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Technical Assistance for Turkey in Horizon 2020 Phase-II
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Session 2- ERA Chairs (HORIZON-WIDERA-2022- TALENTS-01) Call

General & Introductory Training (Webinar) Horizon Europe Widening
Participation and Spreading Excellence (ERA Chairs)

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Online, 21 January 2022

Photo by Christian Lue on Unsplash



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



Few introductory things about the Call...

- Important to read the Call
- Necessary to understand the Call
- Worrying how to interpret the Call and ‘translate’ it into a hopefully successful proposal
- It is not a trivial process at all
- At any point one may get ‘lost in translation’

Does it look familiar this story?

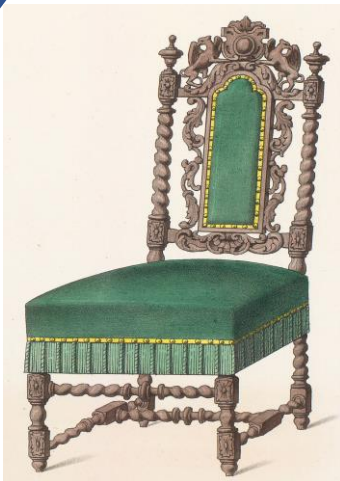
- Two proposal writers for the ERA Chairs call are involved in a dispute and ask a Key Expert to settle it for them
- When the first consultant tells his opinion, the Key Expert says: **You are right!**
- The second Key Expert protests - when he tells his version, the Key Expert says: **You are right!**
- Then, a third proposal writer, who has been listening, intervenes: *But they can't both be right.*
- And the Key Expert promptly replies: **You are also right!**

Relations, correlations, etc.



The 'Match'

The Holder



The Hosting
Institution

- The ‘Match’ = The ‘Story’
- The ‘Match’ = The ‘Setting’
- The ‘Match’ = The ‘Context’

Looking in detail into the Call...

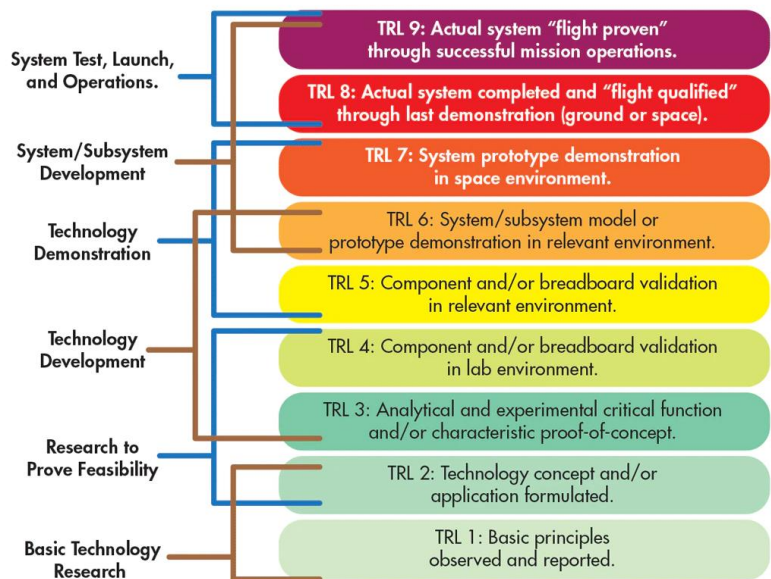
- Call identity: HORIZON-WIDERA-2022-TALENTS-01-01
- Official Link: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-widera-2022-talents-01-01>
- Related destination: Destination 2: **Attracting and mobilising the best talents**

Aim of the Call

- Foster **brain circulation**, including inter-sectoral mobility for researchers and innovators and turn it into **brain gain** for widening countries
- Part of Component 1 for: Widening Participation and Spreading Excellence
- It is one of the six Objectives there (page 10 of the WorkProgramme!)

On brains...

