COST APPLICATION

COST - European COoperation in Science and Technology

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Business from technology

What is funded by COST?

COST Actions: A network of (nationally) funded projects (min. 5 participating countries) receive a financial contribution based on a joint work programme (4 years) for:

- Science management / working group meetings
- Scientific workshops and seminars
- Short Term Scientific Missions (STSMs)
- Training Schools and Research Conferences
- Dissemination

- *Average funding about 100 000 € per year per Action*

Exploratory/Strategic Workshops: to explore future scientific or societal needs, support policy developments or stimulate new activities

COST scientific & technical Domains


Biomedicine and Molecular Biosciences (BMBS)


Chemistry and Molecular Sciences & Technologies (CMST)


Earth System Science & Environmental Management (ESSEM)


Food & Agriculture (FA)


Forests, their Products and Services (FPS)

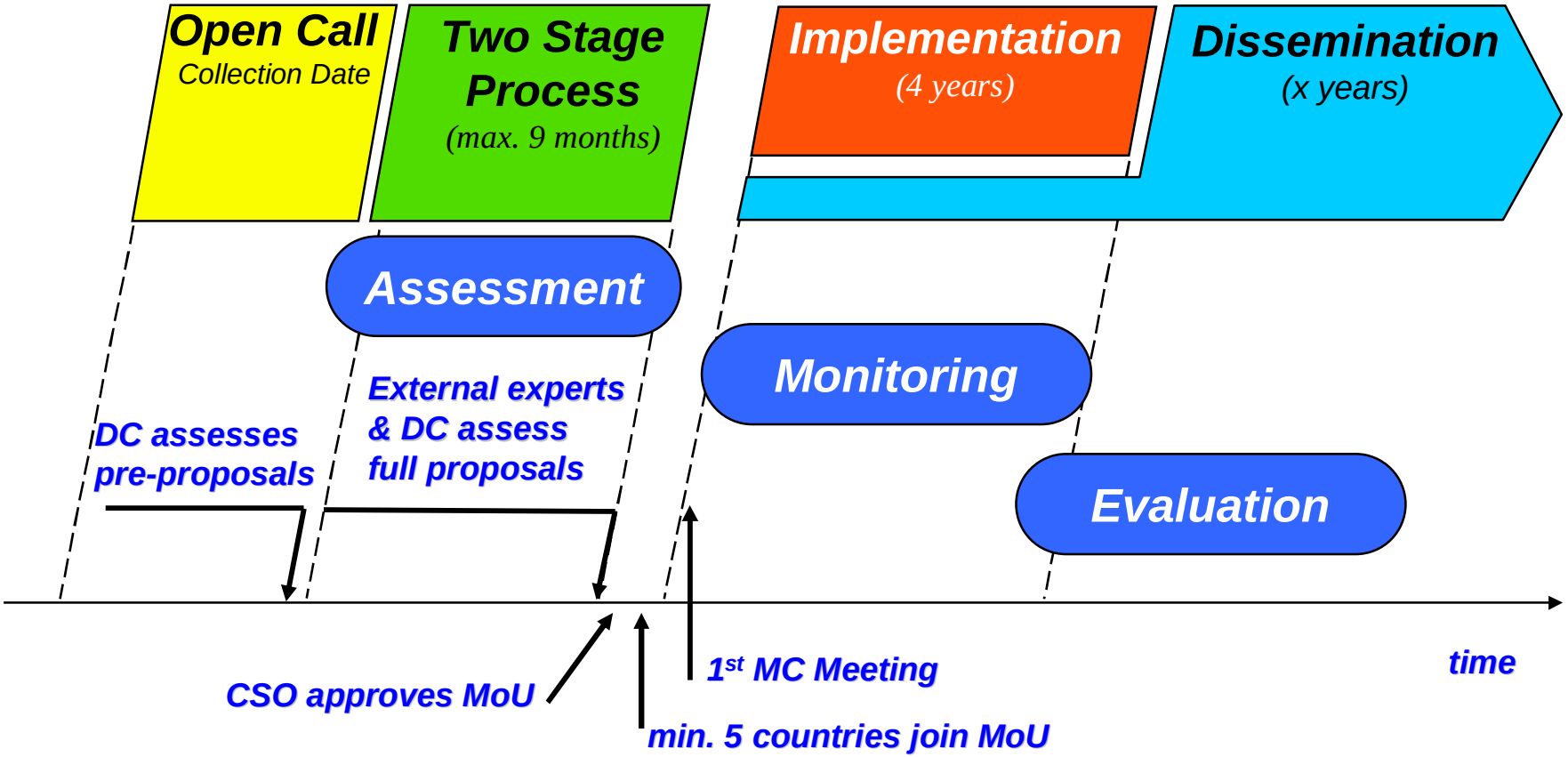

Individuals, Society, Culture & Health (ISCH)


