



CHIST-ERA Conference 2021 Presentation of CHIST-ERA

May 25-26, Online

Anna Ardizzoni, CHIST-ERA Project Officer





- ☐ Conference objectives
- ☐ CHIST-ERA
 - ✓ Overview, statistics, targeted research
 - ✓ Call topic selection and definition
- ☐ Call 2021 key facts
- ☐ Additional funding activities
 - ✓ Call Open Science
 - ✓ “Challenge” call
- ☐ Connect with CHIST-ERA

Conference Objectives

☐ Scope the Call 2021 topics

✓ Research topics for the Call 2021

- *Nano-Opto-Electro-Mechanical Systems (NOEMS) for ICT*
- *Foundations for Misbehaviour Detection and Mitigation Strategies in Online Social Networks and Media*
- **Draft** topics description: <https://www.chistera.eu/call-2021-draft-topics-keywords>

☐ Networking event

- ❑ A network (ERA-NET) of research funding organisations in Europe and beyond
 - ✓ Covering most European countries + Québec
 - ✓ 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
 - ✓ Give an impulse to 2 promising topics per year
 - Typically 10-15 projects of approx. 0.8 - 1 M€ each, involving at least 3 countries each
 - ✓ Promoting Open Science, Responsible Research and Innovation, 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 & Challenge Call

Network of Research Funders

CHIST-ERA 2010

9 funders - 9 countries

Steady growth

CHIST-ERA 2021

28 funders from 25 countries



Yearly Main Events

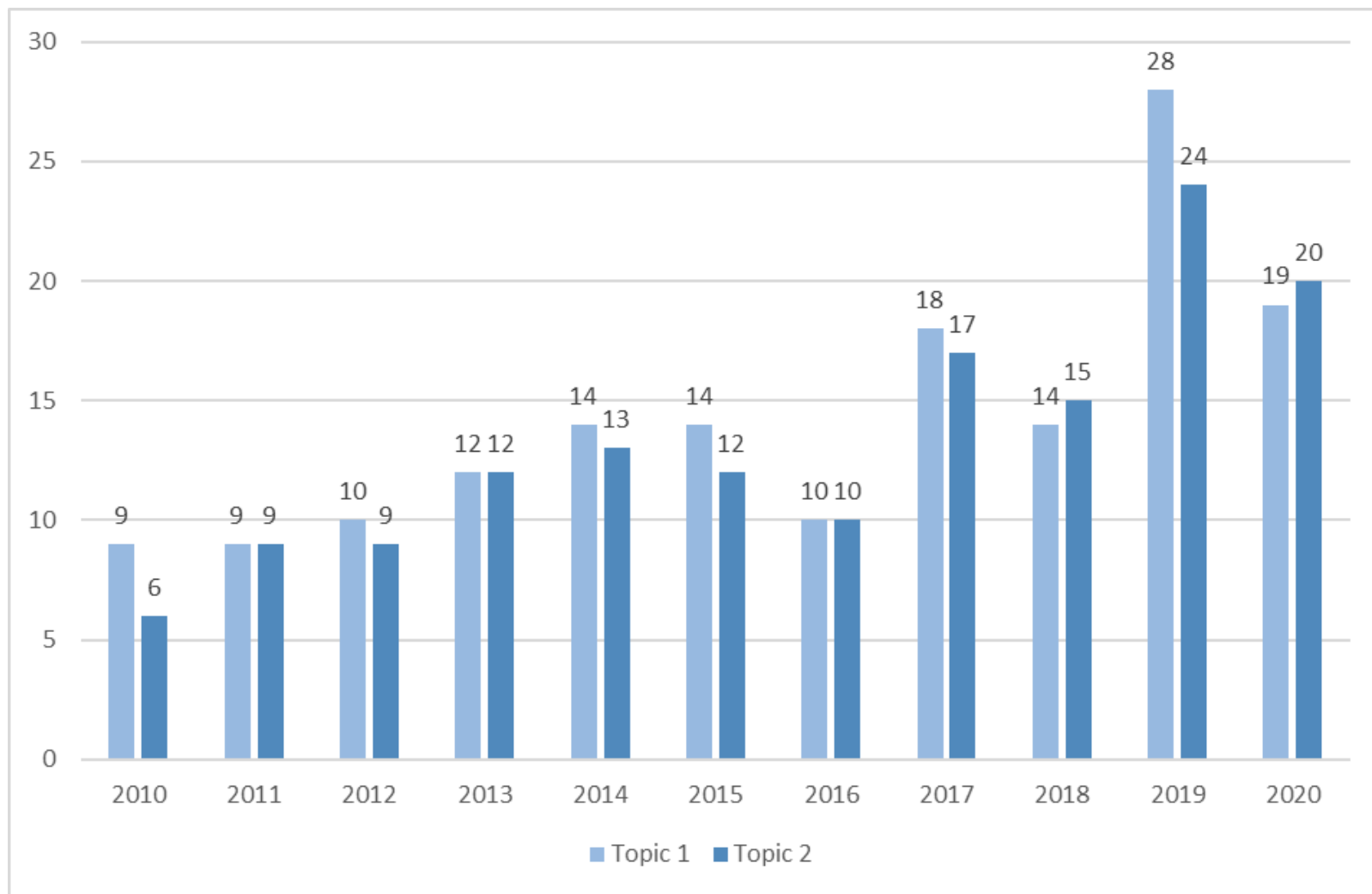
- ❑ Call topics selection workshop (among funding organisations & scientific advisory board)
 - ✓ Elaborate topic selection process open to new ideas
 - ✓ Selection based on well-defined criteria and thorough discussion
- ❑ Call topics definition conference (for all researchers interested in a selected 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