The Innovation Journal: The Public Sector Innovation Journal, Volume 22(2), 2017, article 3.



From NASA to EU: the evolution of the TRL scale in Public Sector Innovation

Mihály Héder

On brains... (cont'd)



by Jean M.
Johnson and
Mark C. Regets

Division of Science Resources Studies

ISSUE BRIEF

NSF 98-316, June 22, 1998

*U.S. universities are
the conduit for
acquiring,
supporting, and
retaining foreign
S&E talent.*



REPUBLIC OF TURKEY
MINISTRY OF INDUSTRY
AND TECHNOLOGY



REVISED

November 10, 1998



NATIONAL SCIENCE FOUNDATION
Directorate for Social, Behavioral,
and Economic Sciences

INTERNATIONAL MOBILITY OF SCIENTISTS AND ENGINEERS TO THE UNITED STATES—BRAIN DRAIN OR BRAIN CIRCULATION?

Foreign-born scientists and engineers (S&Es) contribute significantly to the brain power of the United States. Considering the U.S. labor force with doctoral degrees in S&E fields, immigrants are 29 percent of those conducting R&D¹ (table 1). Several decades ago,

Are we seeing brain drain or brain circulation? This issue brief discusses student flows into U.S. higher education, the stay rates of foreign doctoral recipients, and their short- and long-term employment in U.S. industry, universities, and Government.

Table 1. U.S. and foreign-born scientists and engineers in R&D in the United States, by sector and location of S&E degree (1993)¹

Scientists and Engineers in U.S. R&D	Total		Education		Industry		Government	
	All degree levels	Ph.D.s	All degree levels	Ph.D.s	All degree levels	Ph.D.s	All degree levels	Ph.D.s
Total engaged in U.S. R&D.....	2,685,000	345,000	592,000	179,000	1,747,000	135,000	346,000	31,000
U.S.-born.....	2,254,000	244,000	470,000	128,000	1,477,000	90,000	307,000	26,000
Foreign-born	431,000	101,000	122,000	51,000	270,000	45,000	39,000	5,000
Location of S&E degree.....								
Foreign school.....	138,000	32,000	41,000	16,000	87,000	14,000	9,000	2,000
U.S. school 2/.....	293,000	70,000	81,000	35,000	183,000	31,000	29,000	4,000
Foreign-born in R&D as percent of total engaged in R&D.....	16.1	29.3	20.7	28.5	15.5	33.2	11.2	17.3
U.S. school as percent of foreign-born in R&D.....	67.9	68.7	66.1	67.9	67.6	69.6	75.8	69.2

^{1/} In table 1, numbers for all degree levels have been revised to include only those with science and engineering degrees.

^{2/} U.S. school was the location of the highest earned S&E degree.

NOTE: Data are headcounts of those with science or engineering degrees who reported R&D as their primary or secondary activity in the three surveys contained within the SESTAT database. These data differ from estimates of full time equivalent (FTE) scientists and engineers in R&D, and from estimates of scientists and engineers defined by occupation. Industry in this table includes the nonprofit sector. Numbers in general may differ from similar SRS tabulations due to the inclusion of degrees from foreign schools.

SOURCE: National Science Foundation, Division of Science Resources Studies, SESTAT database.

the emigration of such highly skilled personnel to the United States was considered one-way

U.S. higher education and foreign S&E graduate students



Reading the call together...

- Total indicative budget for the topic is EUR 80.00 million
- EU contribution of between EUR 1.50 and 2.50 per project
- Estimate of about 32 projects to be funded
- Type of the Action: Coordination and Support Actions (on this later in this presentation!)

