Horizon 2020

Information and Communication Technologies in WP2018-20

Thierry Boulangé

DG CONNECT

European Commission

European Commission

HORIZON 2020

ICT in H2020 > LEIT-ICT

Excellent Science

Frontier Research (ERC)

Future and Emerging Technologies (FET) **ICT**

Skills and career development (Marie Skłodowska-Curie)

Research Infrastructures **ICT**

Industrial Leadership

Leadership in enabling

and industrial technologies

  ICT **ICT**   **ICT**

  Nanotech., Materials, Manuf. & Processing

  Biotechnology

  Space **ICT**

Access to risk finance

Innovation in SMEs

Societal Challenges

ICT

Health, demographic change and wellbeing

Food security, sustainable agriculture, **ICT**
and the bio-based economy

Secure, clean and efficient energy **ICT**

Smart, green and integrated transport **ICT**

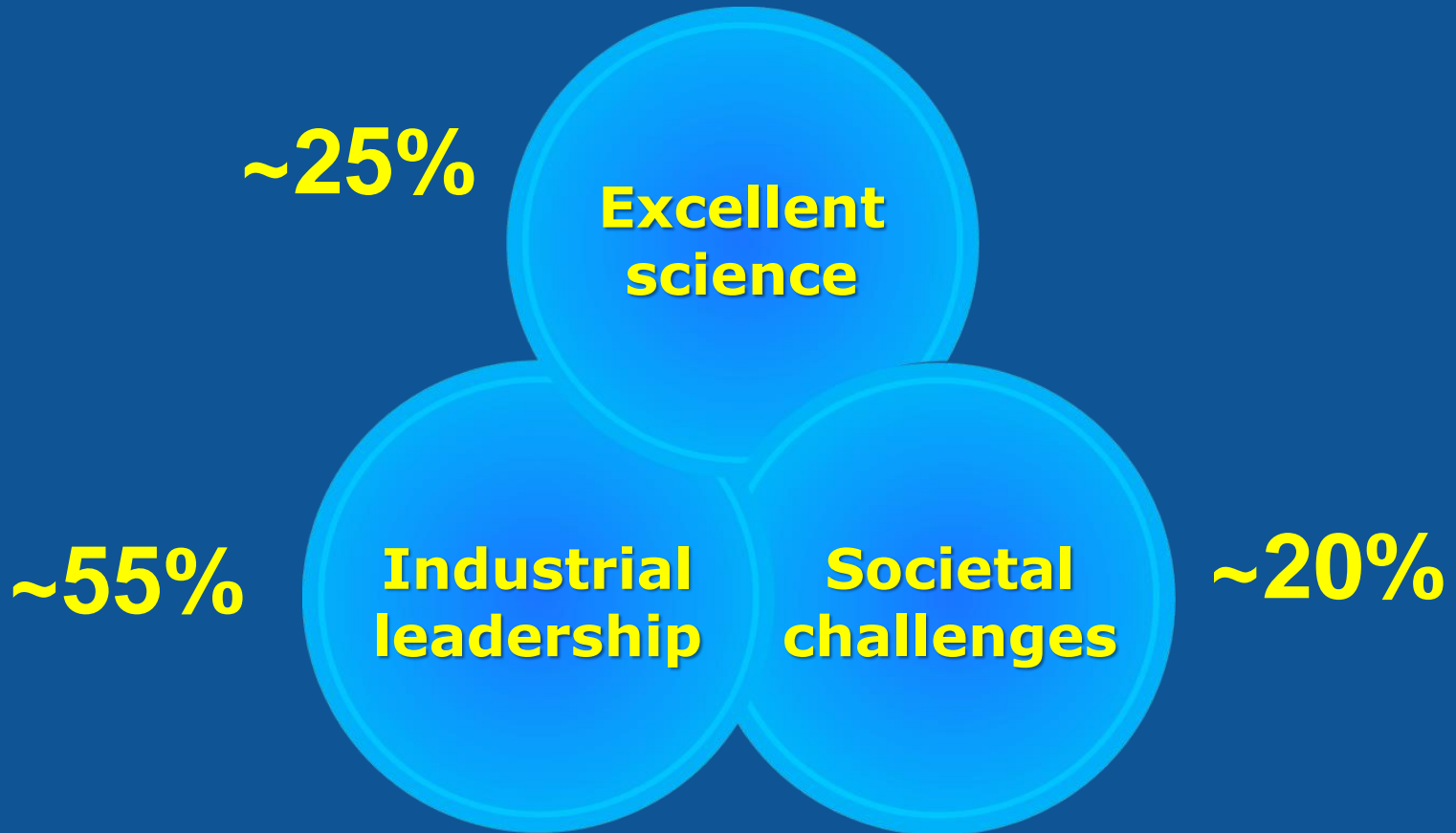Climate action, resource efficiency, **ICT**
and raw materials

