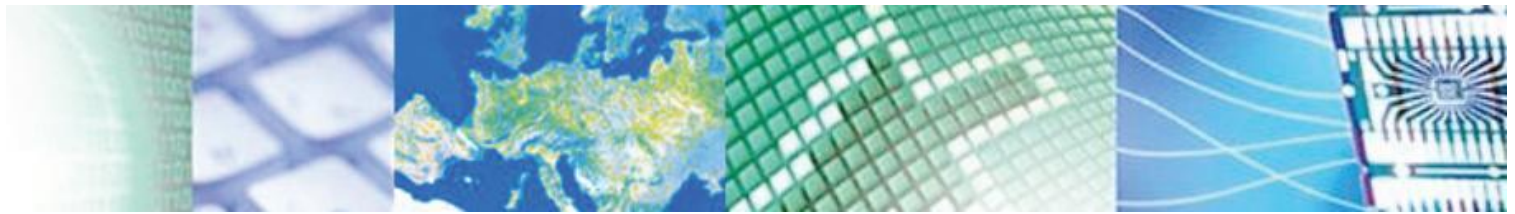


## PARTNERS



# AI in CHIST-ERA Call 2019

## ASSOCIATES



Budapest, 2 July 2019

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Co-funded by  
the European Union





- CHIST-ERA in brief**
- AI research in Call 2019**
- Application guidelines**



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## CHIST-ERA in Brief



- ❑ **A network (ERA-NET) of research funding organisations in Europe and beyond**
  - ✓ Covering most European countries
- ❑ **Supporting long term research targeting emerging digital technologies**
  - ✓ Investing in the identification and definition of promising topics
  - ✓ Supporting 2 topics per year
    - Typically 10-15 projects of approx. 1 M€ each, involving at least 3 countries each
  - ✓ Encouraging Open Science
- ❑ **Relying on a well-established yearly call cycle**
  - ✓ High quality evaluation process
- ❑ **Fostering cross-fertilisation across topics and strategic thinking through a yearly Funded Projects Seminar**