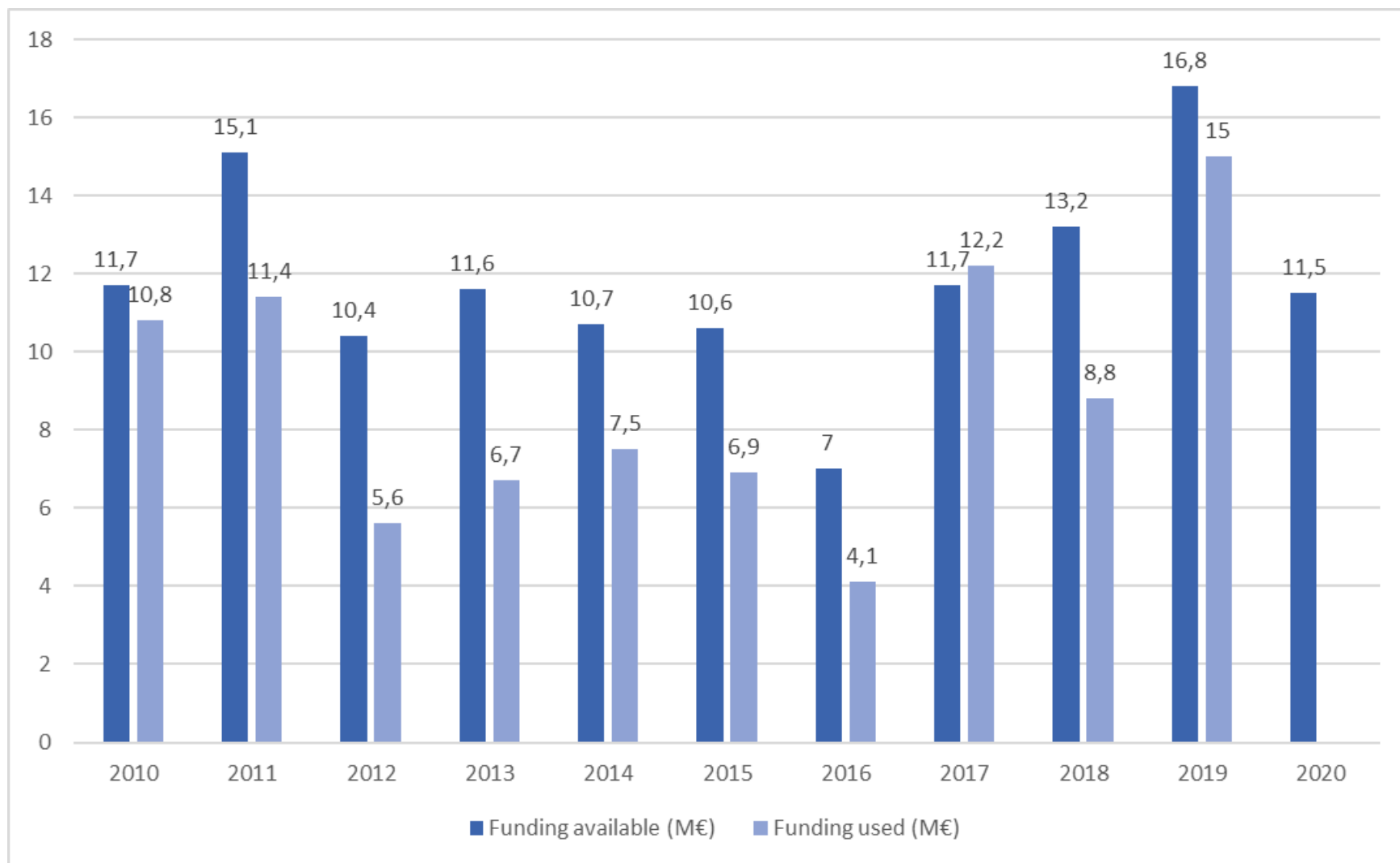
- ☐ Relying on the Funded Projects Seminar
 - ✓ Put the items below on the agenda of the thematic parallel sessions and ask to cover them in the presentation in plenary session
- ☐ Connection with H2020 and development of strategic research agendas
 - ✓ Discuss the relevant parts of H2020 for the topic, 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