Inclusive, innovative and reflective societies

Secure societies **ICT** **ICT**

European Commission

Budget per priority **for ICT**

~25%

Excellent science

~55%

Industrial leadership

Societal challenges

~20%

European Commission

Approach to WP2018-20 (1/2)

- Reinforced **link with political priorities** incl. **three O's** and **digitisation**

- Increased **integration across SCs and LEIT**
  - **Focus areas**
    - Digitising and transforming European industry and services (~1,7B€)
    - Boosting the effectiveness of the Security Union (~1,1B€)

- Consolidation and strengthening of the **SME instrument**
  - **Single call** grouping the instrument in one topic under the European Innovation Council pilot
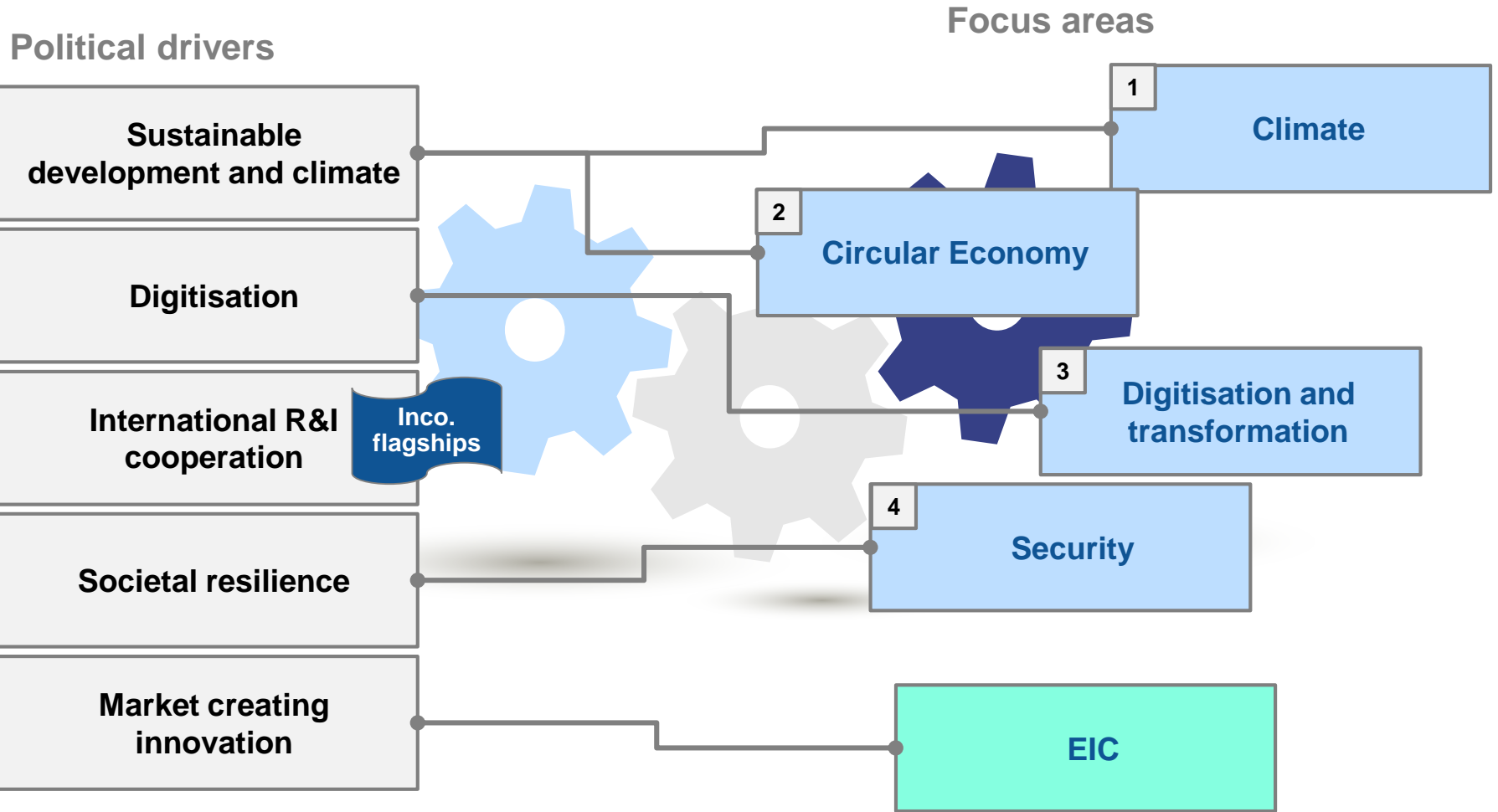
- **Fast Track to Innovation**