Check the small print

- *Annex B of the General Annexes (page 9)*
- *Eligibility conditions*
- *‘Coordination and support actions (CSA) — Activities that contribute to the objectives of Horizon Europe. **This excludes R&I activities, except those carried out under the ‘Widening participation and spreading excellence’ component** of the programme (part of ‘Widening participation and strengthening the European Research Area’). Also eligible are bottom-up coordination actions which promote cooperation between legal entities from Member States and Associated Countries to strengthen the European Research Area, and which receive no EU co-funding for research activities.’*

Expected outcomes

- Progress towards more and better ***links between research and innovation actors*** across European Research Area and beyond is a requirement if Europe as a whole is to ***capitalise on excellence*** from across the continent.
- To foster ***brain circulation*** for researchers and innovators the intervention point of the ERA Chairs actions is ***attracting in a sustainable manner outstanding scientists and innovators*** to universities or research organisations in catching up countries and regions.
- This measure of ***“brain gain”*** and creation of ***pockets of excellence*** will impact on the ***culture and performance of host institutions***.
- The leadership of the ERA Chair holder and the ***creation of a permanent and excellent research group*** in the chosen scientific field will ensure excellence, visibility and better integration in the European Research Area, as well as fostering competitiveness in research funding and ***promoting institutional reforms*** aligned with ERA priorities.

Two levels of contributions

1. System level
 2. Organisational level
- Most important sentence:
 - ‘Projects are expected to contribute to some of the following outcomes: ‘ (page 50)
 - How much is some?
 - ...

System level contributions:

- Increase in number of R&I talents moving to host organisations in Widening countries
- Increase in international, interdisciplinary and intersectoral mobility of researchers and innovators
- Encouraging institutional reforms in research institutions and in the national R&I system in widening countries
- Strengthening of Widening countries' human capital base in R&I with more entrepreneurial and better trained researchers and innovators
- Better communication of R&I results to society
- Better quality and capacity of research and innovation contributing to Europe's competitiveness and growth
- Improved excellence capacity and resources in Widening countries and close the still apparent research and innovation gap within Europe

Organisation level contributions:

- Research excellence of the institution in the specific fields covered by the ERA Chair holder.
- Increased attractiveness of the institution for internationally excellent and mobile researchers.
- Creation of a permanent and excellent research group in the chosen scientific field with a spill-over effect on the institution;
- Improved capability to succeed in competitive research funding in the EU and globally, at least, in the fields of choice;
- Greater contribution to the knowledge-based economy and society

On the process

- Research organisations located in **widening countries** interested in establishing an ERA Chair shall submit a proposal with the prospective ERA Chair holder who should be an **outstanding researcher and/or innovator** in the chosen scientific domain.
- The scientific field can be **any domain of research and innovation** addressed under the Treaty on the Functioning of the European Union.
- Question:
 - Which are the criteria for an outstanding researcher and/or innovator?
 - (Some everyday examples can demonstrate the difficulty)
 - (You are outstanding if you are recognised as an outstanding)

On the process (*cont'd*)

- **The institution in the Widening country shall be the coordinator and *can opt between***
 1. a joint application with the legal entity currently employing the future ERA Chair **or**
 2. submitting a proposal as a single applicant.
- For the former [: 1], partner institutions can be located in any country (including countries outside the EU) except the country of the coordinator and ERA Chair holders can be citizens of any country in the world.

Define in detail the gives and the takes

- Proposals should include a CV in Europass form of the future ERA Chair holder and **detail the scientific and technical support he/she will provide to the coordinator** and how the proposed activities will upgrade from the current situation
- If there is a partner institution proposals should outline **any additional support to be provided by it to the coordinator**
- Proposals should also describe **any relevant investments of the coordinator** in research projects, facilities and infrastructures and **how those will be achieved** and/or a better use of the installed research capacity (in particular of EU co-funded research infrastructures & facilities).

Care for the details

- ‘Existing or foreseen arrangements for compliance with ERA priorities²² including the European Charter for Researchers & Code of Conduct for the Recruitment of Researchers²³ are to be outlined in the proposal.’