Funders Participation in Calls

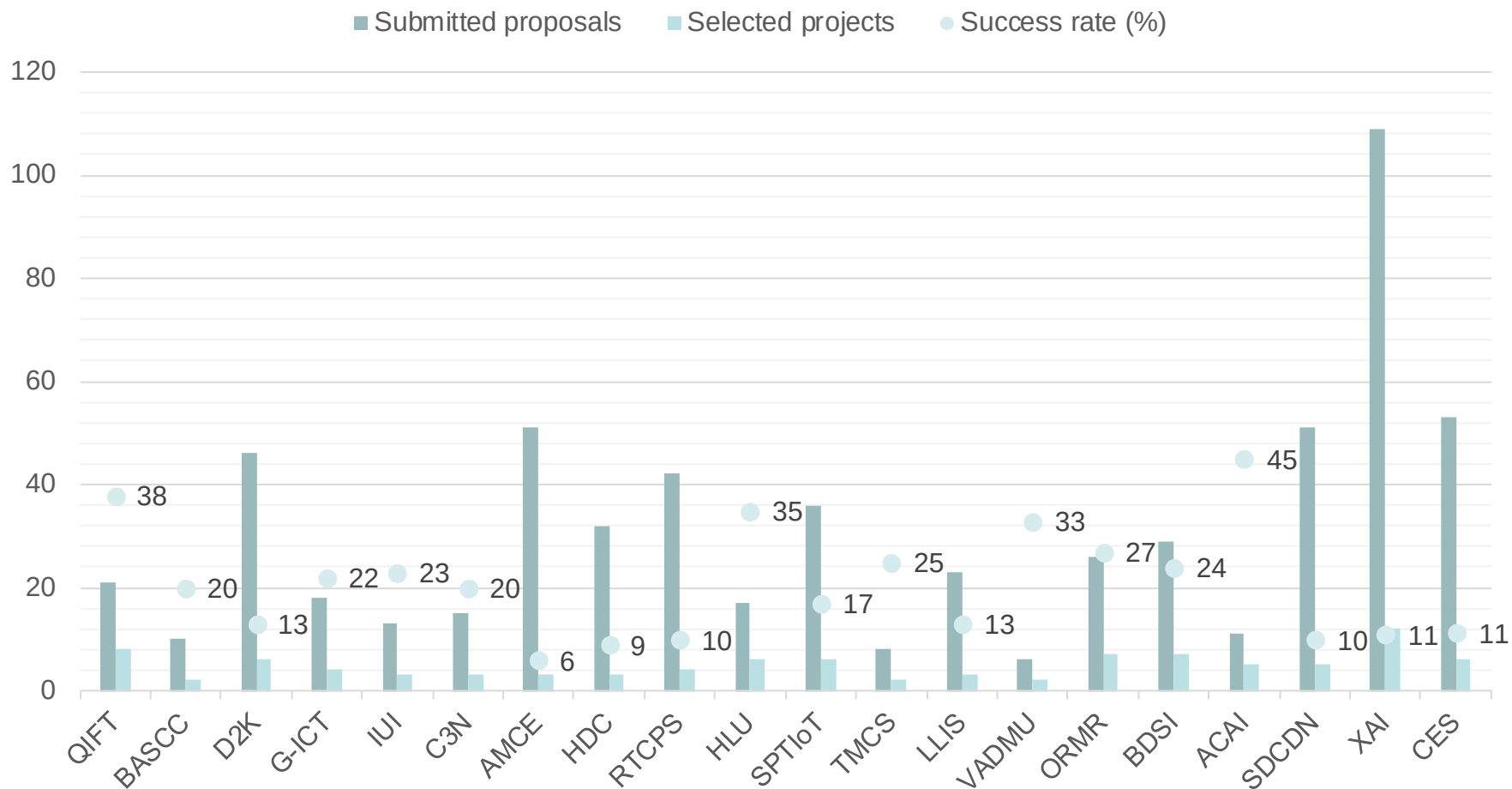




Budget in Calls



Success Rate



Success rate (average): 16%

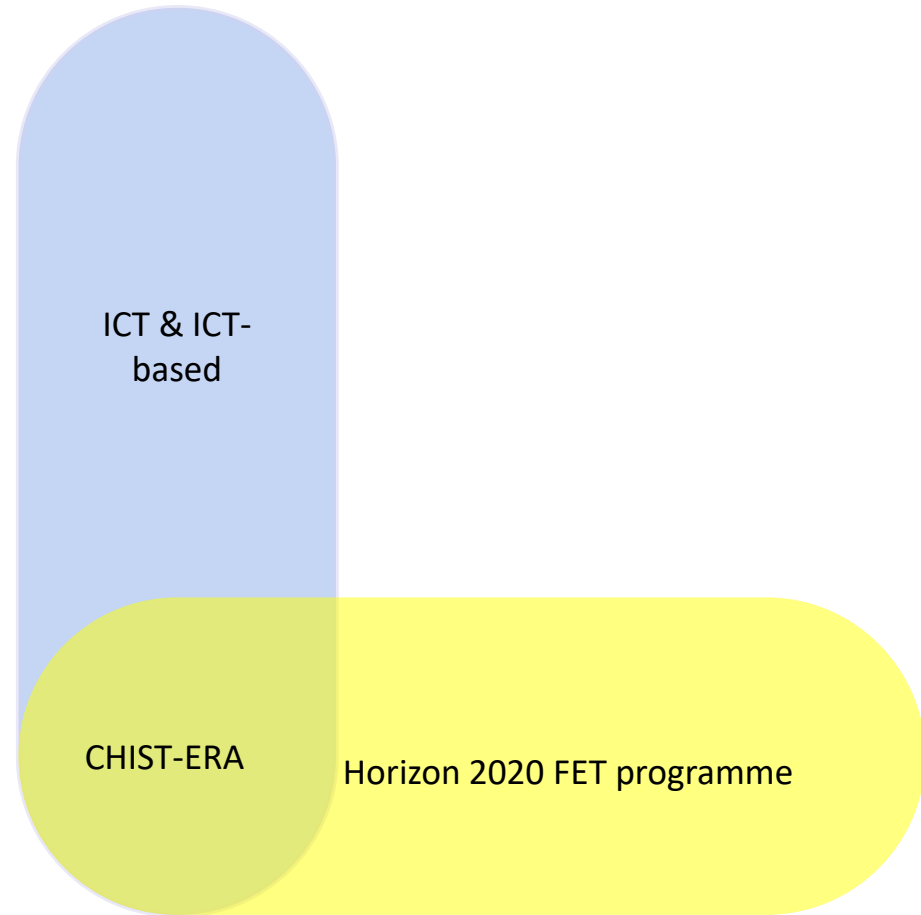
Targeted Research

Smarter, Safer, Leaner... ICT

- ❑ CHIST-ERA is the ERA-NET of the [FET Proactive](#) programme
- ❑ Support to [basic research for future and emerging ICT](#) (FET-like research)
 - ✓ Long term interdisciplinary research
 - ✓ Risky with potential high impact
 - ✓ Favour novelty

CHIST-ERA promotes

- Widened participation through the European Research Area
- Open access to publications and research data





“Smarter”

Examples of call topics

Call	Topic
2011	From Data to New Knowledge
2012	Intelligent User Interfaces
2013	Adaptive Machines in Complex Environments
2014	Human Language Understanding: Grounding Language Learning
2016	Lifelong Learning for Intelligent Systems
2017	Object recognition and manipulation by robots
2017	Big data and process modelling for smart industry
2019	Novel Computational Approaches for Environmental Sustainability



“Safer”

Examples of call topics

Call	Topic
2014	Resilient Trustworthy Cyber-Physical systems