European Commission

Approach to WP2018-20 (2/2)

- More **precision**, **focus** and **clarity** in the topic descriptions (notably the **expected impacts**)…while keeping up an open and non-prescriptive approach

- Expansion of the use of **two-stage calls**

- Year **2020 only indicative**

Translating political drivers

Political drivers

Focus areas

Political drivers	Focus areas
Sustainable development and climate	1 Climate
Digitisation	2 Circular Economy
International R&I cooperation	3 Digitisation and transformation
Societal resilience	4 Security
Market creating innovation	EIC

Inco. flagships

European Commission

Focus areas

- Personalising health and care
- Sustainable food s...
- Blue growth: unloc... oceans
- Smart cities and c...
- Competitive low-ca...
- Energy Efficiency
- Mobility for growth
- Waste: a resource... materials
- Water innovation:
- Overcoming the cr...
- Disaster-resilience
- Digital security

- Industry 2020 in the Circular Economy
- Internet of Things
- Smart and Sust...
- Sustainable Foo... resource-efficie...
- Energy Efficienc...
- Digital Security
- Blue Growth - D... opportunities
- Competitive Low-carbon Energy
- Automated Road Transport – The New Frontier

- Building a low-carbon, climate resilient future
- Connecting economic and environmental gains – the Circular Economy
- Digitising and transforming European industry and services
- Boosting the effectiveness of the Security Union

**12 focus areas
in WP 14-15**

European Commission

Focus areas for WP2018-20

- Building a **low-carbon, climate resilient** future (~3360 M€)

- **Digitising and transforming European industry and services** (~1690 M€)

- Connecting economic and environmental gains – the **Circular Economy** (~980 M€)

- Boosting the effectiveness of the **Security Union** (~1090 M€)
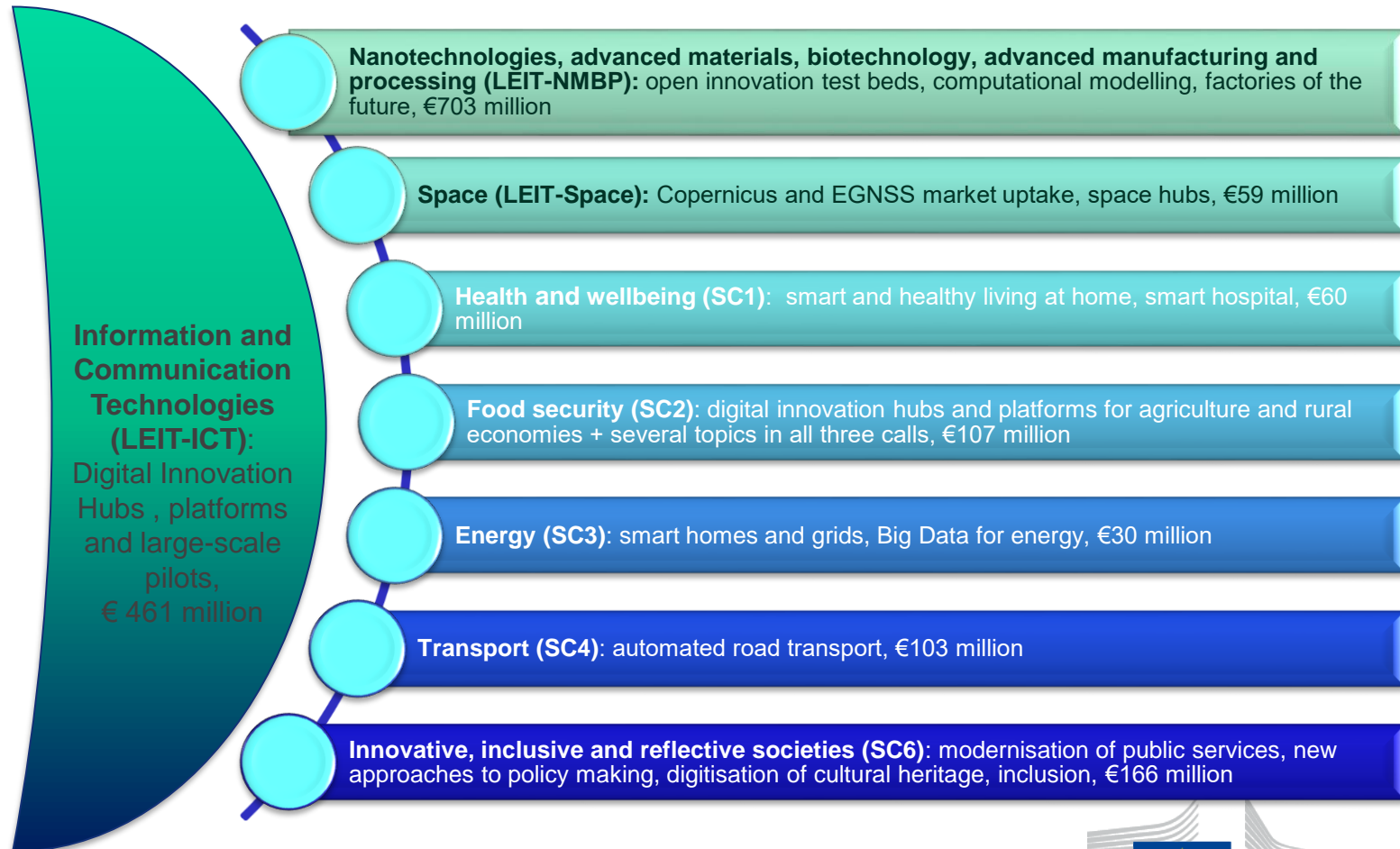
European Commission