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The ERA priorities

Based on analysis of the strengths and weakness of Europe's research systems[7] and the overall objective of inducing lasting step-changes in Europe's research performance and effectiveness by 2014, the ERA priorities are:

- More effective national research systems – including increased competition within national borders and sustained or greater investment in research
- Optimal transnational co-operation and competition - defining and implementing common research agendas on grand-challenges, raising quality through Europe-wide open competition, and constructing and running effectively key research infrastructures on a pan-European basis
- An open labour market for researchers - to ensure the removal of barriers to researcher mobility, training and attractive careers
- Gender equality and gender mainstreaming in research – to end the waste of talent which we cannot afford and to diversify views and approaches in research and foster excellence
- Optimal circulation, access to and transfer of scientific knowledge including via digital ERA - to guarantee access to and uptake of knowledge by all.

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COMMISSION RECOMMENDATION

of 11 March 2005

on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers

(Text with EEA relevance)

(2005/251/EC)

Additional documents

- To allow for the determination of the commitment of the future ERA Chair holder and of the coordinator institution, proposals shall include:
 1. **a letter signed by the prospective ERA Chair holder** expressing his/her commitment to the proposal and willingness to take on the underlying tasks and obligations;
 2. **a letter from the head of the coordinator** institution committing to the proposal and stating that the ERA Chair holder is to receive adequate support to take on her/his tasks and duties including, for example, access to research facilities, supervision of researchers, teaching duties (if any) and capacity to apply freely to national and international funding.

(Pre)conditions

- The ERA Chair holders might move **on a temporary or permanent basis** to the coordinator's premises.
- To this end, secondments or any other legal arrangements (e.g., leave without pay, sabbatical licences) are possible including part-time work and multiple stays.
- All contractual arrangements and the timeline of ERA Chairs stays at the coordinator should be indicated in the proposal as well as the salary, travel and daily allowances and/or other perks to be offered.
- If, at any stage, the preferred option is an employment contract, the future contractual arrangements with the coordinator should be detailed.

(Pre)conditions (cont'd)

- To ensure the sustainability of the action, the ERA Chair research team should have ***conditions to thrive*** after the end of the Horizon Europe funding.
- This should be clearly demonstrated in the proposal and include the appointment of the leader of the newly created research group ***on a permanent basis*** within the coordinator organisation (to which the ERA Chair holder might apply) during the initial 3 years of the duration of the grant.
- This is to be conducted through an open recruitment procedure to be monitored by the European Commission.

(Pre)conditions (cont'd)

- Grants have an expected duration of up to 5 years and cover expenses related to the ERA Chair holder and a number of team members (e.g. their salaries, recruitment costs, administrative costs, travel and subsistence costs) and research costs up to 10% of the EU contribution.
- Costs to be claimed by a partner institution should be mainly linked to personnel seconded to the coordinator.
- The grant should also provide a contribution towards measures aimed at facilitating structural changes in the institution (e.g. costs for trainings, meetings, publications and managing Intellectual Property Rights (IPR)).

Last but not least...

- Specific attention should be paid to gender equality objectives, in line with the organisations' commitments through their adopted gender equality plans, and in line with ERA objectives, as far as appropriate.

Structure and format for your proposal

1. Introduction - setting the context
2. Deficiencies of the old proposal templates
- 3. Comparison of old and new templates – in detail later!**
4. Suggestions on how to proceed
5. Conclusions and take away messages


1. Introduction – context setting

- Templates are important – ***not only a technicality***
- Form follows function
- Trade offs:
 - too (much) scientific
 - too (much) industry
 - too (much) sale pitch
- Compromise: accommodate all above aspects even partly
- With a bad template several hundreds of people will ... suffer
- A good template shall help all write better proposals and – ***very important***: help people ***build better learning curves***

2. Deficiencies of the old templates

1. Excellence

Your proposal must address a topic set out in the work programme for this call for proposals.

