07/18 | | 16/04/19 | |
| SC1-BHC-20A-2020 | Pre-commercial procurement (PCP) for integrated care solutions | 25.0 (incl. one other topic) | 04/07/19 | | | 07/04/20 |

Supporting the digital transformation in health and care

| | | | | | | |
|-----------------|---|------|----------|--|--|----------------------|
| SC1-DTH-12-2020 | Use of Real-World Data to advance research on the management of complex chronic conditions | 41.0 | 04/07/19 | | | 07/04/20 |
| SC1-DTH-13-2020 | Implementation research for scaling up and transfer of innovative solutions involving digital tools for people-centred care | 20.0 | 04/07/19 | | | 24/09/19 07/04/20 |

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
|----------|-------------|----------------|---------|------------------|------------------|------------------|

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|--|--|--|--|--|--|--|
| Digital transformation in Health and Care | | | | | | |
|--|--|--|--|--|--|--|

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|-----------------|--|------|----------|----------|----------|----------|
| SC1-DTH-01-2019 | Big data and Artificial Intelligence for monitoring health status and quality of life after the cancer treatment | 35.0 | 16/10/18 | | | |
| SC1-DTH-02-2020 | Personalised early risk prediction, prevention and intervention based on Artificial Intelligence and Big Data technologies | 32.0 | 19/11/19 | | | 22/04/20 |
| SC1-DTH-03-2018 | Adaptive smart working and living environments supporting active and healthy ageing | 25.0 | 07/11/17 | 24/04/18 | | |
| SC1-DTH-04-2020 | International cooperation in smart living environments for ageing people | 8.0 | 19/11/19 | | | 22/04/20 |
| SC1-DTH-05-2019 | Large scale implementation of digital innovation for health and care in an ageing society | 10.0 | 16/10/18 | | 24/04/19 | |
| SC1-DTH-06-2020 | Accelerating the uptake of computer simulations for testing medicines and medical devices | 32.0 | 19/11/19 | | | 22/04/20 |
| SC1-DTH-14-2020 | Pre-commercial Procurement for Digital Health and Care Solutions | 9.0 | 19/11/19 | | | 22/04/20 |
| SC1-HCC-08-2020 | Scaling up innovation for active and healthy ageing | 2.0 | 19/11/19 | | | 22/04/20 |
| SC1-HCC-09-2020 | Supporting deployment of eHealth in low and lower middle income countries in Africa for better health outcomes | 2.0 | 19/11/19 | | | 22/04/20 |

| | | | | | | |
|---|--|--|--|--|--|--|
| Trusted digital solutions and Cybersecurity in Health and Care | | | | | | |
|---|--|--|--|--|--|--|

| | | | | | | |
|---|--|--|--|--|--|--|
| Focus Area on Digitising and transforming European industry and services | | | | | | |
|---|--|--|--|--|--|--|

| | | | | | | |
|----------------|---|------|----------|----------|--|----------|
| DT-TDS-01-2019 | Smart and healthy living at home | 60.0 | 26/07/18 | 14/11/18 | | |
| DT-TDS-04-2020 | AI for Genomics and Personalised Medicine | 35.0 | 19/11/19 | | | 22/04/20 |

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
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Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy

Food and Natural Resources

| | | | | | | |
|-------------|--|-----|----------|--|--|----------|
| FNR-02-2020 | Developing long-term monitoring and evaluation frameworks for the Common Agricultural Policy | 2.0 | 15/10/19 | | | 22/01/20 |
|-------------|--|-----|----------|--|--|----------|

Secure, Clean and Efficient Energy

Building a low-carbon, climate resilient future: secure, clean and efficient energy

