Horizon Europe Info Day @Taiwan

CHIST-ERA Call 2022

October 6, Online

Contact: chistera@anr.fr

Co-funded by
the European Union

Outline

- CHIST-ERA in brief
- Research targeted, topics description
- Evaluation and selection process
- Open Access policy
- Widening Countries policy
- Application procedure and recommendations

chist-era

CHIST-ERA in Brief

CHIST-ERA Overview

- A network (ERA-NET) of research funding organisations in Europe and beyond
  - ✓ Covering most European countries + Québec, Taiwan & Brazil
  - ✓ Call consortium is a sub-set of CHIST-ERA consortium (participation on a topic by topic basis)
- 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. 0.8 - 1 M€ each, involving at least 3 countries each
  - ✓ Promoting Open Science, Widening Countries, Ethics
- Relying on a well-established yearly call cycle
  - ✓ One-step high quality evaluation process
- Fostering cross-fertilisation across topics and strategic thinking through a yearly Funded Projects Seminar
- Diversification of funding activities:
  - ✓ Call Open Science: the call is now open
  - ✓ Challenge Call: the call will be launched in 2023

Network of Research Funders

CHIST-ERA 2010

9 funders - 9 countries

CHIST-ERA 2022

31 funders from 27 countries

Call Topics

- With the past 12 calls, CHIST-ERA has targeted:

Quantum computing, consciousness, knowledge extraction, low-power computing, intelligent user interfaces, smart communication networks, adaptive machines, distributed computing, trustworthy cyber-physical systems, human language understanding, security and privacy in the IoT, terahertz communication, lifelong learning for intelligent systems, visual analytics, object recognition and manipulation by robots, big data for smart industry, analogue computing for AI and smart computing in networks, explainable AI, ICT for environmental sustainability, brain computer interfaces and sustainable ICT, NOEMS for ICT and misbehaviour detection in online social networks

More info: https://www.chistera.eu/funded-topics

- This year's call concerns the following topics:
  1. Security and Privacy in Decentralised and Distributed Systems (SPiDDS)
  2. Machine Learning-based Communication Systems, towards Wireless AI (WAI)