2009

9 funding organisations  
9 countries



Steady growth



2019

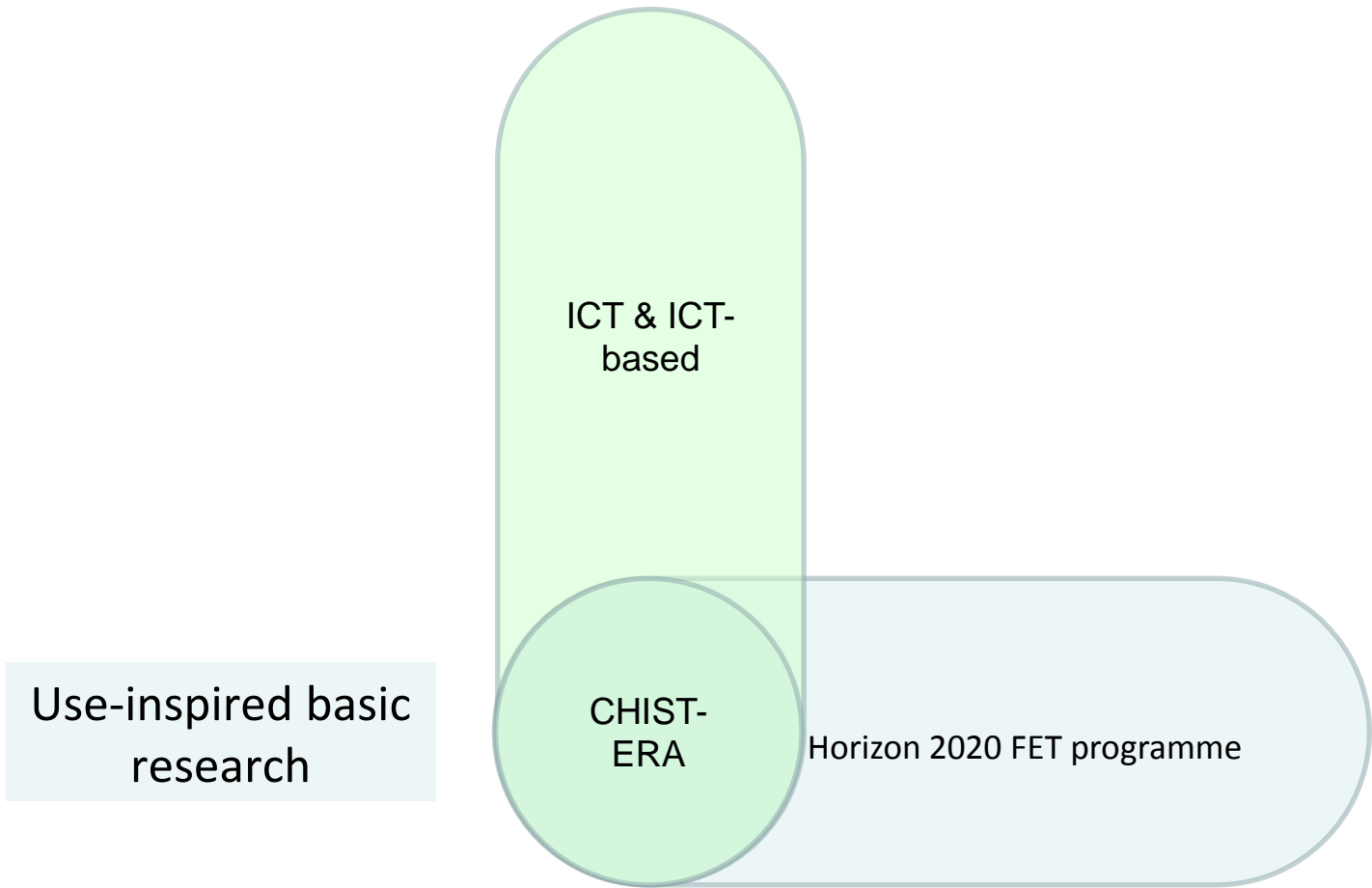
29 funding organisations  
25 countries





# Scope (1/3)

*Smarter, Safer, Leaner*





# Scope (2/3)

*Smarter, Safer, Leaner*

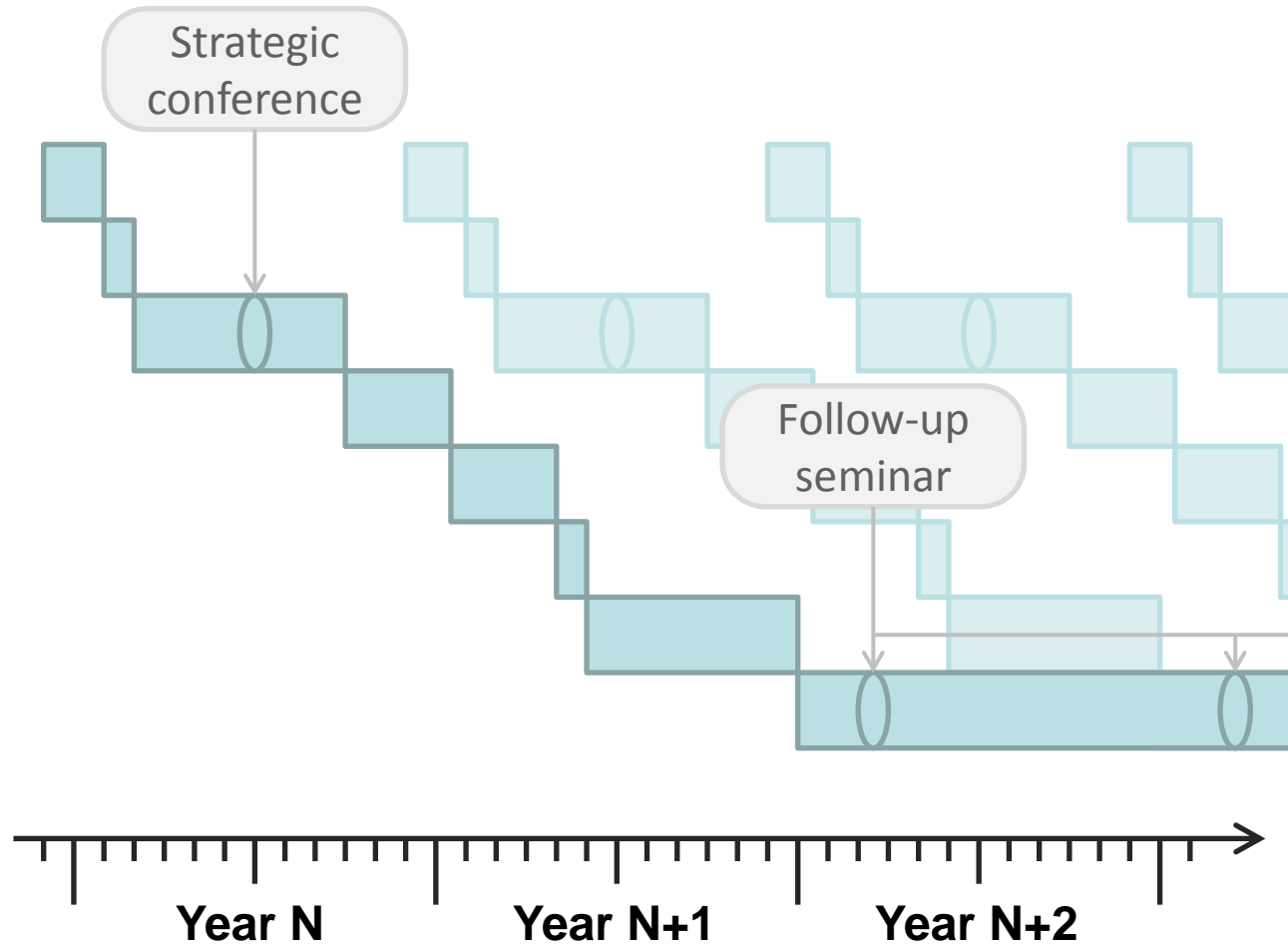
Call	Topics	Smarter	Safer	Leaner
2010	Quantum Information Foundations and Technologies (QIFT)			X
	Beyond Autonomic Systems - the Challenge of Consciousness (BASCC)	X		
2011	From Data to New Knowledge (D2K)	X		
	Green ICT, towards Zero-Power ICT (G-ICT)			X
2012	Intelligent User Interfaces (IUI)	X		
	Context- and Content-Adaptive Communication Networks (C3N)	X		
2013	Adaptive Machines in Complex Environments (AMCE)	X		
	Heterogeneous Distributed Computing (HDC)	x		X
2014	Resilient Trustworthy Cyber-Physical systems (RTCPS)		X	
	Human Language Understanding: Grounding Language Learning (HLU)	X		