Buildings in energy transition (B4E)

| | | | | | | |
|--------------------|---|------|----------|--|--|----------|
| LC-SC3-B4E-3-2020 | Upgrading smartness of existing buildings through innovations for legacy equipment | 8.0 | 05/03/20 | | | 10/09/20 |
| LC-SC3-B4E-5-2020 | Integrated design concepts for energy-efficient ICT in buildings | 3.0 | 16/07/19 | | | 15/01/20 |
| LC-SC3-B4E-6-2020 | Biq data for buildings | 12.0 | 16/07/19 | | | 15/01/20 |
| LC-SC3-B4E-7-2020 | European building stock data 4.0 | 4.0 | 16/07/19 | | | 15/01/20 |
| LC-SC3-B4E-10-2020 | Self-assessment and self-optimisation of buildings and appliances for a better energy performance | 6.0 | 16/07/19 | | | 15/01/20 |
| LC-SC3-B4E-14-2020 | Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side | 6.0 | 05/03/20 | | | 10/09/20 |

Global leadership in renewables

| | | | | | | |
|--------------------|--|-----|----------|--|--|----------|
| LC-SC3-RES-31-2020 | Offshore wind basic science and balance of plant | 8.0 | 03/12/19 | | | 21/04/20 |
|--------------------|--|-----|----------|--|--|----------|

Smart and clean energy for consumers

| | | | | | | |
|----------------------------|---|------------|----------------------|----------|----------|----------|
| LC-SC3-EC-1-2018-2019-2020 | The role of consumers in changing the market through informed decision and collective actions | 5.0 5.0 | 25/01/18 24/01/19 | 04/09/18 | 03/09/19 | |
| LC-SC3-EC-3-2020 | Consumer engagement and demand response | 16.0 | 03/09/19 | | | 29/01/20 |

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
|----------|-------------|----------------|---------|------------------|------------------|------------------|

| Smart citizen-centred energy system | | | | | | |
|--|--|--------------|----------------------|----------|----------|----------|
| LC-SC3-ES-1-2019 | Flexibility and retail market options for the distribution grid | 37.3 | 05/09/18 | | 05/02/19 | |
| LC-SC3-ES-2-2019 | Solutions for increased regional cross-border cooperation in the transmission grid | 25.0 | 05/09/18 | | 05/02/19 | |
| LC-SC3-ES-3-2018-2020 | Integrated local energy systems (Energy islands) | 26.3 15.0 | 05/12/17 03/09/19 | 05/04/18 | | 29/01/20 |
| LC-SC3-ES-4-2018-2020 | Decarbonising energy systems of geographical Islands | 19.0 40.0 | 05/12/17 03/09/19 | 05/04/18 | | 29/01/20 |
| LC-SC3-ES-5-2018-2020 | TSO - DSO - Consumer: Large-scale demonstrations of innovative grid services through demand response, storage and small-scale (RES) generation | 30.0 22.0 | 05/12/17 03/09/19 | 05/04/18 | | 29/01/20 |
| LC-SC3-ES-6-2019 | Research on advanced tools and technological development | 25.3 | 05/09/18 | | 05/02/19 | |
| LC-SC3-ES-10-2020 | DC – AC/DC hybrid grid for a modular, resilient and high RES share grid development | 14.0 | 03/09/19 | | | 29/01/20 |
| Smart Cities and Communities | | | | | | |
| LC-SC3-SCC-1-2018-2019-2020 | Smart Cities and Communities | 43.0 73.0 | 05/12/17 | 05/04/18 | 05/02/19 | |
| LC-SC3-SCC-2-2020 | Positive Energy Districts and Neighbourhoods for urban energy transitions | 5.0 | 05/05/20 | | | 01/09/20 |

