

# Applied Research Enhancement 2009

## Guidelines



Ireland's EU Structural Funds  
Programmes 2007 - 2013

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EUROPEAN REGIONAL  
DEVELOPMENT FUND

Please forward to

Ms Deirdre Brougham  
Manager  
Applied Research Enhancement (ARE)  
Enterprise Ireland  
Rossa Avenue  
Bishopstown  
Cork

contact

<mailto:deirdre.brougham@enterprise-ireland.com>

**Your Plan - Your Future**

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## **Introduction to ARE Programme**

### **Background**

The Applied Research Enhancement (ARE) Programme is one of a series of initiatives by Enterprise Ireland to enhance the innovation support for Irish industry. Its specific purpose is to ensure that applied expertise within the Institutes of Technology (IoTs) is made available to local and national industry. The ARE Programme promotes R&D awareness and R&D activities in the regions. The programme has targeted the funding of at least one applied R&D centre within an IoT or other colleges, (excluding Universities & RCSI).

The current ARE programme was piloted in 2004 in the BMW Region and was expanded in 2005/2006 on a national basis. Currently EI have established 16 Centres in 11 Institutes of Technology with a budget commitment of > €20.0m. The Applied Research Enhancement programme has been created to enhance the applied research capabilities within the Institutes of Technology. This investment in research will be coherent with support made available to incubator / applied research space in the Institutes of Technology.

The objective of the programme is to generate regional economic activity through the creation of a strong applied research base for the Region by bringing together researchers into the Institutes of Technology which will

- Provide a centre of excellence in applied research capable of exploiting opportunities in science, engineering, and technology to the benefit of the Regional and National economy.
- Compete successfully for National and International research funding to support a growing applied research presence in the Institute of Technology.

The programme was re-launched in August 2006 and is operating on a 'continuously open' basis. Currently the programme allows each Institute of Technology & other colleges (excluding Universities & RCSI) to establish at least one ARE Centre.

### **Institute and Regional Impact of ARE Programme**

The ARE funding has increased the research teams in the Institute of Technology and increased the capability and capacity to engage in applied research with industry. The ARE programme is supporting >60 additional researchers in the 11 IoTs. Since the establishment and staffing of modern, dedicated research facilities at the IoTs the ARE Centres embarked on meaningful research and have achieved a notable increase in industrial activity. They have completed successfully for EI national funded programmes namely; Innovation vouchers, BMW Vouchers, Innovation Partnerships, Proof of Concept, Commercialisation Fund Technology Development (CFTD) and Industry Consultancy. IoTs have been noticeably enhanced by the additional pool of talent consisting largely of the newly appointed centre managers, and also of some additional early career contract researchers

The role of the Institutes of Technology in research and development is still a relatively new and evolving one. The Sector is recognised as having developed a

track record in industry-relevant and applied research. Significant research expertise in niche areas exists throughout the Sector, and recent years have seen an incremental increase in levels of postgraduate research taking place. These developments have been achieved against a background of inadequate resources, both current and capital, for the Sector's research activities. While research and development activities have been specifically included within the statutory remit of the Sector (1992 RTC Act Section 5:1c and d), Institutes receive financial allocations for teaching purposes only. Funding for research activities has never been allocated to the Sector, despite the clear role in this area established by this legislative change.

Externally sourced research funding generally provides current expenditure for items such as equipment, postgraduate students or post doctorate positions. The nature of this expenditure leaves little residual value for the Institute when the research project is completed, and therefore does not contribute to building the capacity of the Institute to undertake high quality research or improve its position in competing for further funds. A significant issue affecting the development of R&D capability in the Sector relates to human resources. The heavy teaching load of academic staff does not encourage participation in research and can make the development of large-scale research projects difficult; often only small scale or one-off consultancies are feasible. While Institutes have developed individual policies related to a reduction in the obligatory teaching load to facilitate supervision of registered students, this will not be sustainable in the longer term as Institutes are required to further increase their output of research-trained postgraduates.

As a result of these factors, R&D in the Institutes has been demand driven, with a strong commercial and industrial orientation. Thus the Institutes are now well placed to form strong industry/institute partnerships and are experienced in responding to industry led research demands, however it has the disadvantage that Institutes have not had the freedom to devise institutional research strategies.