2015	User-Centric Security, Privacy and Trust in the Internet of Things
2016	Visual Analytics for Decision Making under Uncertainty
2019	Explainable Machine Learning-based Artificial Intelligence



“Leaner”

Examples of call topics

Call	Topic
2010	Quantum Information Foundations and Technologies
2011	Green ICT, towards Zero-Power ICT
2012	Context- and Content-Adaptive Communication Networks
2013	Heterogeneous Distributed Computing
2015	Terahertz Band for Next-Generation Mobile Communication Systems
2018	Analog Computing for Artificial Intelligence
2018	Smart Distribution of Computing in Dynamic Networks

Topic Selection Criteria

☐ Scientific interest and innovation potential

- ✓ Novelty & ambition
- ✓ Multidisciplinary and/or transformative
- ✓ Clarity and measurability
- ✓ Timeliness
- ✓ Potential impact

☐ Suitability for a CHIST-ERA call

- ✓ Need for transnational cooperation
- ✓ Complementarity with existing calls
- ✓ Suitability of topic size

Topic Definition Phases

- ❑ 1st phase: Identification of potential topics
 - ✓ A preliminary topic list compiled from suggestions from the CHIST-ERA research funding organisations and Advisory Board members, and from inputs from FET and other EU programmes
 - ✓ Discussion between funders and Advisory Board members for a common understanding of the topics
- ❑ 2nd phase: Selection of two topics
 - ✓ Each funder indicates for each topic if it would be funded in case it is finally selected
 - ✓ Preliminary ranking list of topics compiled from scores given by funders and Advisory Board members
 - ✓ Funders meeting to select two topics
- ❑ 3rd phase: Definition of scientific call text
 - ✓ The chosen topics are published on the CHIST-ERA web site
 - ✓ Gathering renowned scientific experts
 - ✓ Scientific call text preparation



Conference

Call 2021 Key Facts

- ❑ Launch in the fall 2021
- ❑ Pre-announcement published in Sept 2021
- ❑ Tentative deadline: Mid-January 2022
- ❑ See up-to-date list of funding organisations considering joining the call at <https://www.chist-era.eu/call-2021-draft-topics-keywords>
- ❑ Support to applicants (call webpage to be published in Sept 2021)
 - ✓ Partner Search Tool
 - ✓ FAQ
 - ✓ Webinars for applicants

→ Scientific expectations + Open Science policy, Widening Countries policy...