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|--|---|----------------|----------|-----------------------------|-----------------------------|-----------------------------|
| Smart, green and integrated transport | | | | | | |
| Mobility for growth | | | | | | |
| Building a Low-Carbon, Climate Resilient Future: Low-Carbon and Sustainable Transport | | | | | | |
| LC-MG-1-12-2020 | Cities as climate-resilient, connected multimodal nodes for smart and clean mobility: new approaches towards demonstrating and testing innovative solutions | 18.0 | 03/09/19 | | | 09/01/20 08/09/20 |
| Safe, integrated and resilient transport systems | | | | | | |
| MG-2-6-2019 | Moving freight by Water: Sustainable Infrastructure and Innovative Vessels | 30.0 | 05/09/18 | | 16/01/19 12/09/19 | |
| MG-2-7-2019 | Safety in an evolving road mobility environment | 8.0 | 05/09/18 | | 16/01/19 12/09/19 | |
| MG-2-11-2020 | Network and traffic management for future mobility | 20.0 | 03/09/19 | | | 09/01/20 08/09/20 |
| MG-2-13-2020 | Coordination and support for an integrated freight transport and logistics system | 1.0 | 03/12/19 | | | 21/04/20 |
| Global leadership and competitiveness | | | | | | |
| MG-3-1-2018 | Multidisciplinary and collaborative aircraft design tools and processes | 12.0 | 31/10/17 | 30/01/18 19/09/18 | | |
| MG-3-2-2018 | The Autonomous Ship | 20.0 | 31/10/17 | 30/01/18 19/09/18 | | |
| MG-3-4-2020 | Innovative electric network architectures and systems, optimising global energy, electrical power, data and communication for aviation | 10.0 | 03/12/19 | | | 21/04/20 |
| MG-3-6-2020 | Towards sustainable urban air mobility | 15.0 | 03/12/19 | | | 21/04/20 |
| MG-3-7-2020 | Improved Production and Maintenance Processes in Shipyards | 15.0 | 03/12/19 | | | 21/04/20 |
| Accounting for the people | | | | | | |
| MG-4-5-2019 | An inclusive digitally interconnected transport system meeting citizens' needs | 7.0 | 04/09/18 | | 24/04/19 | |
| MG-4-7-2020 | Digitalisation of the transport system: data sharing | 3.0 | 03/12/19 | | | 21/04/20 |
| MG-4-8-2020 | Advanced research methods and tools in support of transport/mobility researchers, planners and policy makers | 3.0 | 03/12/19 | | | 21/04/20 |

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
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Digitising and Transforming European Industry and Services: Automated Road Transport

| | | | | | | |
|----------------|--|------|----------|--|--|----------|
| DT-ART-05-2020 | Efficient and safe connected and automated heavy-duty vehicles in real logistics operations | 20.0 | 03/12/19 | | | 21/04/20 |
| DT-ART-06-2020 | Large-scale, cross-border demonstration of connected and highly automated driving functions for passenger cars | 30.0 | 03/12/19 | | | 21/04/20 |

Climate action, environment, resource efficiency and raw materials

Building a low-carbon, climate resilient future: climate action in support of the Paris Agreement

Decarbonisation

| | | | | | | |
|----------------|--|------|----------|--|--|-----------------------------|
| LC-CLA-11-2020 | Innovative nature-based solutions for carbon neutral cities and improved air quality | 30.0 | 12/11/19 | | | 13/02/20 03/09/20 |
|----------------|--|------|----------|--|--|-----------------------------|

Climate adaptation, impacts and services

| | | | | | | |
|----------------|----------------------------|------|----------|--|--|-----------------------------|
| LC-CLA-12-2020 | Advancing climate services | 22.0 | 12/11/19 | | | 13/02/20 03/09/20 |
|----------------|----------------------------|------|----------|--|--|-----------------------------|

Inter-relations between climate change, biodiversity and ecosystem services

| | | | | | | |
|----------------|--|-----|----------|--|--|-----------------------------|
| LC-CLA-16-2020 | Multi-hazard risk management for risk-informed decision-making in the E.U. | 5.0 | 12/11/19 | | | 13/02/20 03/09/20 |
|----------------|--|-----|----------|--|--|-----------------------------|

Earth Observation

| | | | | | | |
|----------------|--|------|----------|--|--|-----------------------------|
| LC-CLA-19-2020 | Integrated GEOSS climate applications to support adaptation and mitigation measures of the Paris Agreement | 10.0 | 12/11/19 | | | 13/02/20 03/09/20 |
|----------------|--|------|----------|--|--|-----------------------------|

Greening the economy in line with the Sustainable Development Goals (SDGs)

Protecting and leveraging the value of our natural and cultural assets: Nature-based solutions, disaster risk reduction and natural capital accounting

| | | | | | | |
|-------------|--|-----|----------|--|--|----------|
| SC5-33-2020 | Monitoring ecosystems through research, innovation and | 3.0 | 12/11/19 | | | 13/02/20 |
|-------------|--|-----|----------|--|--|----------|