Call	Topics	Smarter	Safer	Leaner
2015	User-Centric Security, Privacy and Trust in the Internet of Things (SPTIoT)	x	X	x
	Terahertz Band for Next-Generation Mobile Communication Systems (TMCS)		x	X
2016	Lifelong Learning for Intelligent Systems (LLIS)	X		
	Visual Analytics for Decision Making under Uncertainty (VADMU)	X		
2017	Object recognition and manipulation by robots: Data sharing and experiment reproducibility (ORMR)	X	x	
	Big data and process modelling for smart industry (BDSI)	X	x	x
2018	Analog Computing for Artificial Intelligence (ACAI)	X		x
	Smart Distribution of Computing in Dynamic Networks (SDCDN)	X	x	x
2019	<b>Explainable Machine Learning-based Artificial Intelligence</b>	<b>X</b>	<b>x</b>	
	<b>Novel Computational Approaches for Environmental Sustainability</b>	<b>X</b>		



# Yearly Call Cycle

- Candidate topic collection
- Topic selection
- Call text definition
- Proposal elaboration
- Proposal evaluation
- Proposal selection
- Contract preparation
- Project R&D and follow-up





# Yearly Main Events

- ❑ **Call topics selection workshop (among funding organisations & scientific advisory board)**
  - ✓ Elaborate topic selection process open to new ideas
  - ✓ Selection based on well-defined criteria and thorough discussion
- ❑ **Call topics definition conference (for all researchers interested in a selected topic)**
  - ✓ Advertises the call
  - ✓ Contributes to call scoping
  - ✓ Networking event for the applicants
- ❑ **Funded Projects Seminar (for all representatives of active projects)**
  - ✓ Contributes to project follow-up
  - ✓ Networking event for projects within and across topics
  - ✓ Fosters strategic thinking



## **Relying on the Funded Projects Seminar**

- ✓ Put the items below on the agenda of the thematic parallel sessions and ask to cover them in the presentation in plenary session

## **Connection with H2020 and development of strategic research agendas**

- ✓ Discuss the relevant parts of H2020 for the topic, whether they fulfil the needs, and potential evolutions

## **Technology Transfer**

- ✓ Discuss and present the potential, achievements and needs in connecting to users and/or industry