Information & Communication Technologies (ICT)


Materials, Physical & Nanosciences (MPNS)


Transport & Urban Development (TUD)

COST Action life cycle



COST Open Call Collection Dates

Open Call - Collection Dates	4th collection date (2008-1)	5th collection date (2008-2)	6th collection date (2009-1)	7th collection date (2009-2)	8th collection date (2010-1)
Collection Date	28/03/2008	26/09/2008	27/03/2009	25/09/2009	26/03/2010
Eligibility check & Allocation to DCs	10/04/2008	9/10/2008	9/04/2009	8/10/2009	8/04/2010
Domain Committee electronic ranking	09/05/2008	7/11/2008	8/05/2009	6/11/2009	7/05/2010
Invitation for Full Proposals	16/05/2008	14/11/2008	15/05/2009	13/11/2009	14/05/2010
Deadline for Full Proposals	01/08/2008	16/01/2009	31/07/2009	15/01/2010	30/07/2010
Deadline EEP comments	29/08/2008	13/02/2009	28/08/2009	12/02/2010	27/08/2010
External Experts Panel meetings	01-12/09/2008	16/2-27/2/2009	31/08-11/09/2009	15/2-26/2/2010	30/8-10/9/2010
Domain Committee Hearings	08-19/09/2008	23/2-6/3/2009	7-18/09/2009	22/2-5/3/2010	6-17/09/2010
Consensus Meeting	22/09-03/10/2008	9-20/3/2009	21/9-2/10/2009	8-19/3/2010	20/9-1/10/2010
Final list of new Actions proposals	09/10/2008	26/03/2009	8/10/2009	25/03/2010	7/10/2010
New Actions approved by the CSO	26-27/11/2008	(25/5-29/5/2009)*	(23-27/11/2009)*	(24-28/5/2010)*	(22-26/11/2010)*

*dates to be confirmed

Assessment criteria – Full Proposals:

- A1, right instrument
- A2, clear presentation
- Science
- Impact
- Structure and organisation
- Contribution to wider COST goals

First phase Proposal submission:

- 25 September 2009 at 17:00 Brussels time.

Should include:

- Title,
- Abstract,
- Key words,
- Domain,
- backgrounds & problems, benefits, objectives, deliverables, expected scientific impact, scientific program and innovation,
- organisation

→Choose the coordinator to write, compile and submit the proposal

→Choose one person to write the part "scientific program and innovation"

- which is commented by every research group.
- Max. 300-500 words (3300 characters)

→Every research group should write from their point of view

- What are the current technical/scientific problems in R&D in sensor domain
- Current state-of-art, development steps and future needs
- End of October, one or two A4

→The organisations joining the COST proposal

- names, institute and country

Deadlines:

21.9. first draft of S&T, time to comment till 23.9.
21.9. draft proposal for comments (without S&T), time to comment till 23.9.

OUR PROPOSAL

- Action: *Increasing silicon sensor industry competitiveness through knowledge transfer actions with Big Science*
- Abstract (1000 characters): *New research infrastructures being planned need a new generation of particle detectors. A vigorous detector RTD effort between academia, industry and research organisations is starting to meet the performance objectives set for the future infrastructures. The European detector industry is populated by small, highly specialized and geographically scattered foundries. Often, the needed batch size in Big Science is not met by the vendors. The shortcoming and lack of clustering threatens to exclude the industry from RTD collaboration and hinders its competitiveness. Knowledge transfer and networking actions between the leading scientists, research organisations and industry is started to address the hindering factors for increasing the industry competitiveness while leveraging the RTD collaboration opportunity at CERN LHC upgrade and elsewhere. The networking action is tightly coupled with DevDet2 detector infrastructure development - FP7 Capacities proposal coordinated by CERN.*
- Keywords (400 characters): Silicon Detector, Pan-European, Big-Science,
- In total 10000 characters for the Preliminary proposal