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
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Europe in a changing world - inclusive, innovative and reflective Societies

Socioeconomic and cultural transformations in the context of the fourth industrial revolution

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|--|---|--------------------|----------------------------------|----------|----------|----------|
| DT- TRANSFORMATIONS- 02-2018-2019-2020 | Transformative impact of disruptive technologies in public services | 9.0 7.0 11.0 | 07/11/17 06/11/18 05/11/19 | 13/03/18 | 14/03/19 | 12/03/20 |
| DT- TRANSFORMATIONS- 20-2020 | European Competence Centre for the preservation and conservation of Monuments and Site | 3.0 | 05/11/19 | | | 12/03/20 |
| DT- TRANSFORMATIONS- 21-2020 | Mentoring scheme for schools: mainstreaming innovation by spreading the advanced ICT-based teaching practices to a wide circle of schools | 2.0 | 05/11/19 | | | 12/03/20 |
| DT- TRANSFORMATIONS- 23-2020 | To set up a digital accessibility observatory as a forum to take stock of market and technological developments, monitor progress in digital accessibility and provide opportunities for exchange of best practices | 1.5 | 05/11/19 | | | 12/03/20 |

Governance for the future

| | | | | | | |
|-------------------------------------|---|--------------------|----------------------------------|----------|----------|----------|
| DT-GOVERNANCE-05- 2018-2019-2020 | New forms of delivering public goods and inclusive public services | 1.5 8.0 20.0 | 07/11/17 06/11/18 05/11/19 | 13/03/18 | 14/03/19 | 12/03/20 |
| DT-GOVERNANCE-12- 2019-2020 | Pilot on using the European cloud infrastructure for public administrations | 8.0 10.0 | 06/11/18 05/11/19 | | 14/03/19 | 12/03/20 |
| DT-GOVERNANCE-13- 2019 | Digitisation, Digital Single Market and European culture: new challenges for creativity, intellectual property rights and copyright | 9.0 | 06/11/18 | | 14/03/19 | |
| DT-GOVERNANCE-22- 2020 | Citizen-centric public services in local and regional administrations | 1.5 | 05/11/19 | | | 12/03/20 |



European
Commission

| Secure societies - Protecting freedom and security of Europe and its citizens | | | | | | |
|--|---|----------------------|----------------------------------|----------|----------|----------|
| Protecting the infrastructure of Europe and the people in the European smart cities | | | | | | |
| SU-INFRA01-2018-2019-2020 | Prevention, detection, response and mitigation of combined physical and cyber threats to critical infrastructure in Europe | 24.0 22.0 20.7 | 15/03/18 14/03/19 12/03/20 | 23/08/18 | 22/08/19 | 27/08/20 |
| SU-INFRA02-2019 | Security for smart and safe cities, including for public space | 16.0 | 14/03/19 | | 22/08/19 | |
| Artificial Intelligence and security: providing a balanced assessment of opportunities and challenges for Law Enforcement in Europe | | | | | | |
| SU-AI01-2020 | Developing a research roadmap regarding Artificial Intelligence in support of Law Enforcement | 1.5 | 12/03/20 | | | 27/08/20 |
| SU-AI02-2020 | Secure and resilient Artificial Intelligence technologies, tools and solutions in support of Law Enforcement and citizen protection, cybersecurity operations and prevention and protection against adversarial Artificial Intelligence | 17.0 | 12/03/20 | | | 27/08/20 |
| SU-AI03-2020 | Human factors, and ethical, societal, legal and organisational aspects of using Artificial Intelligence in support of Law Enforcement | 1.5 | 12/03/20 | | | 27/08/20 |
| Security | | | | | | |
| Disaster-Resilient Societies | | | | | | |
| SU-DRS02-2018-2019-2020 | Technologies for first responders | 28.0 21.0 21.0 | 15/03/18 14/03/19 12/03/20 | 23/08/18 | 22/08/19 | 27/08/20 |
| Fight against Crime and Terrorism | | | | | | |
| SU-FCT02-2018-2019-2020 | Technologies to enhance the fight against crime and terrorism | 21.0 28.1 28.0 | 15/03/18 14/03/19 12/03/20 | 23/08/18 | 22/08/19 | 27/08/20 |
| SU-FCT03-2018-2019-2020 | Information and data stream management to fight against (cyber)crime and terrorism | 8.0 8.0 8.0 | 15/03/18 14/03/19 12/03/20 | 23/08/18 | 22/08/19 | 27/08/20 |
| Border and External Security | | | | | | |
| SU-BES02-2018-2019-2020 | Technologies to enhance border and external security | 21.0 21.0 21.0 | 15/03/18 14/03/19 12/03/20 | 23/08/18 | 22/08/19 | 27/08/20 |
| SU-BES03-2018-2019-2020 | Demonstration of applied solutions to enhance border and external security | 10.0 10.0 10.0 | 15/03/18 14/03/19 12/03/20 | 23/08/18 | 22/08/19 | 27/08/20 |