Given the importance of the Institutes of Technology and Colleges to balanced regional development the Applied Research Enhancement programme is open on a National basis to provide an opportunity for the Institutes to develop research capability in areas of strategic importance to the individual colleges and of relevance to industry both regionally and nationally.

### **Restructuring of the ARE Programme**

In 2008 Enterprise Ireland restructured the Applied Research Enhancement Programme in order to increase its effectiveness, widen its capacity to enhance the research capabilities with the IoT sector to benefit of regional industry and to provide continued support for existing ARE centres that have successfully demonstrated their capacity to work with industry. The restructured ARE programme has 3 constituent parts:

- **Phase 1: Pioneer**-Funding up to €250,000 for 2 years to support a Commercialisation Manager to work with an existing research group to develop their applied research focus.

- **Phase 2: ARE New Start:** Provides funding of €1.25 to 2.0 million for the creation for new ARE centres over 4 years.
- **Phase 3: ARE+:** Supports existing high performing ARE centres with funding of €800,000 for an extra 4 years of funding after the completion of the initial ARE seed funding. If the centre meets agreed targets additional measures will be implemented to increase and strengthen the interactions between the ARE centres and local industry. These activities will focus on awareness and dissemination, networking and personnel.

Further alterations to the ARE Programme have been made to enhance its effectiveness to stimulate regional economic activity for Irish Based industry.

- The ARE Programme will be opened up to Applied Research groups in other colleges outside the Institutes of Technologies such as the National College of Art and Design in Dublin. Eligible colleges are public research organisations other than universities and RCSI.
- The rule of 3 centres per Institute has been removed
- The Programme will be restructured to three Phases:
- Additional measures will be implemented to increase and strengthen the interactions between the ARE centres and local industry. These activities will focus on awareness and dissemination, networking and personnel.

### **Rational for Restructuring of the ARE Programme**

The Strategy for Science, Technology and Innovation (2006 – 2013) recognises the geographical location of the IoTs and their track record of working with industry provides a platform upon which real industrial impact can be built. It is clear that the IoTs can develop into an effective technology resource focused on collaboration with local industry on the basis of applied research. The STI report goes on to state that ‘there is a continuing requirement to strengthen the IoTs overall research capability’ and a ‘role for Enterprise Ireland in developing a closer relationship between the IoTs and regionally based enterprises focusing on applied research. The objective of this proposed restructuring of the ARE Programme is to generate applied centres of excellence which will act as hubs for regional and national industry led research innovation.

### **Eligibility**

Research teams, based around the engagement of expertise from outside the college will be supported in Institutes of Technology and other colleges such as National College of Art and Design in Dublin, and will have a focus in areas of science and engineering that have particular relevance to local Regional development. Research projects to be supported must be supported by college researchers of proven capability in Applied Research and must show clearly how they may have significant commercial benefits within the regional research focus.

## **Phase 1 - Pioneer**

**ARE Pioneer** grants funding up to **€250,000 for 2 years** to support a Commercialisation Manager to work with an existing research group to develop their applied research focus.

The ARE Pioneer Programme has been established in order to enhance and develop the applied research capabilities within the IoTs to benefit of the regional and national economy. The benefits may be in the development of the research capabilities of existing companies in the region or the creation of new companies within the region.

The objectives of the Pioneer are:

- Establish an applied research capability within the IoT and a commercialisation focus for the existing research competency
- Build the applied research competency of the research team to compete successfully for National and International research funding to support a growing applied research presence in the Institute of Technology.
- Submit a full proposal to the ARE Programme before the end of the 2 year period

In the context of the Pioneer Programme it is important to note the following points:

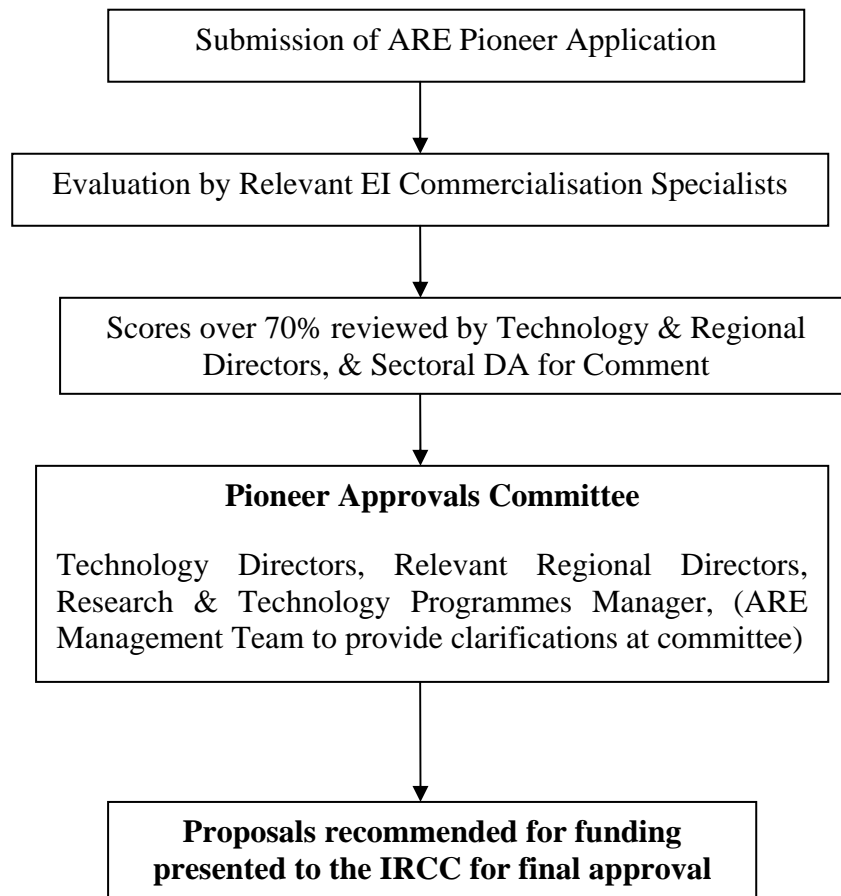
- ***Preference will be given to IoTs which do not currently have an ARE centre in order to support regional development and to enhance the applied research capability within all of the Institutes of Technology.***
- The embryonic applied research centre should be lead by a Commercialisation Manager who will be appointed specifically as a part of this initiative. He / she will:
  - Have a proven capability in commercialisation of research
  - Have industrial experience in the target technology area at the level of research or senior research engineer / scientist. The ideal candidate should have an in-depth knowledge of the development of innovation solutions from an industrial perspective and have the capacity to transfer this speciality to the embryonic applied research centre
- It is not essential that the Commercialisation Manager be explicitly identified within the proposal however a clear profile of the intended candidate should be provided.
- The Pioneer Programme is intended to develop the Applied Research Capability of an existing research group and link its activities to the requirements of regional and national industry. It is not intended to support services or very low risk technical projects where funding for the work should be more appropriately sought from another source.

- The ARE Pioneer Programme encourages collaboration of the embryonic centre with:
  - Regional groupings of industry in the Pioneer’s target technology area.
  - Irish based research groups from other IoTs & Universities
  - Industry led research programmes & networks

The objectives of these collaborations are to bring significant added value through the achievement of an output from the project that would not otherwise be possible. However it must be borne in mind that the impact should be appropriate to the applicant region and chosen technology area.

- It is encouraged that the PI applicant involves in dialogue with the regional Enterprise Ireland office in order to inform the proposal of the regional industry requirements.
- In the context of the Applied Research Enhancement Pioneer Programme ‘region and regional impact’ may be interpreted firstly as the natural geographical catchment area for the College.
- Commercialisation of projects with demonstrable potential will be undertaken in the most appropriate way following consultations between Enterprise Ireland, the Institute of Technology and the researchers.

## Graphical Representation of the ARE Pioneer Evaluation Process



## **Phase 2 - ARE New Start**

Funding is available to support initiatives for 4 years and costs of the order of **€1,250,000 to €2,000,000**