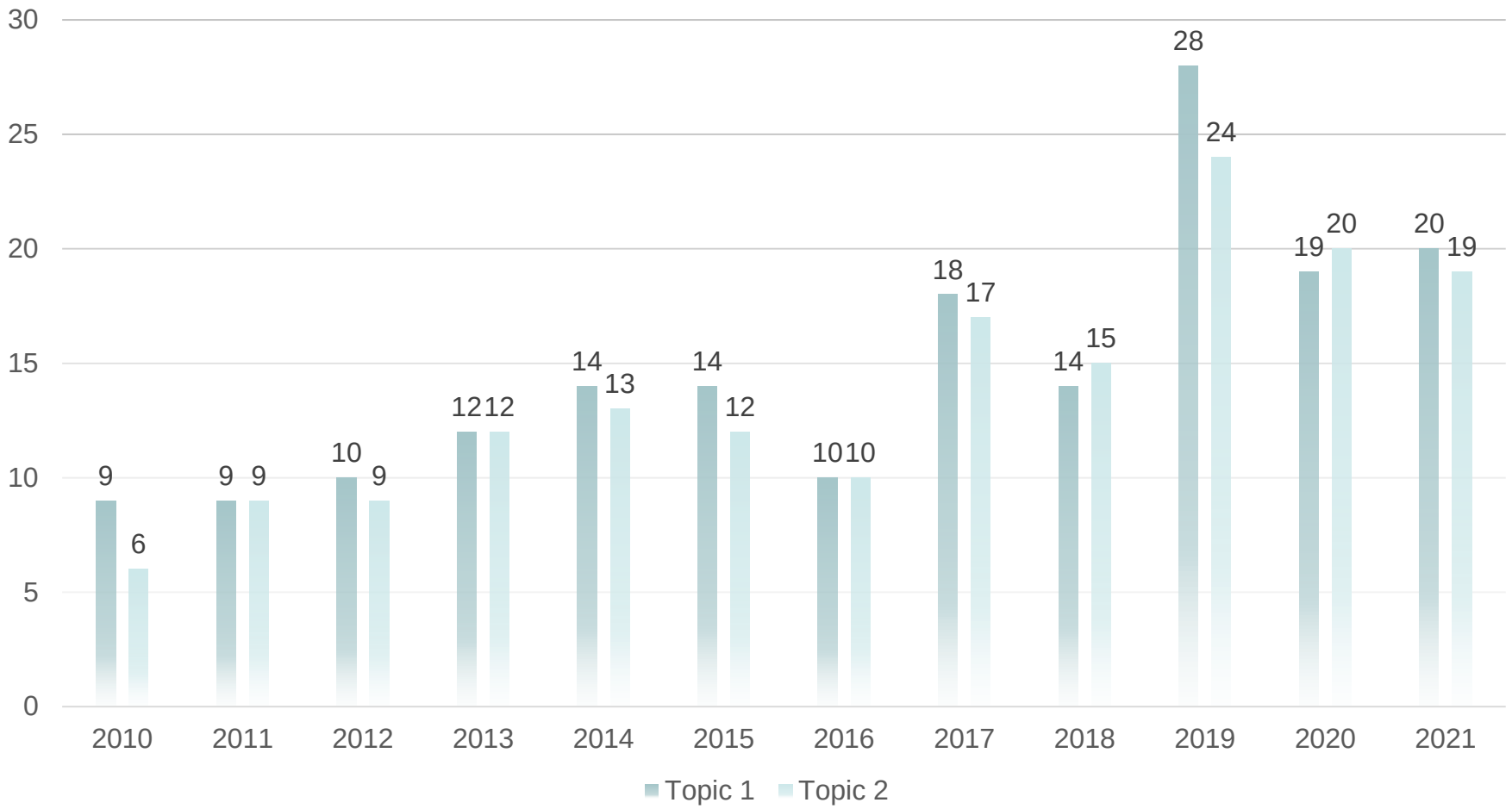
Yearly Main Events

- 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

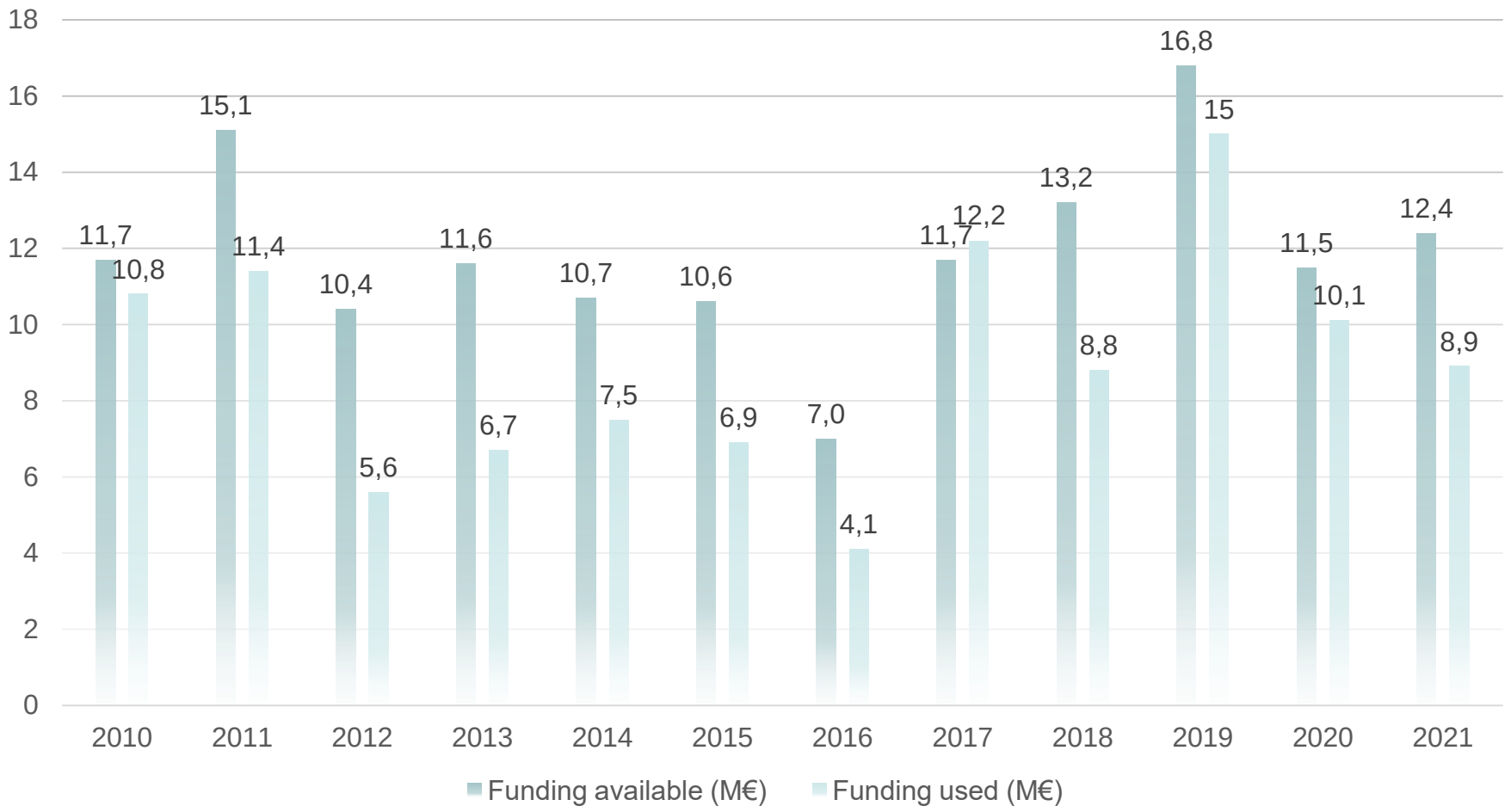
Fostering Strategic Thinking and Topic Maturation

- 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 Horizon Europe and development of strategic research agendas
  - ✓ Discuss the relevant parts of Horizon Europe 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