 *This section of your proposal will be assessed only to the extent that it is relevant to that topic.*

1.1 Objectives

- Describe the overall and specific objectives for the project¹, which should be clear, measurable, realistic and achievable within the duration of the project. Objectives should be consistent with the expected exploitation and impact of the project (see section 2).

1.2 Relation to the work programme

- Indicate the work programme topic to which your proposal relates, and explain how your proposal addresses the specific challenge and scope of that topic, as set out in the work programme.

1.3 Concept and methodology; quality of the measures

- Describe and explain the overall concept underpinning the project. Describe the main ideas, models or assumptions involved.
- Describe any national or international research and innovation activities which will be linked with the project, especially where the outputs from these will feed into the project.
- Describe and explain the overall methodology.

3. Comparison of old and new templates

- **OLD:** 50 pages
- **New:** 30 pages (but...)
- **OLD:** Section 1 (Excellence): 3 subsections
- **New:** Section 1 (Excellence): 2 subsections (but...)
- **OLD:** Section 2 (Impact): 2 Sections
- **New:** Section 2 (Impact): 2 'old' + **one new:** *Impact canvas*
- **OLD:** Section 3 (Implementation): 4 Sections
- **New:** Section 3 (Qual. & effic. of implem.): 2 Sections

Imapct canvas

- Perhaps the most ‘new’, ‘innovative’, ‘game changing’ part in the new template? ...
- Some prehistory:
- With the business model canvas of Osterwalder, the idea of providing information *in such a structured form* became more and more popular
- Horizon Results Booster currently uses two other ‘canvas’ templates:
- The Lean Canvas
- The Value Proposition Canvas



Value Proposition Canvas

Product

Benefits

A benefit is what your product does for the customer. The benefits are the ways that the features make your customer's life easier by increasing pleasure or decreasing pain. The benefits of your product are the really core of your value proposition. The best way to list out the benefits of your product on the canvas is to imagine all the ways that your product makes your customer's life better.

Features

A feature is a factual description of how your product works. The features are the functioning attributes of your product. The features also provide the 'reasons to believe'. Many FMCG marketers deride the importance of features because features are no longer a point of difference in most FMCG marketing. But for technology products and innovative new services the features on offer can still be an important part of your value proposition.



Experience

The product experience is the way that owning your product makes the customer feel. It's the sum total of the combined features and benefits. Product experience is different to features and benefits because it's more about the emotional reasons why people buy your product and what it means for them in their own lives. The product experience is the kernel that will help identify the market positioning and brand essence that is usually built out of the value proposition.

Customer

Wants

The emotional drivers of decision making are things that we want to be, do or have. Our wants are usually conscious (but aspirational) thoughts about how we'd like to improve our lives. They sometimes seem like daydreams but they can be powerful motivators of action. The wants speak more to the pull of our hearts and our emotions.

Fears

Fears can be a strong driver of purchasing behaviour and can be the hidden source of wants and needs. For any product there is a secret "pain of switching". Even if your product is better than the competition, it might not be a big enough improvement to overcome the inertia of the status quo.

Needs

The customer's needs are the rational things that the customer needs to get done. Interestingly, needs are not always conscious. Customers can have needs that they may not know about yet. Designers call these "latent needs". The needs speak more to the pull of our heads and rational motivations.

Product

Name your product or service

Ideal Customer

Name your ideal customer

Substitutes

These are not just the obvious competitors, but also existing behaviours and coping mechanisms. Remember that people made it this far in life without your product. If your product isn't better than the existing solutions then you don't have a real-world value proposition.

The Lean Canvas

KER name

Dd-mm-2020

Iteration #1



Problem

Solution

Unique Value Proposition

Unfair Advantage

Customer Segments

Alternative Solutions

Key Metrics

Channels

Early adopters

Cost Structure

Distribution costs

People

Marketing (Customer Acquisition costs)

R&D costs

Engineering and Production costs

Permits, authorisations, etc

Revenue Streams

Sales

Services (consultancy/training, etc)

Maintenance

PRODUCT

MARKET

The HE Impact canvas

- **Caution:** It is meant to be a *summary*



- It consists of six parts:

1. Specific needs
2. Expected results
3. D&E&C measures
4. Target groups
5. Outcomes
6. Impacts

See is to believe...