Focus areas for WP2018-20

- Building a **low-carbon, climate resilient** future (~3360 M€)

- **Digitising and transforming European industry and services** (~1690 M€)

- Connecting economic and environmental gains – the **Circular Economy** (~980 M€)

- Boosting the effectiveness of the **Security Union** (~1090 M€)

European Commission

Digitising and transforming European industry and services – focus area

Information and Communication Technologies (LEIT-ICT): Digital Innovation Hubs , platforms and large-scale pilots, € 461 million

Nanotechnologies, advanced materials, biotechnology, advanced manufacturing and processing (LEIT-NMBP): open innovation test beds, computational modelling, factories of the future, €703 million

Space (LEIT-Space): Copernicus and EGNSS market uptake, space hubs, €59 million

Health and wellbeing (SC1): smart and healthy living at home, smart hospital, €60 million

Food security (SC2): digital innovation hubs and platforms for agriculture and rural economies + several topics in all three calls, €107 million

Energy (SC3): smart homes and grids, Big Data for energy, €30 million

Transport (SC4): automated road transport, €103 million

Innovative, inclusive and reflective societies (SC6): modernisation of public services, new approaches to policy making, digitisation of cultural heritage, inclusion, €166 million

European Commission

ICT in Excellent science

Excellent science

Industrial leadership

Societal challenges

European Commission

Future and Emerging Technologies

1,5 B€

- **FET Open** (715 M€ for 2018-20)
  - Still **open to all radically new technologies in all areas**
  - **Breakthrough technological target,** proof of concept
  - Ambitious interdisciplinary research

- **FET Proactive** (94 M€ for 2018-19)

- **FET Proactive HPC** (72 M€ for 2018-19)

- **FET Flagships** (148 M€ for 2018)

  - Preparatory Actions for new FET Flagships
    - ICT and Connected Society
    - Health and the Life Sciences
    - Energy, Environment and Climate change
  - ERA-NET Cofund for FET Flagships
  - FET Flagship on Quantum Technologies

European Commission

Research Infrastructures

436 м€*

- **European Open Science Cloud** (187 M€ for 2018-19)

- **European data Infrastructures** (99 M€ for 2018)
  - Pan-European High Performance Computing infrastructure and services (PRACE)
  - HPC PPP – centres of Excellence on HPC
  - Support to the governance of HPC Infrastructures

* : eInfrastructures only

ICT in Industrial leadership

Excellent science

Industrial leadership

Societal challenges

European Commission

Approach to WP2018-20

- **Focus** and **align** with high-level **political priorities**
  - Digitising and transforming European industry and Services
  - European Data Infrastructures (HPC, Big data and Cloud)
  - 5G Action plan and Connected and Automated Mobility
  - Next Generation Internet
  - Cybersecurity

- Support **core ICT industries** through **roadmap-based cPPPs**
  - Stronger synergies between cPPPs