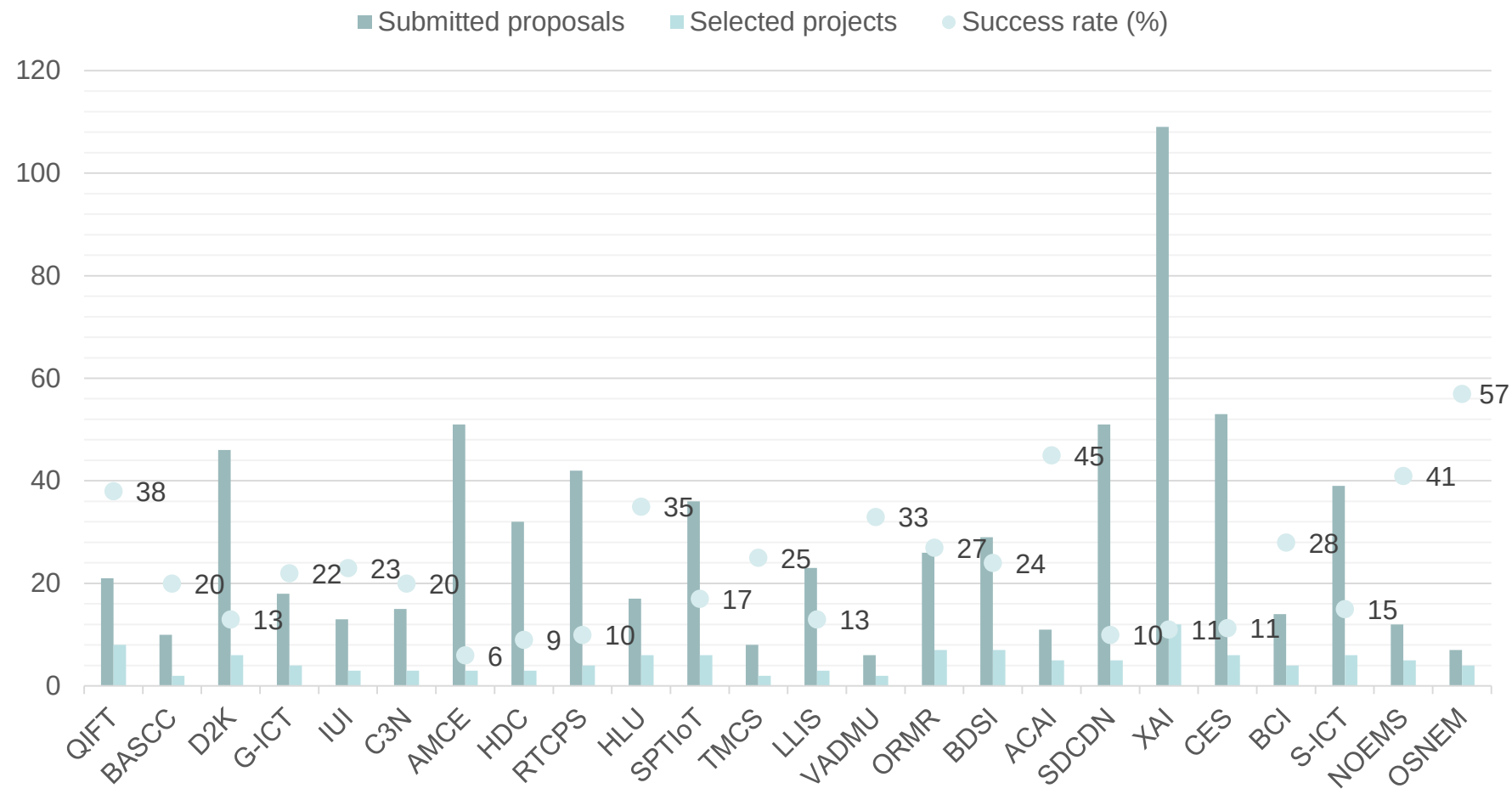
Funder Participation in Calls



Budget in Calls



Call Success Rate



Success rate (average): 16,8%

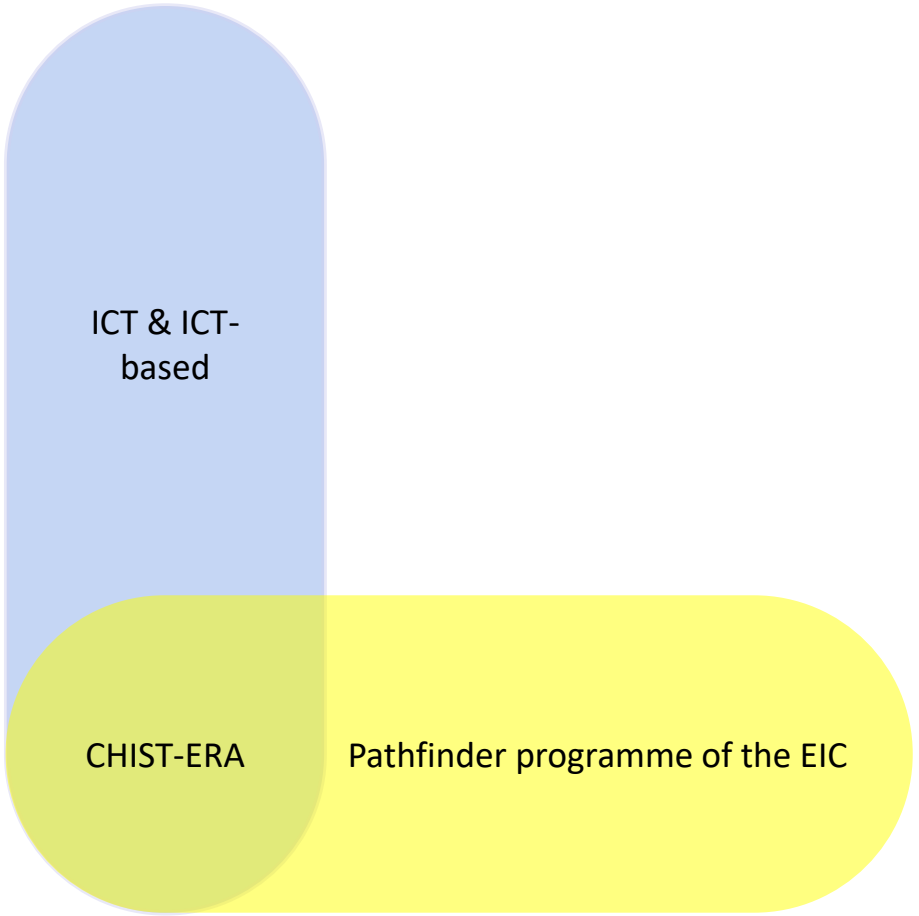
chist-era

Research Targeted, Topics Description

Targeted Research

Smarter, Safer, Leaner… ICT

- CHIST-ERA is the ERA-NET of the EIC Pathfinder programme
- Support to basic research for future and emerging ICT (Pathfinder-like research)
  - ✓ Long term interdisciplinary research
  - ✓ Risky with potential high impact
  - ✓ Favour novelty
- Focus on performance evaluation



Security and Privacy in Decentralised and Distributed Systems (SPiDDS)

Due to several technical trends (e.g., increasing miniaturisation of computing devices and availability of massive hardware parallelism in data centers) as well as societal ones (e.g., increasing globalisation and sharing of information), more and more computer applications are decentralised or distributed these days. This shift exacerbates security and privacy issues in computer systems, especially with applications becoming more complex by spanning multiple tiers or hardware infrastructures, and integrating different subsystems and components. New approaches are needed to achieve and reason about security and privacy guarantees in a comprehensive end-to-end fashion in such applications. In particular, formal techniques for verifying properties are needed for increasing automation and rigor in the face of increasingly complex systems.

Application sectors: Blockchains, edge and fog, 5G / 6G applications and systems, IoT, cloud

Keywords: Security, privacy and trust in distributed systems; Secure mobile, edge and cloud computing; Formal models of security and privacy; Automated verification of security and privacy properties in software; Secure distributed ledgers and coordination

Machine Learning-based Communication Systems, towards Wireless AI (WAI)

We are facing large growth in IoT networks and data traffic. New service requirements become also more and more demanding: Higher data volumes, ultra-low latency, massive connectivity, higher reliability and lower power consumption. To meet these requirements and dynamicity of the network, next generation wireless networks push forward towards radically new approaches. Machine Learning techniques can help future networks to meet these requirements and dynamicity of the network. They have the potential to handle giant amount of information to outperform current application scenarios and deliver novel ones. A partial list of components that could be significantly enhanced using Machine Learning techniques are: Resource optimization in Radio Access Network (scheduling), physical layer signal processing, spatial (MIMO) processing & beamforming, spectrum sensing & spectrum access for Cognitive Radio Networks, learning at the edge of wireless networks. The call topic will aim at accelerating the path towards relevant Wireless AI by successfully integrating software-based solutions and hardware-oriented proof-of-concepts.