SPECIFIC NEEDS

What are the specific needs that triggered this project?

Example 1

Most airports use process flow-oriented models based on static mathematical values limiting the optimal management of passenger flow and hampering the accurate use of the available resources to the actual demand of passengers.

Example 2

Electronic components need to get smaller and lighter to match the expectations of the end-users. At the same time there is a problem of sourcing of raw materials that has an environmental impact.

EXPECTED RESULTS

What do you expect to generate by the end of the project?

Example 1 **Successful large-scale demonstrator:**

Successful large-scale demonstrator:
Trial with 3 airports of an advanced forecasting system for proactive airport passenger flow management.

Algorithmic model:

Novel algorithmic model for proactive airport passenger flow management.

Example 2

Publication of a **scientific discovery on transparent electronics.**

New product: More sustainable electronic circuits.

Three PhD students trained.

D & E & C MEASURES

What dissemination, exploitation and communication measures will you apply to the results?

Example 1

Exploitation: Patenting the algorithmic model.

Dissemination towards the scientific community and airports: Scientific publication with the results of the large-scale demonstration.

Communication towards citizens: An event in a shopping mall to show how the outcomes of the action are relevant to our everyday lives.

Example 2

Exploitation of the new product: Patenting the new product; Licencing to major electronic companies.

Dissemination towards the scientific community and industry:

Participating at conferences; Developing a platform of material compositions for industry; Participation at EC project portfolios to disseminate the results as part of a group and maximise the visibility vis-à-vis companies.

TARGET GROUPS

Who will use or further up-take the results of the project? Who will benefit from the results of the project?

Example 1

9 European airports:

Schiphol, Brussels airport, etc.

The European Union aviation safety agency.

Air passengers (indirect).

Example 2

End-users: consumers of electronic devices.

Major electronic companies: Samsung, Apple, etc.

Scientific community (field of transparent electronics).

OUTCOMES

What change do you expect to see after successful dissemination and exploitation of project results to the target group(s)?

Example 1

Up-take by airports: 9 European airports adopt the advanced forecasting system demonstrated during the project.

Example 2

High use of the scientific discovery published (measured with the relative rate of citation index of project publications).

A major electronic company (Samsung or Apple) **exploits/uses the new product** in their manufacturing.

IMPACTS

What are the expected wider scientific, economic and societal effects of the project contributing to the expected impacts outlined in the respective destination in the work programme?

Example 1

Scientific: New breakthrough scientific discovery on passenger forecast modelling.

Economic: Increased airport efficiency
Size: 15% increase of maximum passenger capacity in European airports, leading to a 28% reduction in infrastructure expansion costs.

Example 2

Scientific: New breakthrough scientific discovery on transparent electronics.

Economic/Technological: A new market for touch enabled electronic devices.

Societal: Lower climate impact of electronics manufacturing (including through material sourcing and waste management).

The basic notions



Final remarks for the impact canvas

- It is not as 'easy' as it seems...
- Needs hands-on practice
- Don't forget: practice makes the master!
- Ideal: to be composed with interaction amongst partners
- Also: ***it needs time*** – it is not wise to leave for the last moment
- Even better: Ideal to ***start your proposal from this section*** and then build and elaborate on the other parts!

4. Conclusions

- The new proposal template (as any other) has to be lived-in by the people
- Consider the 10.000 hours rule ;-)
- Less pages does not necessarily mean less effort
- Impact canvas is tricky: looks simple but has to be filled-out with good quality information
- Impact canvas can be the starting point for a proposal

For follow-up questions contact me at:

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Q&A

Time to ask your
questions!

Teşekkür ederim!

Thank you!

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