## **Impact analysis**

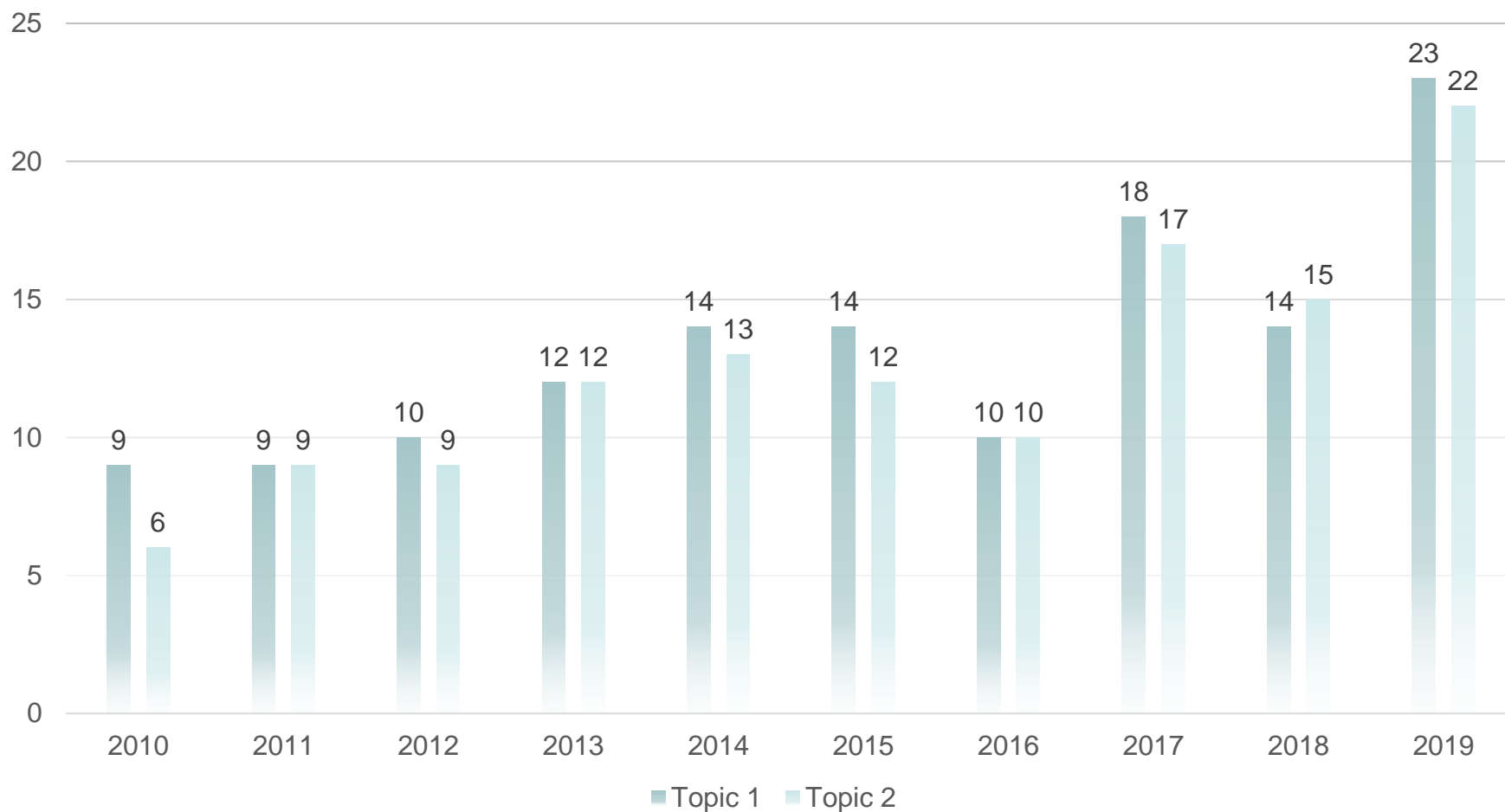
- ✓ Offer to attend editions of the Seminar beyond project end



# Encouraging Open Science

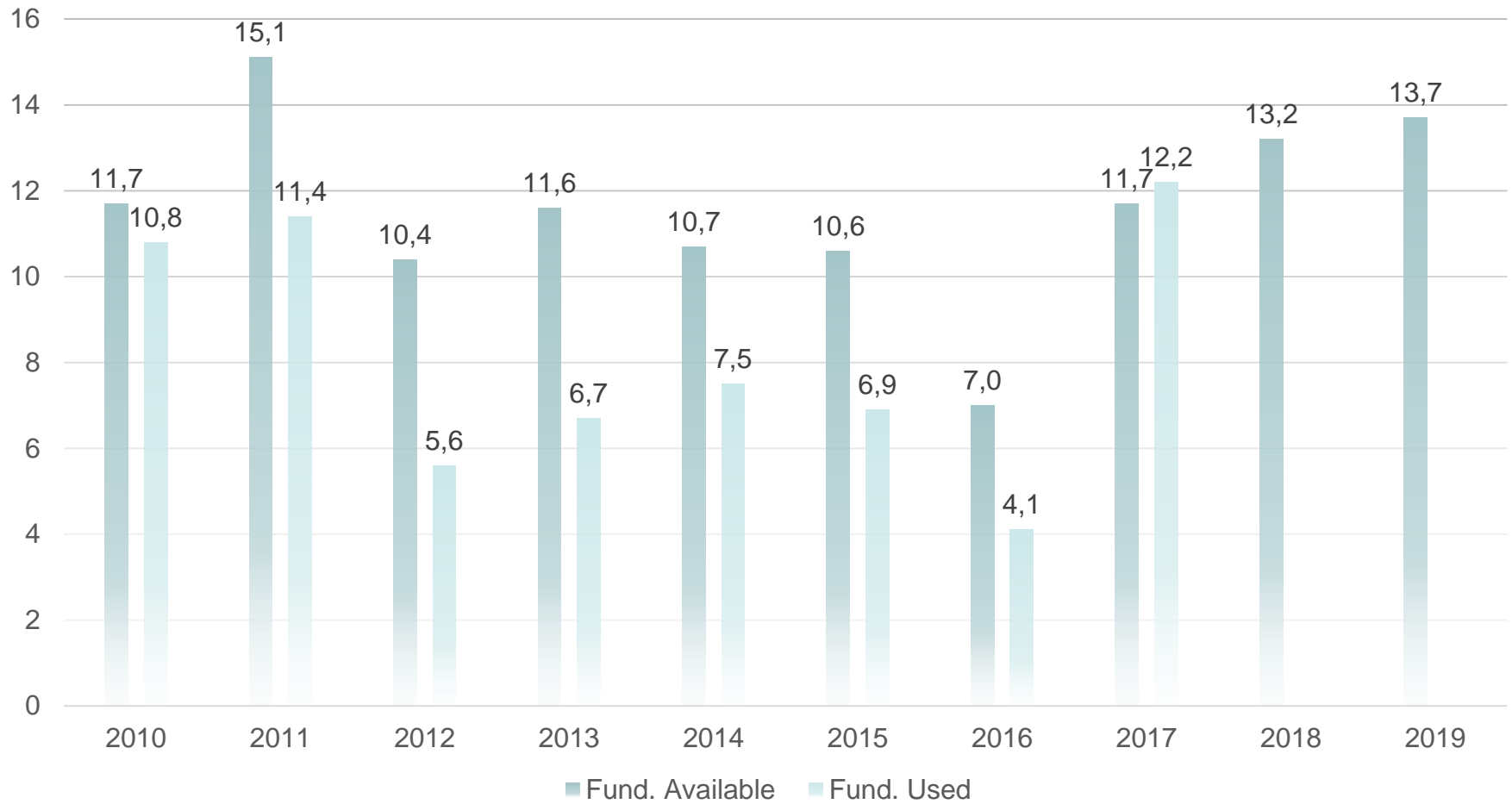
- ❑ **Open science is receiving increasing attention**
  - ✓ Open access, Open data, Open methodology, ...
- ❑ **There is a need to support dedicated functions / infrastructures**
- ❑ **Some issues are especially acute in ICT**
  - ✓ Large amounts of data are often needed and costly to produce
  - ✓ For learning-based systems, unbiased measurement of performances requires synchronous testing, organised by a common third party
- ❑ **CHIST-ERA contributes in several ways**
  - ✓ Encourage and support open science approaches in its calls
  - ✓ Foster networking with organisations having as a mission to support open science
  - ✓ Elaborate and promote recommendations