Background, Problems

- The industry and academy are very scattered and able to deliver only small quantities of sensors.
- The production process needs improving for better yield and quantities.
- Overlaps in research need to be reduced for efficient development.
- CERN's RTD on silicon sensor technologies to answer to the possible future LHC upgrade. For LHC upgrade, need of a massive number of various type of silicon sensors (600m2=60.000 wafers) by year 2017.
- GSI/FAIR, ESRF, other Big Science projects need state-of-the-art sensors before 2020. (ESFRI roadmap)
- Various production technologies and consistent mass production techniques should be mastered to be able to supply all the sensors needed.
- A dominant Japanese player monopolizes Big Science deliveries (98% of the LHC silicon sensors) due to insufficient production capacities among European players.
- Improved co-operation with industrial and academic partners would reduce overlaps in research and speed up the sensor development. Beneficial networking effects between academy and industry would improve European competitiveness.
- Improbable that one single European supplier is able to deliver sensors needed for Big Science without clustering. Pan-European cluster would answer to challenges in sensors technology and delivery amount.
- Big Science needs to mitigate risk in terms of cost and number of suppliers in case the single supplier won't deliver the sensors in the future.
- Possible participation of the Alliance to the EU 7th Framework INFRA application: Future accelerators – detector roadmap.

BENEFITS

- Active industry-industry-academia knowledge&technology transfer while gathering development resources from national and international resource pools (funding)
- Exploiting the challenging environment for creating collaborative industry actions, supply chains and joint ventures (clustering)
- Coherent, active knowledge transfer between the leading research scientists. (efficient RTD)
- Reference and networking with potential partners (references)
- Increase in European competitiveness and visibility with focused reseach. (competitiveness)
- Access to sensor deliveries due to improved technology knowledge and production capability. (new business)
- Piloting new ideas in challenging environment can yield new initiatives on a wider field and impact to society. (innovations)
- New, more efficient technologies adopted in industry, other markets and end products (business, technology transfer)

Objectives, deliverables and expected scientific impact

- Objectives
  - To form a coherent network to be able to deliver various types and quantities of sensors
  - Pilot new ideas in challenging environment and yield new initiatives on a wider field.
  - To develop the network knowledge to answer the needs of Big Science.
  - to establish a pan-European long term cooperation scheme for knowledge exchange and business development between Big Science and the European industry.
  - Reference and networking with potential partners – academy-academy, academy-industry and industry-industry.
  - Create a solid platform to ensure long lasting co-operation and facilitate knowledge transfer
- Deliverables (Measurable?)
  - Networks establishment - MoU.
  - Business entity to supply sensors.
  - R&D collaboration and projects between CERN and industry.
  - Participation in CERN 40M€ sensor delivery.
  - Master's theses.

Objectives, deliverables and expected scientific impact

- Impact
  - Impact on European countries and business:
    - Transfer Big Science based innovations back to the Member States.
    - Enhanced technology transfer and discoveries of dormant innovation.
    - Increased business and access to projects and deliveries not feasible before.
    - One stop shop for deliveries.
    - Efficient use of scattered production capacity .
    - Increase in the number of spin-offs through the need of highly skilled and specialized market players.
  - Impact on Big Science, (here CERN) as organization, its people and services:
    - image Increasing collaboration between experiments and CERN; Ex: Decreasing overlapping of the RTD work.
    - More efficient RTD process as better synergy achieved for the exploitation of national and EU level funding instruments.
    - Decreased construction costs for the upgrade of LHC as more competition occurs.
    - Better end products and risk mitigation via increased number of suppliers.
    - Increased awareness of Intellectual Property rules and conditions.
    - New research projects as more resources available.

Scientific Program and Innovation

- Avoid the common mistakes and draw conclusions for applying best co-operation practices between CERN and the network.
- Sensor technology needs at CERN and technologies available in the industry
- Identifying and decreasing overlapping RTD work
- Assess and understand the IP issues in the sensor network
- Define an IP management structure
- Identification of supply chain processes to identify and plan key processes and create best practices for the network
- Prepare the exploitation of public funding instruments for the benefit of the research, networking and technology development

Organisation

Participation in the EU 7th Framework INFRA application: Future accelerators – detector roadmap.

Participants: everybody at the mailing list and other to join

Work Packages

- WP1 - lessons learnt
- WP2 - Technology Assessment
- WP3 - Research group
- WP4 - IP Management
- WP5 - Identification of supply chain processes
- WP6 - Public funding exploitation plan and strategy

VTT creates business from technology