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
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| Digital security | | | | | | |
|---|---|--------------|----------------------|----------|----------|----------|
| Cybersecurity, Digital Privacy and data protection | | | | | | |
| SU-DS01-2018 | Cybersecurity preparedness - cyber range, simulation and economics | 16.0 | 15/03/18 | 23/08/18 | | |
| SU-DS02-2020 | Intelligent security and privacy management | 38.0 | 12/03/20 | | | 27/08/20 |
| SU-DS03-2019-2020 | Digital Security and privacy for citizens and Small and Medium Enterprises and Micro Enterprises | 18.0 10.8 | 14/03/19 12/03/20 | | 22/08/19 | 27/08/20 |
| SU-DS04-2018-2020 | Cybersecurity in the Electrical Power and Energy System (EPES): an armour against cyber and privacy attacks and data breaches | 20.0 20.0 | 15/03/18 12/03/20 | 23/08/18 | | 27/08/20 |

ICT nel *pilot* European Innovation Council

EIC Accelerator Pilot (Strumento per le PMI)

- completamente bottom-up, aperto alle PMI innovative
- bando aperto con 4 scadenze all'anno

Fast Track to Innovation (FTI)

- completamente bottom-up, aperto a tutti i tipi di partecipanti
- promuove le attività innovative close-to-market

| Topic ID | Topic title | Budget (M€) | Opening | Deadline 2018 | Deadline 2019 | Deadline 2020 |
|----------|-------------|----------------|---------|------------------|------------------|------------------|
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European Innovation Council (EIC) Pilot

EIC Accelerator pilot (SME Instrument)

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|-----------------------|----------------|--------|----------|--|--|--|
| EIC-SMEInst-2018-2020 | SME instrument | 479.74 | 07/11/17 | Phase 1: 08/02/18 03/05/18 05/09/18 07/11/18 Phase 2: 10/01/18 14/03/18 23/05/18 10/10/18 | | |
| | | 689.26 | 07/11/17 | | Phase 1: 13/02/19 07/05/19 05/09/19 Phase 2: 09/01/19 03/04/19 05/06/19 09/10/19 | |
| | | 654.00 | 07/11/17 | | | Phase 2: 08/01/20 18/03/20 19/05/20 07/10/20 |

Fast Track to Innovation (FTI)

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|-------------------|--------------------------------|-------|----------|----------------------------------|----------------------------------|----------------------------------|
| EIC-FTI-2018-2020 | Fast Track to Innovation (FTI) | 100.0 | 07/11/17 | 21/02/18 31/05/18 23/10/18 | | |
| | | 100.0 | 07/11/17 | | 21/02/19 23/05/19 22/10/19 | |
| | | 100.0 | 07/11/17 | | | 19/02/20 09/06/20 27/10/20 |

Informazioni su come partecipare

- Sito ufficiale Horizon 2020

ec.europa.eu/programmes/horizon2020/en

- Programma di lavoro 2018-2020 Horizon 2020

ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-leit-ict_en.pdf

- Bandi ICT

ec.europa.eu/newsroom/dae/document.cfm?doc_id=61592

- Punti di contatto nazionali → APRE

www.apre.it