# Funder Participation in Calls



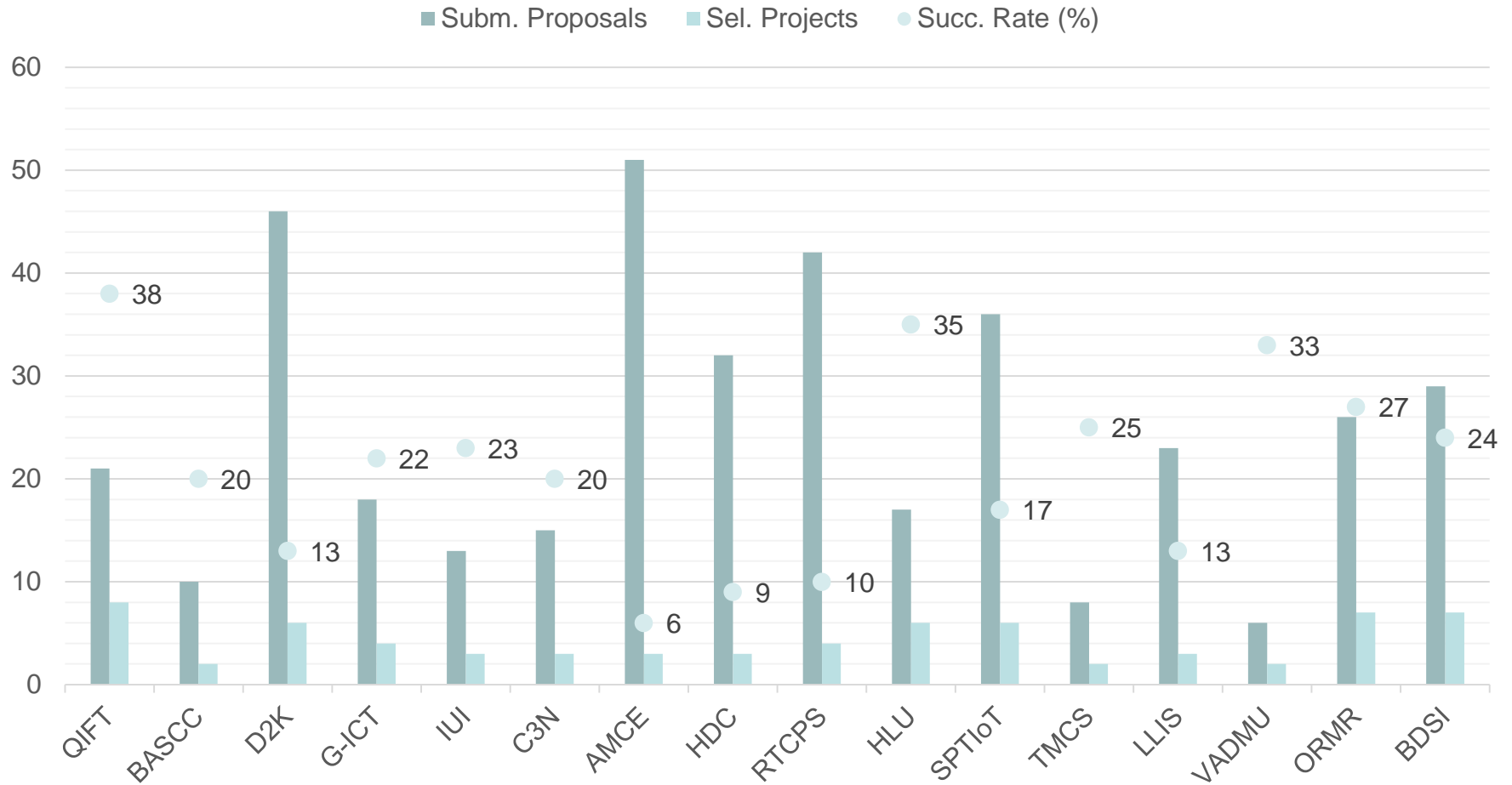


# Budget in Calls





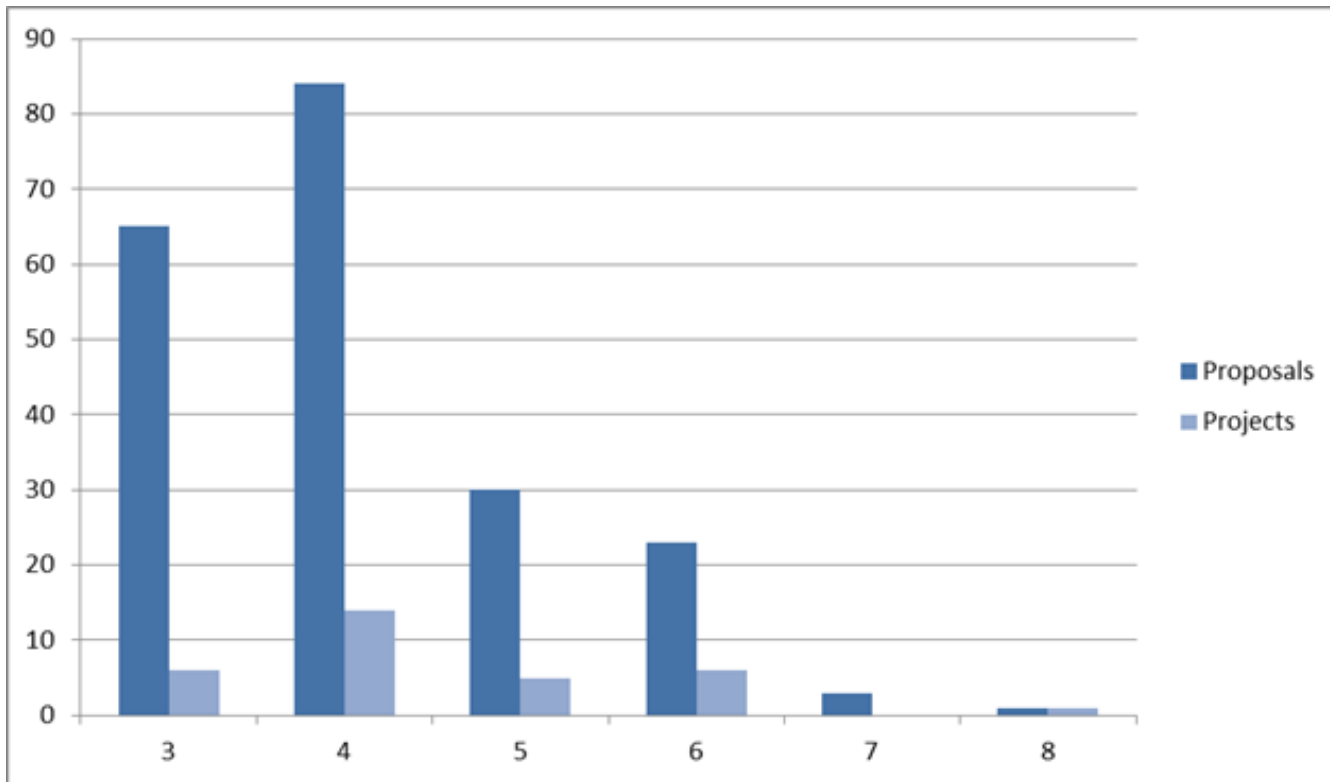
# Success Rate in Calls



Success rate (average): 18%



# Dimension of Standard CHIST-ERA Funded Project



Typical requested funding per project: 0.8 M€ to 1 M€





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**AI Research in Call 2019**