Eligible Direct Costs include

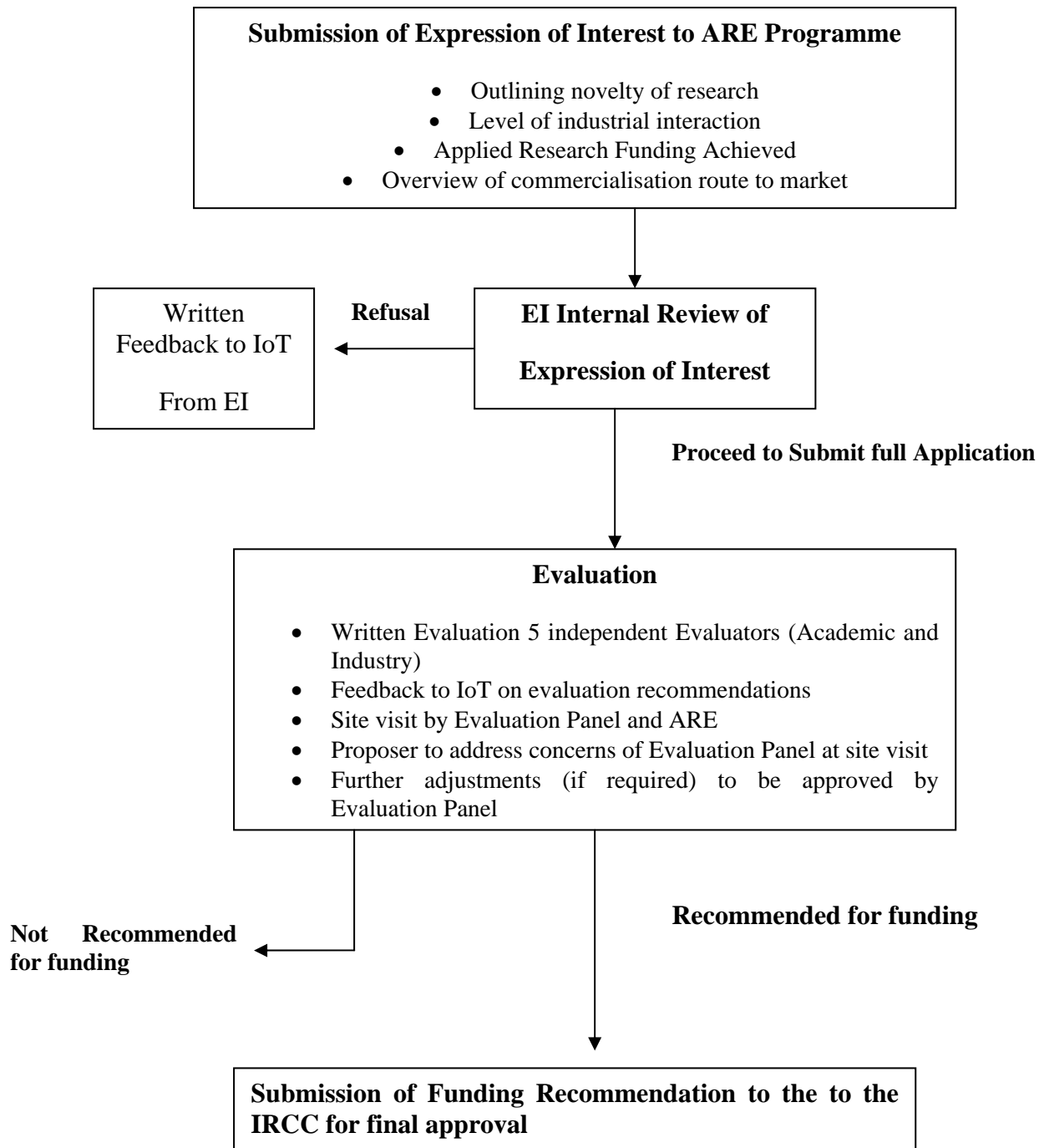
- The costs of employment of the Centre Manager. To ensure there is an addition to the commercialisation & technical skills that will be available to the centre, this person will be expected to be recruited from outside the Institute and very likely outside the region.
- Salaries for senior scientific staff, postdoctoral researchers and postgraduate students.
- Reduction of Lecturing load of key college researchers to support interaction with the new centre.
- Equipment necessary for the research to be undertaken.
- Necessary materials and consumables.
- Related travel for such activities as industry networking and strategic alliances.
- Access to special facilities available in colleges elsewhere in Ireland.

### **Expectations**

A funded research group will be expected to:

- Achieve strategic goals shared by the Institute of Technology and Enterprise Ireland.
- Form partnerships with industry to work on challenging problems and facilitate technology transfer among the participants. (Efforts to establish co-operation and collaboration with other academic institutions are also strongly encouraged.)
- Work with Enterprise Ireland to develop R&D in indigenous Irish industry and with IDA Ireland to attract and retain foreign direct investment and participation in the Irish research community.
- Provide a basis for the creation of new companies and industries within the region.