- **Integrate digital technologies** across all parts of H2020

- Continued focus on **innovation**

15

Industrial Leadership - ICT

2,7 B€
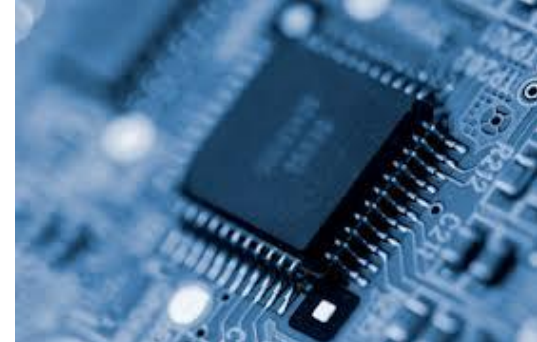
- **Information and Communication technologies** (1,8 B€ for 2018-20)
  - Technologies for Digitising European Industry (450M€ for 2018-19)
  - European Data Infrastructures: HPC, Big data and Cloud technologies (370M€ for 2018-19)
  - 5G (260 M€ for 2018-19)
  - Next Generation Internet (NGI) (154 M€ for 2018-19)
  - Cross-cutting activities (79 M€ for 2018-19)

- **Digitising and transforming European industry and services: digital innovation hubs and platforms** (426 M€ for 2018-20)

- **Cybersecurity** (139 M€ for 2018-20)

- **EU-Japan** (6 M€)

- **EU-Korea** (6 M€)

European Commission

ICT in Societal challenges

European Commission

Budget

SC	14-15	16-17	18-20	2014-2020	Total SC (w/o EFTA)	Earmarked for ICT
Health	268	232	496	996	~ 6 900	15%
Food	*	*	*	*	~ 3 700	
Energy	72	*	*	*	~ 5 400	
Transport	85	*	*	*	~ 5 850	
Environment	25	*	*	*	~ 2 750	
Societies	78	85	146	309	~ 1 200	25%
Security	99	98	176	373	~ 1 550	25%
Total	**627**	**415**	**822**	**2000+**	**~ 27 350**	**7%**

Note: All budget figures in M€

➜ **Different approaches between SCs!**

European Commission

Health, demographic change and wellbeing
2018-2020

- **Continuity with previous WPs**
  - **Active and healthy ageing**
  - **Personalization of healthcare and patient empowerment**

- **Stronger focus on cybersecurity**
- **Contribution to the DT and SU focus areas**

- **Innovative public procurement actions**
- **Contribution to the AAL programme**

European Commission

Food security and sustainable use of natural resources
2018-2020

- **"digital revolution" as one of the drivers of innovation**

- **Joint topics with LEIT-ICT**

- **Contribution to the DT focus area in the three SC2 calls**
  - **Sustainable Food Security**
    - Personalized Nutrition (28M€)
    - Food Cloud demonstrators (10M€)
    - ERANETs in agri-food / ICT-enabled agri-food systems (21M€)
  - **Blue Growth**
    - Sustainable European aquaculture 4.0: nutrition and breeding (6M€)
  - **Rural Renaissance**
    - ICT Innovation for agriculture – Digital Innovation Hubs for Agriculture (20M€)
    - Digital solutions and e-tools to modernise the CAP (10M€)

European Commission

Energy
2018-2020

- **Implementation of strategy outlined in 'Accelerating Clean Energy Innovation' communication**
  - **Part of the "Clean Energy For All Europeans" package presented in Nov. 2016**