Application sectors: Communication systems, AI

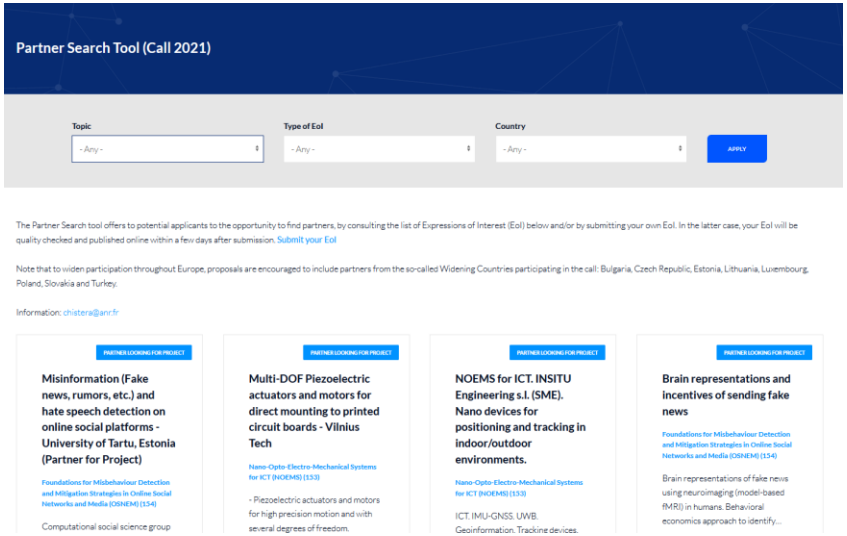
Keywords: Wireless communication, Machine Learning, Radio Access Networks, signal processing, MIMO, spectrum sensing, Cognitive Radio Networks, 5G, optimization algorithms, Dynamic Spectrum Allocation

Requirements from the Consortia

- Formation of consortia
  - ✓ At least 3 partners from 3 countries participating in the call topic
    - Industrial partners eligible for some funders (see call text for details)
  - ✓ 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 may be requested by partners from one country
- 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
  - ✓ The coordinator must request funding

Supporting Tools

- Partner Search Tool
  - ✓ Find partners at https://www.chistera.eu/partner-search-tool/2022
  - ✓ Or submit your expression of interest at https://www.chistera.eu/expression-interest-eoi
- Subscribe to the Call 2022 newsletter to receive any call update: Available soon
- Open Science training at https://www.chistera.eu/open-science-trainings
- A FAQ will be published at call webpage
- Technical guidelines for submitting a project will be available at call webpage



chist-era

Evaluation and Selection Process

WHO will Evaluate your Proposal?

- ***Evaluation panel*** – consists of sufficient number of high-level experts from different fields within the call topic
  - ✓ Some of them with specific knowledge on Open Science and on technology transfer
- Composition of the evaluation panel is prepared by the Call Secretariat and approved by CHIST-ERA funders in the call
  - ✓ Scientists participating in the proposals ***cannot*** be members of the evaluation panel or evaluate proposals as external reviewers
- Each proposal will be evaluated by 3 panel members
  - ✓ *External reviewers* – at least 2 for each proposal
- Evaluation panel is established for each topic → 2 separate panels evaluate proposals → Thus 2 ranking lists are elaborated
- The list of the panel members will be made public on CHIST-ERA website after the funding recommendation is issued

HOW will your Proposal be Evaluated?

Evaluation criteria **– for full description will see Call 2022 Announcement**

- **Relevance to the Topic** (threshold: 4/5, weight: 1)
- **Scientific and Technological Quality** (threshold: 3.5/5, weight: 2)
- **Impact** (threshold: 3.5/5, weight: 2)
- **Implementation** (threshold: 3/5, weight: 1)

HOW will your Proposal be Evaluated?

Evaluation scores

0 **The proposal fails** to address the criterion or cannot be assessed due to missing or incomplete information (unless the result of an 'obvious clerical error').

1 **Poor.** The criterion is inadequately addressed, or there are serious inherent weaknesses.

2 **Fair.** The proposal broadly addresses the criterion; but there are significant weaknesses.

3 **Good.** The proposal addresses the criterion well, but with a number of shortcomings.

4 **Very good.** The proposal addresses the criterion very well, but with a small number of shortcomings.

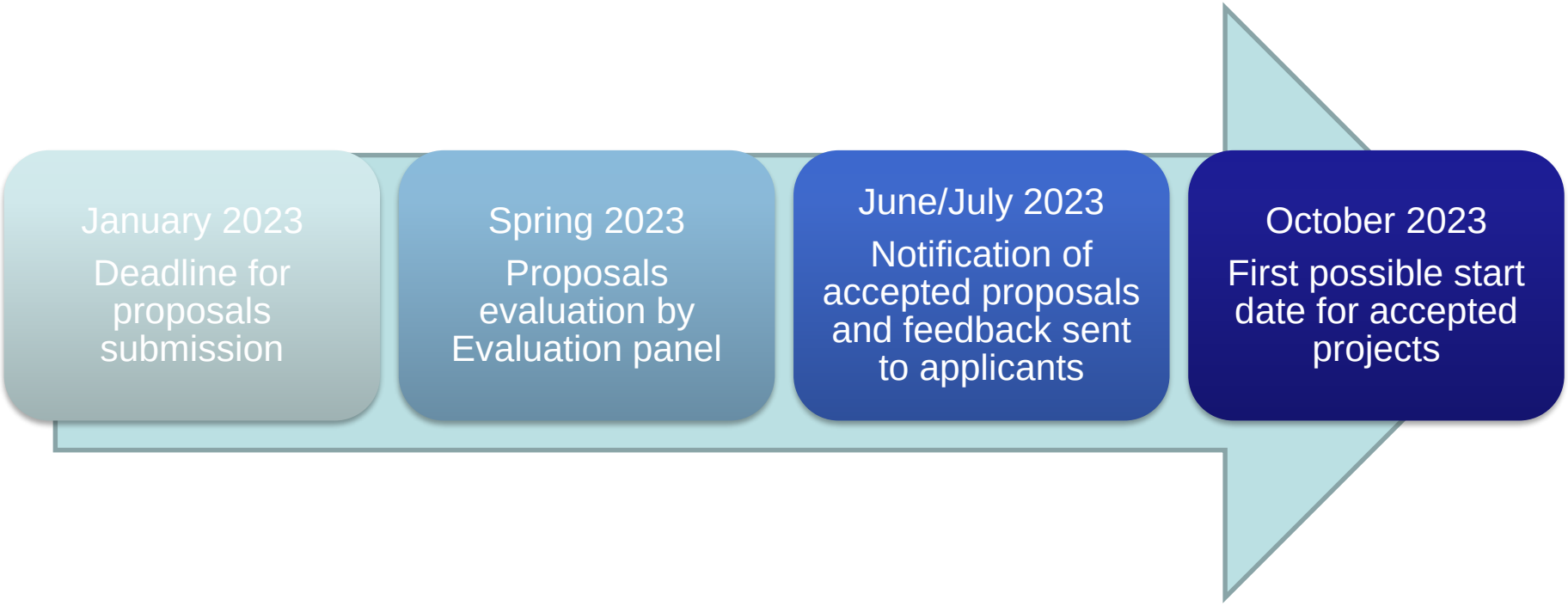
5 **Excellent.** The proposal successfully addresses all relevant aspects of the criterion; any shortcomings are minor.