## Selection Process for ARE Centre



## **Proposal Development and Evaluation Process**

### **Phase1: Centre Selection**

The programme will run on a continuously open basis and eligible Institutes of Technology are invited to submit Expressions of Interest at any stage. The proposed ARE Centre must be a strategic research area for the college and all applications should be approved by the relevant college authority. The Centre selection process will be initiated by Enterprise Ireland following receipt of the Expressions of Interest. Proposals will be selected and prioritised for consideration according to the following criteria:-

1. Achievement of balanced regional development.
2. Achievement of a sectoral balance.
3. Mutual agreement between Enterprise Ireland and the college authority on an appropriate research agenda for the region.

Expressions of Interest which fail, or are unlikely to satisfy, the above selection criteria will be declined. Successful Expression of Interest will result in the applicant college being invited to submit a full proposal for an ARE New Start for evaluation.

### **Phase2. Proposal Evaluation**

The proposal evaluation will be undertaken by an independent evaluation panel. The panel will be comprised of at least 5 experts, drawn from industry and academia, with an independent chairperson. It is envisaged that the chairperson will act for a period of time (probably one year) to ensure consistency in the evaluation process as it is applied across a range of proposals. The independent panel will be supported by relevant Enterprise Ireland personnel. The evaluation of the proposal will be a 2 stage process:

- Written evaluation of the submitted proposal
- Site visit evaluation of proposal and college facilities

The panel will be provided with a copy of the proposal and evaluation guidelines a number of weeks in advance of the site visit. The completed written evaluation report from all the panel members will be circulated to the proposal team and to each evaluation panel member 1 week prior to the site visit. The site visit will provide an opportunity for the research team and the college to present the proposal directly to the evaluators and respond to issues raised by the panel both in advance of the visit and on the day.

It is envisaged that the site visit will last approximately 2-3 hours and, in addition to a review of relevant college laboratories and facilities, will include the following presentations: -

1. The ARE Centre proposal in the context of the College's Strategic Plan presented by college authority.

2. College capacity to initiate, manage and develop the proposed Centre presented by the college authority.
3. Clarifications to queries raised by the evaluation panel in the written evaluation stage-presented by the proposal research team.
4. Industry Support for the Proposal
5. Questions and Answers.
6. Tour of proposed ARE centre facilities

The evaluation panel will then meet in closed session. The 3 funding recommendations options which the panel can propose are:

- Recommended for funding as presented.
- Recommended for funding subject to a set of specified conditions.
- Not recommended for funding as presented, may be re-submitted once only following significant amendments. The timeframe for resubmission will be determined by the evaluation panel.
- Not recommended for funding.

The final phase of the process will be the presentation of the recommended ARE Centre proposals to the Industrial Research and Commercialisation Committee for final approval.

### **Phase 3 ARE +**

ARE+ supports existing high performing ARE centres with funding of €800,000 for an extra 4 years of funding after the completion of the initial ARE seed funding. If the centre meets agreed targets additional measures will be implemented to increase and strengthen the interactions between the ARE centres and local industry. Existing ARE Centres will be invited to submit an application to ARE+ in the final year of their ARE seed funding.

ARE+ funding will provide continued support for high performing ARE centres that are successful in developing and growing interactions with industry while at the same time developing a strong applied research profile in line with the Institute's strategy. A seamless transition is expected from ARE to ARE+ funding. The ARE+ funding will provide operational costs and performance linked funding. An offer from Enterprise Ireland will be made to existing ARE centres near the end of their current ARE funding, to submit a proposal to EI ARE+ phase of the ARE Programme. The submitted proposal will undergo evaluation from a panel of experts from Academia, Industrial Representatives and a relevant Enterprise Ireland Commercialisation Specialist & Sectoral DA. The panel will assess:

- The level and impact of applied research commercialisation and industrial collaboration achieved by the centre during the ARE seed funding time period.
- The proposed applied research strategy and commercialisation plan for the next 4 years of funding.

The ARE + Phase is intended to develop and enhance the Applied Research Capability within an IoT and link its activities to the requirements of regional and national industry. It is not intended to support services or very low risk technical projects where funding for the work should be more appropriately sought from another source.

The ARE Programme encourages collaboration of the centre with:

- Regional groupings of industry in the centre's target technology area
- Irish based research groups from other IoTs & Universities
- Industry led research programmes & networks

The objectives of these collaborations are to bring significant added value through the achievement of an output from the project that would not otherwise be possible. However it must be borne in mind that the impact should be appropriate to the applicant region and chosen technology area.