- **Main contributions of ICT**
  - **Energy-efficiency**
  - **Smart distribution grids**
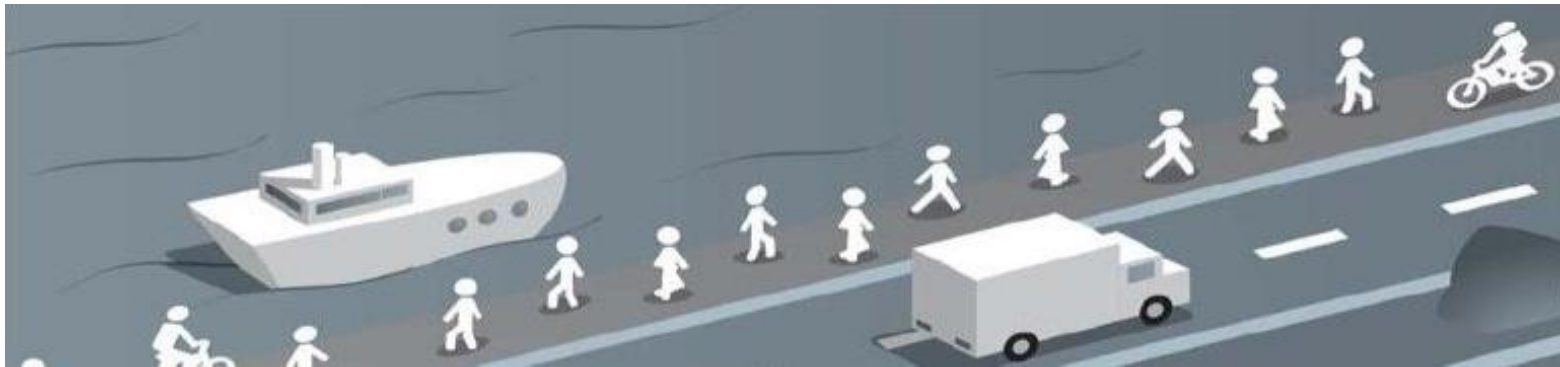 - **Smart cities and communities**

European Commission

Transport
2018-2020

- **Automation of road transport as a priority**
  - **Dedicated call contributing to DT focus area**

- **Main contributions of ICT**
  - **Automated road transport**
  - **Connected and automated systems for all transport modes**
  - **Green vehicle**

European Commission

Climate and environment
2018-2020

- **Key drivers**
  - **COP21 Paris Agreement**
  - **UN Sustainable Development Goals**

- **R&I priorities**
  - Climate action in support of the Paris Agreement
  - Circular economy
  - Raw materials
  - Water for our environment, economy and society
  - Innovating cities for sustainability and resilience
  - Protecting and leveraging the value of our natural and cultural assets

- **Main contribution of ICT**
  - **Water management**

European Commission

Inclusive, innovative and reflective societies
2018-2020

- **Integration of SSH and ICT to address three concerns of European citizens**

  - **Migration**
  - **Fourth industrial revolution**
  - **Governance**

- **Significant contribution to DT focus area** (166M€ with topics in each of SC6 calls)

European Commission

Security
2018-2020

- **Focus area 'Boosting the effectiveness of the Security Union'**
  - **with contributions from LEIT-ICT, SC1 and SC3 on cybersecurity topics**

- **Integration of physical and cyber-security activities in a joint call**

- **Implementation of Cybersecurity cPPP**

European Commission

More information...

European Commission

Find out more

- **Horizon 2020 web site**
  - ✓ http://ec.europa.eu/programmes/horizon2020

- **Participants portal**
  - ✓ http://ec.europa.eu/research/participants/portal

- **H2020 helpdesk**, including FAQ
  - ✓ http://ec.europa.eu/research/index.cfm?pg=enquiries

- **National Contact Points**
  - ✓ http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html

- **Guide to ICT-related activities in Horizon 2020 WP 2018-20**
  - ✓ https://ec.europa.eu/digital-single-market/en/news/guide-ict-related-activities-horizon-2020-work-programme-2018-20

European Commission

Call planning – 2018 (1/3)

FET
- FET Open: 16 May 2018
- FET Open (CSA): 11 April 2018
- FET open-03 (Launchpad): 16 October 2018
- FET Proactive: 22 March 2018
- FET HPC: 15 May 2018

e-Infrastructures
- 22 March 2018

LEIT-ICT
- **Main ICT call: 17 April 2018**
- Topics ICT-17 and ICT-22: 31 January 2018
- DT Focus Area: 17 April 2018
- Topic DT-ICT-10: 14 November 2018
- Cybersecurity: 28 August 2018
- EU-Japan: 31 January 2018
- EU-Korea: 31 January 2018

Call planning – 2018 (2/3)

SC1 (Health)
- BHC: 18 April
- DTH+TDS: 24 April, 14 November

SC2 (Food)
- 13 February

SC3 (Energy)
- 5 April, 4 September, 15 November

SC4 (Transport)
- MG, LC-GV: 30 January, 4 April
- DT-ART: 4 April

SC5 (Climate and environment)
- 27 February

SC6 (Europe in a changing world)
- 13 March

SC7 (Security)
- 23 August

European Commission

Call planning – 2018 (3/3)

SME instrument
- **Phase 1:** 8 February, 3 May, 5 September, 7 November 2018
- **Phase 2:** 10 January, 14 March, 23 May, 1 October 2018

European Commission

HORIZON 2020

**Thank you
for your attention!**

HORIZON 2020