Selection of Proposals

- On the basis of the ranking of the proposals and of available funding, the Call Steering Committee prepares a list of projects recommended for funding to the national/regional funding organisations
- Call Steering Committee (CSC) follows the ranking list and makes efforts to fund as many projects as possible
  - ✓ If not all ex-aequo projects can be funded, the following options are considered
    - Budget of the respective funder(s) can be increased
    - Budget cut in requested funding (manageable up to 10%)
- If the budget is unsufficient to fund all *ex aequo* projects among rank N, CSC will select projects using the following criteria:
  - ✓ The output of the call, i.e. the overall funding, should be maximised (e.g. by prioritising the projects with high presence of under-represented countries and vice-versa)
  - ✓ If possible each funding organisation funds at least one project
  - ✓ Projects involving partners from **Widening Countries** are prioritised

WHEN will your Proposal be Evaluated?

Tentative timeline



WHICH Feedback will you Receive?

- Notification of selection decision
  - ✓ Proposal below quality threshold, or
  - ✓ Proposal above quality threshold but not selected due to lack of funding, or
  - ✓ Proposal selected
- Review feedback
  - ✓ A consensus report summarising the panel's view on the proposal and funding recommendation to CHIST-ERA is sent to the project coordinator
    - Subsequently report is distributed to all partners by project coordinator
- List of selected projects is published on CHIST-ERA webpage
- If the proposal is selected for funding, contractual negotiation phase is launched with respective funding organisations involved in the project

chist-era

Open Science Policy

Why Open Access?

- Scientific transparency
- Reproducibility
- Visibility and democratisation of research
- Avoid triplicating payment of the same research
  - ✓ Researchers
  - ✓ Publications
  - ✓ Access to publications/data

General Status

- Clear strategic positions in Europe in favour of Open Science
  - ✓ Plan S (signed by many stakeholders)
  - ✓ Open Science policies in many funding organisations
    - Requirements of Open Access to publications have become a standard
    - Open Access to research data is more heterogeneous
- Researchers have been doing Open Science for decades
  - ✓ Publications on open archives
  - ✓ Sharing data on open access repositories

Open Science Opportunities in Call 2021

- Good practices of the research community supported
  - ✓ Commitment of Open Access within Call 2021
    - Publications in Open Access (Green or Gold routes)
    - Underlying data FAIRly open* in archives
    - **No embargo**
  - ✓ Data Management Plan (DMP) for accepted projects
    - **Within 3 months** of project start
    - Update on a yearly basis

- Open Science Coordinator: New role for projects
  - ✓ Planning of Open Science (activities, costs)
  - ✓ Monitoring throughout the project lifetime

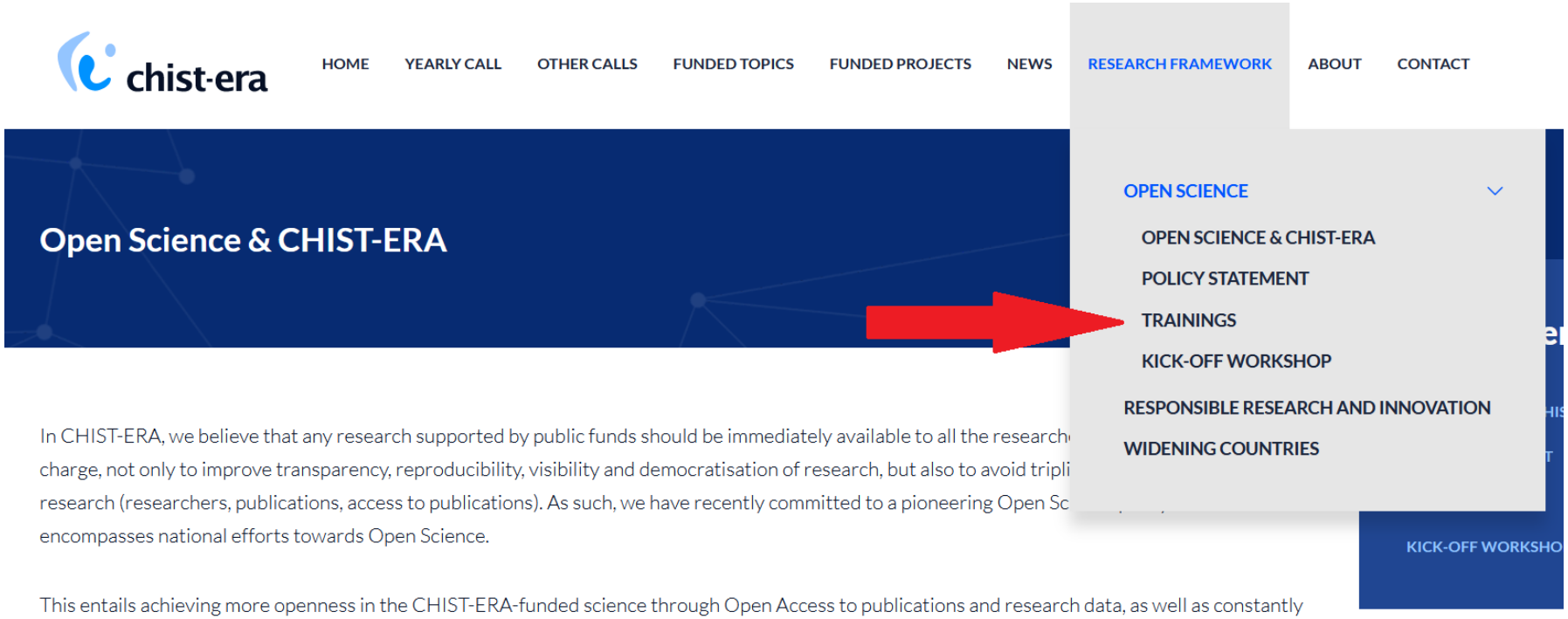
** Following the principle "as open as possible, as closed as necessary"*