- ❑ **Call topics *draft* description is online at [www.chistera.eu](http://www.chistera.eu)**
  - ✓ Explainable Machine Learning-based Artificial Intelligence
  - ✓ Novel Computation Approaches for Environmental Sustainability
- ❑ **24 research funding organisations interested in Europe + Québec (Canada)**
  - ✓ List of countries considering joining the call is available at [www.chistera.eu](http://www.chistera.eu)
  - ✓ Final list to be published in the Call Announcement
    - Note: List of countries may differ from the list of CHIST-ERA members
- ❑ **Launch expected in September/October**



- ❑ Machine learning algorithms, especially deep neural networks, have become very popular
- ❑ Usually, these algorithms transfer input data into abstract representations that are highly effective but considered as ‘black boxes’
- ❑ However, for many applications, it is essential that detailed information on the prediction is given to users
- ❑ The objective of research on this topic is to make machine learning algorithms **explainable**, thereby reducing vulnerability and adding transparency



- ❑ In order to anticipate the effects of concrete actions on the Earth's ecosystems and climate and to manage the available resources in a provably sustainable way, it is essential to understand and precisely model them
- ❑ There is still a need for more data with a better coverage and higher spatial and temporal resolutions, for improved integration of heterogeneous data into coherent models, and more generally for enhanced models and simulations
- ❑ For that purpose, novel approaches to big data collection and curation, e.g. based on crowdsourcing, and to model development, e.g. based on statistics and **machine learning**, potentially leading to new applications, should be developed



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## Application Guidelines



# European and National/Regional Activities

## **European level**

- ✓ Formation of collaborative projects
- ✓ Submission of proposals
- ✓ Evaluation and ranking
- ✓ Funding recommendation
- ✓ [Contact point: CHIST-ERA Call Secretariat](#)