Country	Funding organisation	Participation status	Contact point
Austria	FFG	To be announced	Ana.Almense@ffg.at
Austria	FWF	To be announced	Veronika.Schoepf@fwf.ac.at
Belgium	F.R.S.-FNRS	Considered	Florence.Quist@fra-fnrs.be
Belgium	FWO	To be announced	eranet@fwo.be
Bulgaria	BNSF	To be announced	Aleksandrova@mon.bg
Czech Republic	TACR	Considered	Michela.Kriklenova@tacrcz
Estonia	ETAg	Considered	Maarja.Soonberg@etag.ee
Finland	AKA	Considered	Katrina.Mahlamki@aka.fi
France	ANR	Considered	Anna.Ardizzoni@anr.fr
Greece	GSRT	Not considered	M.Koniaris@gart.gr
Hungary	NKFIH	To be announced	Edina.Nemeth@nkfh.gov.hu
Ireland	IRC	To be announced	RSiveeney@research.ie
Israel	InnovationAuth	Considered	rachel.l@isard.org.il
Italy	INFN	To be announced	Alessia.dOrazio@bo.infn.it
Italy	MIUR	To be announced	Giorgio.Carpino@miur.it
Latvia	VIAA	To be announced	Malje.Bundule@viaa.gov.lv
Lithuania	LMT	Considered	Laura.Kostelinickiene@lmt.lt
Luxembourg	FNR	Considered	Helena.Burg@fnr.lu
Poland	NCN	Considered	Alicja.Dylag@ncn.gov.pl
Portugal	FCT	To be announced	Germana.Santos@fct.pt
Québec (Canada)	FRQNT	Not considered	Michel.Gorceau@frq.quebec.ca
Romania	UEFISCDI	To be announced	Cristina.Cotet@uefiscdi.ro
Slovakia	SAS	Considered	Penisova@up.upssav.sk
Spain	AEI	Considered	ere-ict@aei.gob.es
Sweden	VR	To be announced	tomas.andersson@vr.se
Switzerland	SNSF	Considered	chist-era@snf.ch
Turkey	TÜBİTAK	To be announced	Ozlem.GeziciKoc@tubitak.gov.tr
United Kingdom	UKRI	Considered	Maryam.Crabbe-Mann@epsrc.ukri.org

Additional funding activities

❑ Call Open Science: *Research Practices and Open Research Data*

- ✓ Challenges of research data structuring, accessibility, reuse, interoperability, citation, sharing and openness
- ✓ Support to European projects to develop and disseminate appropriate research practices across the various research communities
- ✓ Express your interest to the funding organisations in CHIST-ERA!
- ✓ Call publication date: fall 2021

❑ Challenge Call

- ✓ It targets a focused objective. Selected projects all share this common objective
- ✓ Their progress toward this objective is assessed every year through evaluation campaigns gathering all the projects
- ✓ The evaluation campaigns involve metrics and protocols implemented by the evaluation campaign organisers
- ✓ The scheme combines competition among selected projects and cooperation: Data sharing and networking across projects are promoted
- ✓ Express your interest to the funding organisations in CHIST-ERA!
- ✓ Call publication date: In parallel to the Call 2021 (fall 2021)

Connect with CHIST-ERA

- ❑ www.chistera.eu
- ❑ Twitter: https://twitter.com/chistera_net
- ❑ LinkedIn: <https://www.linkedin.com/company/chist-era-era-net>
- ❑ Contact: chistera@anr.fr



Topic 1. NOEMS for ICT



Topic 1. Nano-Opto-Electro-Mechanical Systems for ICT

- ☐ The fast rise of optomechanics opened the route to novel platforms which could offer several practical implementations of new optical elements and technologies
- ☐ The combination of mechanical elements and waves with photonic structures allows fast and flexible manipulation of the state of light
- ☐ Generation of mechanical waves by electric means enables an extra degree of freedom to manipulate light
- ☐ Building arrays of such elements would give rise to nano-opto-electro-mechanical metasurfaces serving as advanced physical interfaces operating at room temperature to be used in a plethora of applications in ICT.
- ☐ **Application sectors:** Light-based ICT, low-power ICT
- ☐ **Keywords:** Nano-opto-electro-mechanical interfaces, light manipulation, room temperature, neuromorphic computing, high frequency switch, advanced communications and radar, tunable and surface-addressable / surface-emitting nanophotonic devices, beam steering, microwave photonics



Thank you!