Complementary Developments

- Appreciation of Open Science practices within the project evaluation (mainly *Impact* criterion)
- Reinforcement of DORA declaration principles
- See call documents for more details

Support Measures

- Webinar on Open Science (*OpenAIRE, December 2020)*



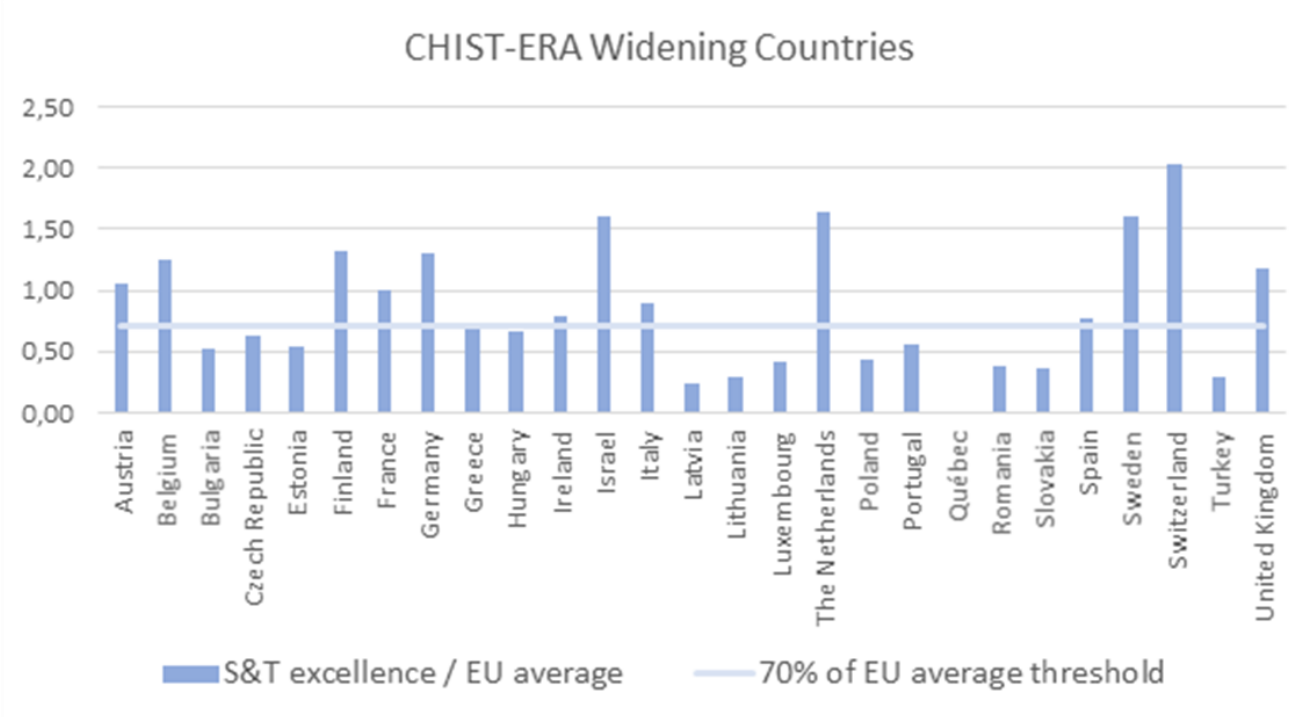
chist-era

Widening Countries Policy

Definition

- Widening Countries: List of low performing countries in R&I established by the EC
  - ✓ To capture the notion of S&T excellence at the national level a composite indicator was designed along four variables
  - ✓ I.e. the numbers of:
    - Highly cited publications
    - High quality patent applications
    - World class universities and research institutes
    - High prestige research grants
  - ✓ A country falls into the so-called Widening Countries group when its score is below 70% of the European Union average