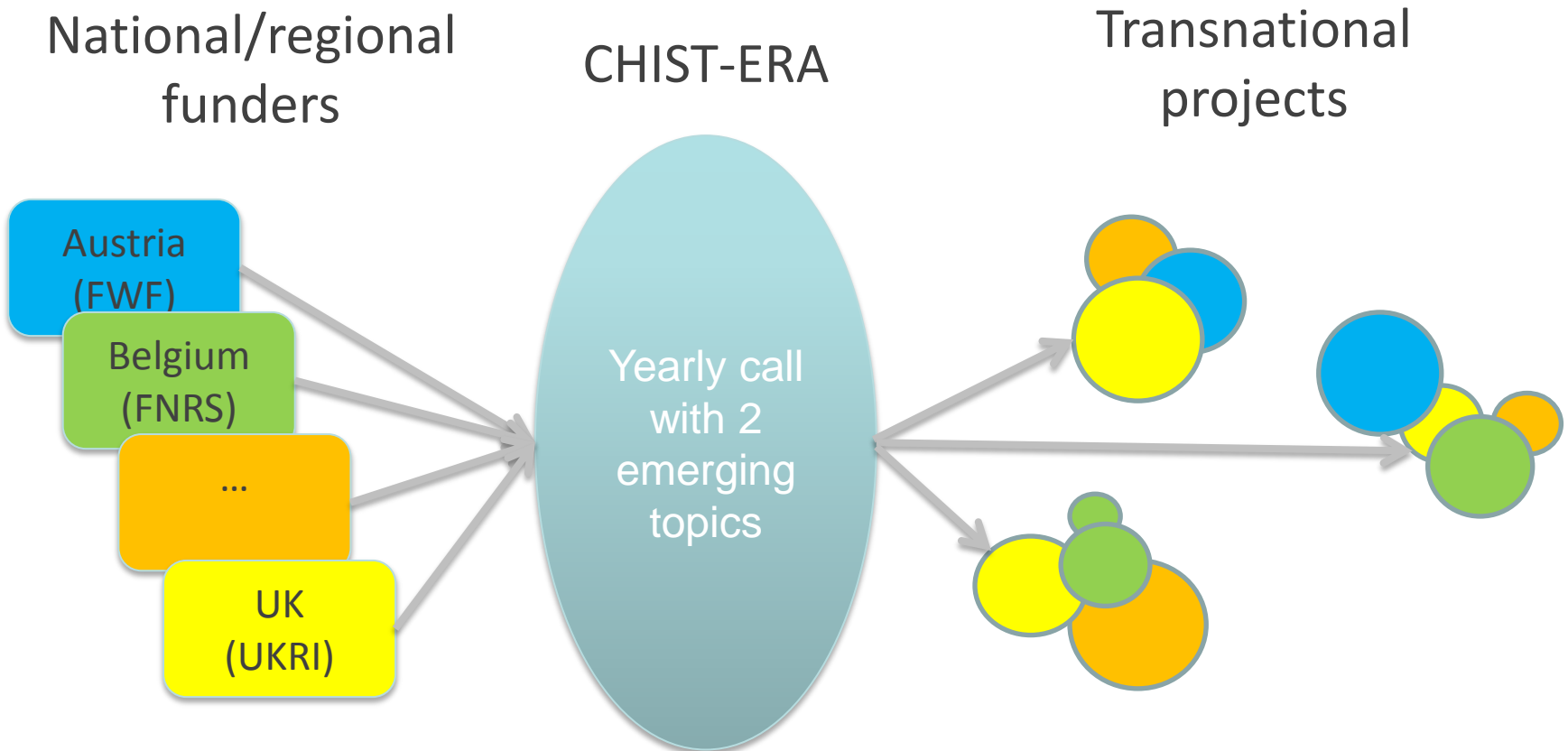
## **National/Regional level**

- ✓ For some countries, a separate application to the respective funding organisation by a project partner from that country is needed
- ✓ Formal implementation, grant agreement
- ✓ One [National Contact Point \(NCP\)](#) for the funding organisation



## ❑ No funding across borders

- ✓ Each project partner is funded separately by the respective funding organisation (no common pot)





# Requirements from the Consortia

## **Formation of consortia**

- ✓ At least 3 partners from 3 countries participating in the call topic (3-3 rule)
- ✓ Research should be focused on a clearly defined goal, i.e. typically not more than 6 partners is recommended
- ✓ Consortia should be balanced: Not more than 60% of the total requested funding should be incurred by a single funding organisation

## **Additional partners**

- ✓ Research groups from countries whose funding organisations are not in the call may join a project consortium as long as they are able to secure their own funding
- ✓ These groups/institutions do not count for the 3-3 rule





# Application Procedure

- ❑ **Two-step submission procedure with short- and full proposals**
- ❑ **Each consortium specifies one coordinator**
  - ✓ Single point of contact for the call secretariat
  - ✓ The coordinator must be based in a country participating in the call
- ❑ **For each project partner, one PI is the point of contact at the national/regional level**
- ❑ **Prior to submission, each PI has to consult with her/his funding organisation regarding eligibility issues:**
  - ✓ Eligibility of the institution (university, academic institutions, industry,...)
  - ✓ Position of the PI (e.g. permanent staff,...)
  - ✓ Eligible costs
- ❑ **The proposal is submitted through the ANR online submission platform**
- ❑ **Some funding organisations require additional national/regional forms at this stage!**



- ❑ **Evaluation by an international evaluation panel and remote reviewers**
- ❑ **Evaluation criteria:**
  - ✓ **Relevance to the Topic** (only in the 1st step of the evaluation)
  - ✓ **S/T Quality:** Scientific and/or technological excellence
  - ✓ **Implementation:** Quality and efficiency of the implementation and management
  - ✓ **Impact:** Potential impact through the development, dissemination and use of project results



- The Call Steering Committee recommends projects for funding to the funding organisations**
- Information flow:**
  - ✓ The Call secretariat informs all coordinators (outcome of the process, evaluation consensus report)
  - ✓ Information of each PI by the project proposal coordinator
- Contracting phase at the national/regional level**
- Separate grant agreement for each partner**



# Tentative Timeline

June 11-13, 2019	Call 2019 topics definition conference
September / October 2019	Call publication on CHIST-ERA website ( <a href="http://www.chistera.eu">www.chistera.eu</a> )
December 2019 / January 2020	1 <sup>st</sup> step submission deadline
April / May 2020	2 <sup>nd</sup> step submission deadline

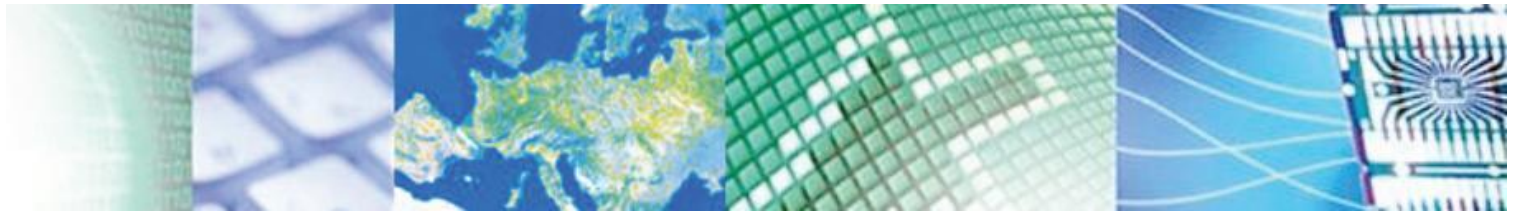


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## Further Information

- [www.chist-era.eu](http://www.chist-era.eu)
- Twitter: @chist-era\_net**

## PARTNERS



## ASSOCIATES



# Thank You!

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