CHIST-ERA Widening Countries



- Widening Countries in Call 2022: To be announced

Motivation

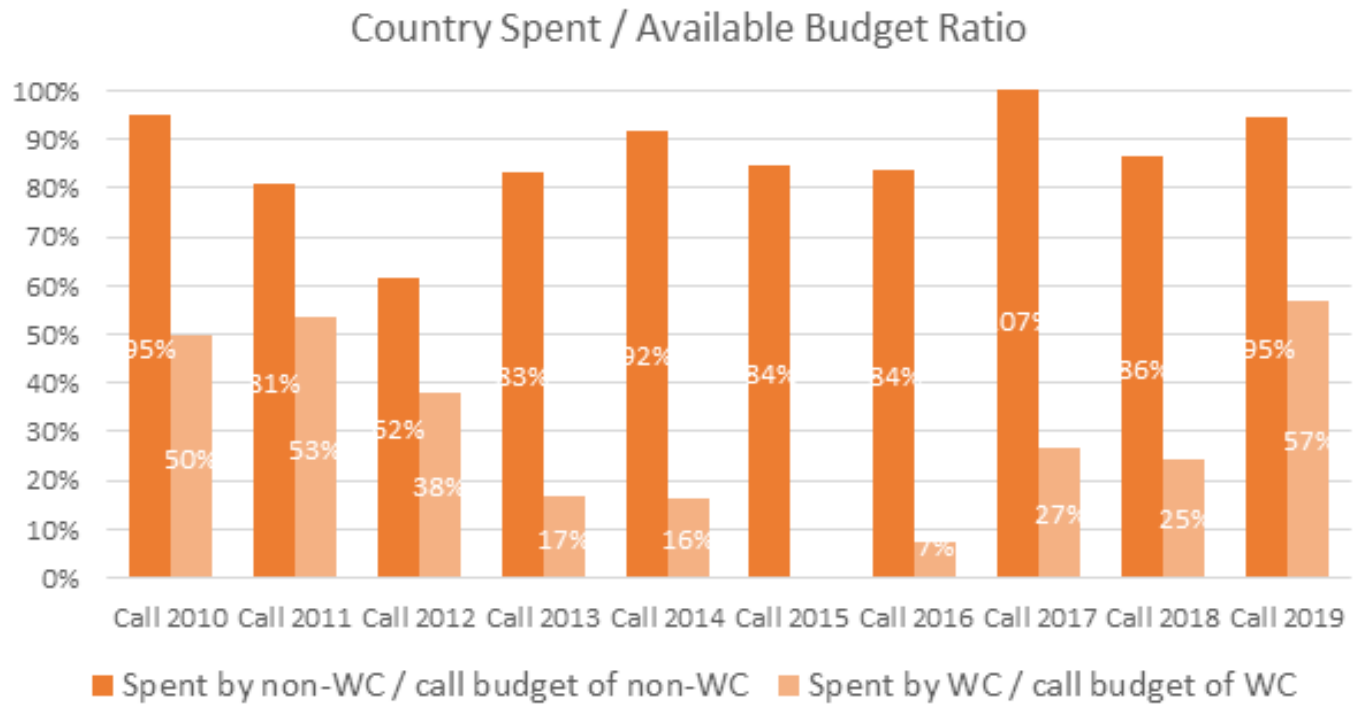
- Spread excellence
  - ✓ CHIST-ERA, as a funding instrument of collaborative projects following competition, can be instrumental
    - In opening well established non-Widening Countries research networks to most talented researchers in the Widening Countries
    - Conversely, broader engagement of the Widening Countries research communities has the capacity to enrich the European scientific and technology landscape with varied perspectives and scientific and technology challenges to tackle

Measures towards Researchers

- Add a call selection criterion that prioritises projects with Widening Countries in case of ex aequo projects
  - ✓ Objective: To create a strong incentive reflecting the strategic focus of CHIST-ERA towards participation of the Widening Countries
- Disseminate call opportunities via dedicated communication (infodays, matchmaking event…)
  - ✓ Objective: To make well known the policy orientation of CHIST-ERA
- Develop a Partner Search Tool
  - ✓ Objective: To help opening non-Widening Countries research networks to researchers in the Widening Countries
- Grant an additional funding when the coordinator is in the Widening Countries
  - ✓ Objective: To help homogeneise the distribution of the coordinators across CHIST-ERA countries

Funding Opportunity

- It is noticed that the ratio budget spent/available budget is lower for the funders in Widening Countries



chist-era

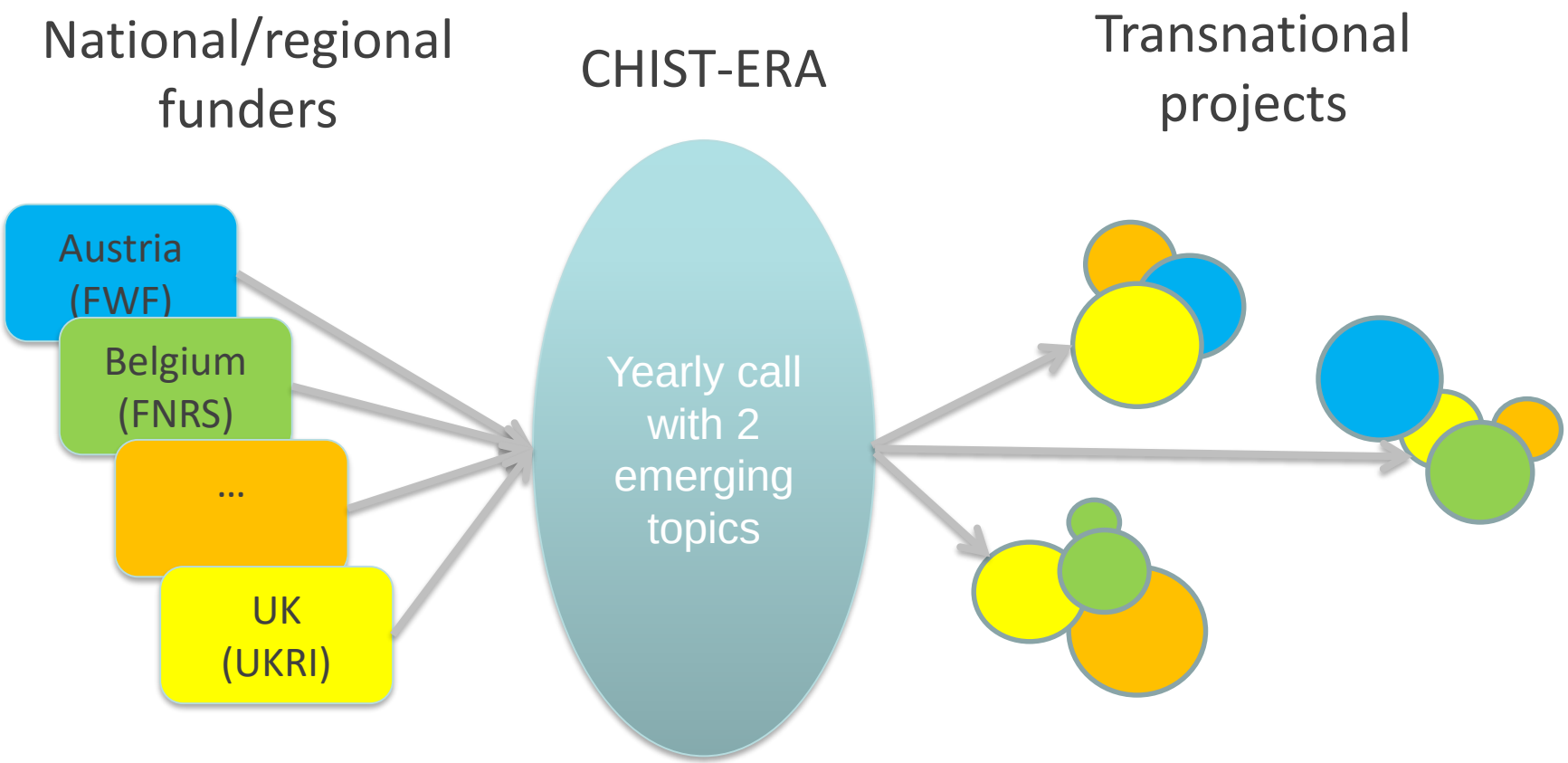
Application Procedure & Recommendations

Joint Funding Instrument (1/2)

- **European level**
  - ✓ Formation of collaborative projects
  - ✓ Submission of proposals
  - ✓ Evaluation and ranking
  - ✓ Funding recommendation
  - ✓ Contact point: CHIST-ERA Call Secretariat
- **National/Regional level**
  - ✓ One National/Regional Contact Point for the funding organisation
  - ✓ For some countries, a separate application to the respective funding organisation by a project partner from that country is needed
  - ✓ Formal implementation, grant agreement

Joint Funding Instrument (2/2)

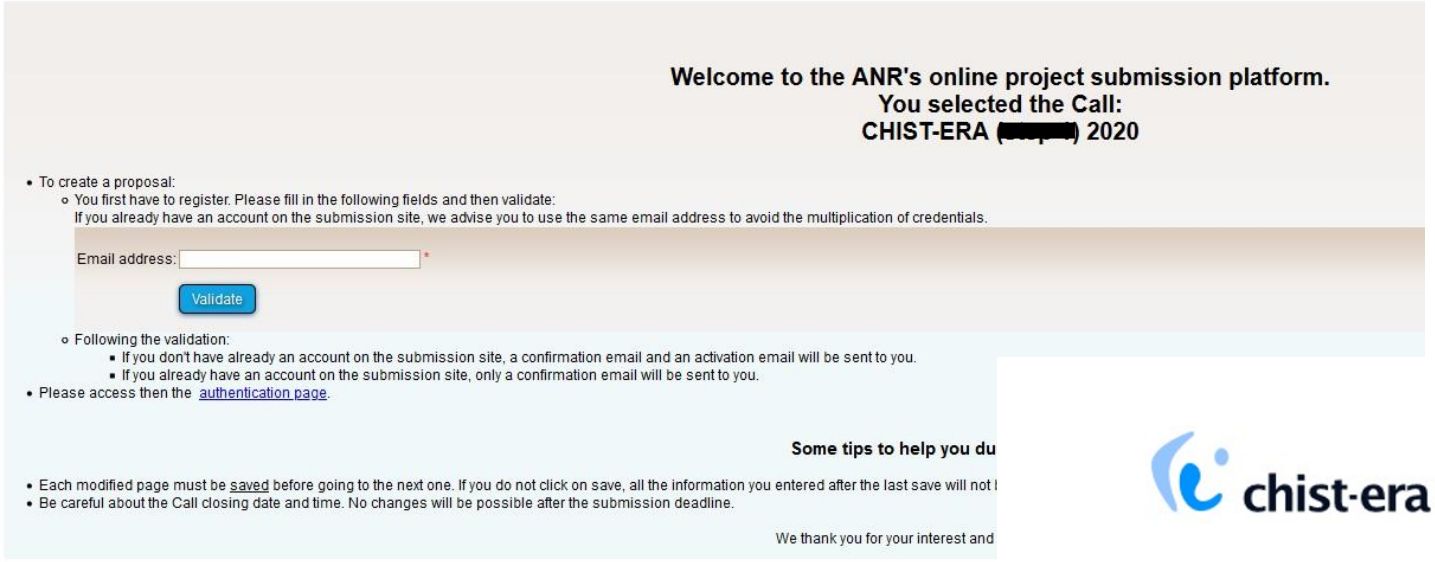
- No funding across borders
  - ✓ Each project partner is funded separately by the respective funding organisation (no common pot)



Application Procedure (1/2)

- One-step submission procedure
  - ✓ Proposal: approx. 25-35 pages
- 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

Application Procedure (2/2)



Welcome to the ANR's online project submission platform.
You selected the Call:
CHIST-ERA ([redacted]) 2020

- To create a proposal:
  - You first have to register. Please fill in the following fields and then validate:
    If you already have an account on the submission site, we advise you to use the same email address to avoid the multiplication of credentials.

Email address: *

Validate

  - Following the validation:
    - If you don't have already an account on the submission site, a confirmation email and an activation email will be sent to you.
    - If you already have an account on the submission site, only a confirmation email will be sent to you.
- Please access then the authentication page.

Some tips to help you du

- Each modified page must be saved before going to the next one. If you do not click on save, all the information you entered after the last save will not
- Be careful about the Call closing date and time. No changes will be possible after the submission deadline.

We thank you for your interest and

chist-era

European Coordinated Research on Long-term Challenges in Information and Communication Sciences and Technologies ERA-NET

www.chistera.eu

Call 2021
ELECTRONIC SUBMISSION SYSTEM

GUIDELINES FOR APPLICANTS

Recommendations (1/2)

- CHIST-ERA is not ERC: Collaboration, science and technology are essential ingredients
- Novelty and interdisciplinarity are important
  - ✓ Incremental refinements rarely make it, high-risk does
  - ✓ Collaboration driven by joint questions, goals and mutual learning
- A long term vision is essential but also a plausible idea on how to get there
- Strong encouragement to involve Widening Countries in the call
- Improve your project by integrating appropriate open access measures
- Consider altogether the Call Announcement, the evaluation criteria and the proposal template

Recommendations (2/2)

- Make sure that your partners have checked their eligibility with the respective funding organisations
- Take into consideration national/regional budget constraints. Projects are expected to be at maximum in the range of 0.75 – 1 M€
- Do not hesitate to contact the CHIST-ERA call secretariat and your national/regional contact points
- Get used to the electronic submission system sufficiently in advance to prevent any technical risk

Your Contacts

- Call 2022 information
  - ✓ Anna Ardizzoni (ANR – France) - chistera@anr.fr
- All Call 2022 national/regional contacts
  - ✓ https://www.chistera.eu/call-2022-draft-topics-keywords
- Website
- Newsletter
- Twitter
- LinkedIn

chist-era

Thank you!

Co-funded by
the European Union