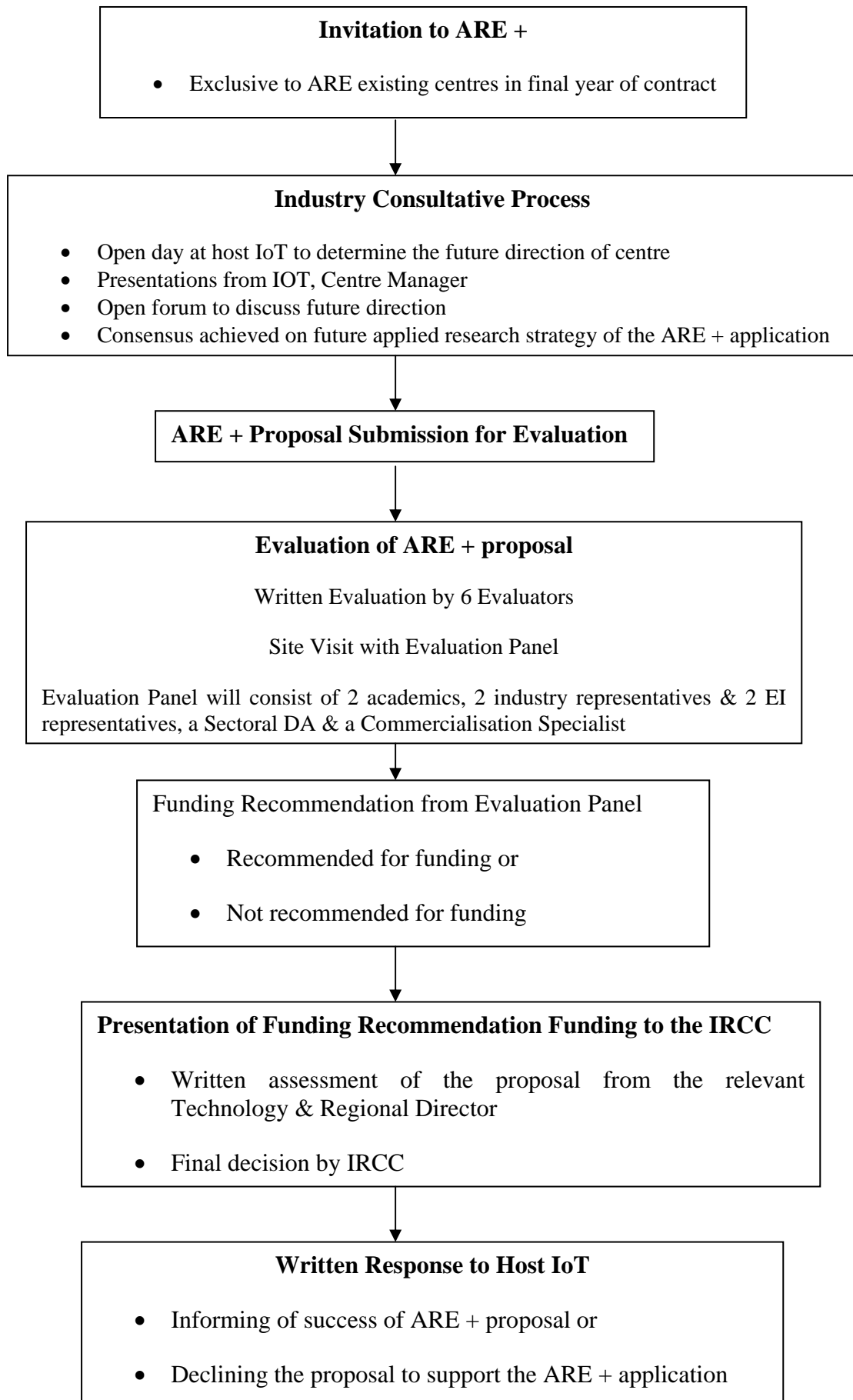
### **Mid Term Evaluation of ARE + Centre**

At the mid term evaluation of an ARE+ centre, centres that are under performing will be given one year's notice to improve and meet agreed targets linked to industrial activity. If unsuccessful the centres will not be able to avail of the next increment of ARE+ funding. In the final year of funding the ARE + centres will be required to make a new application for funding to assess if the centre will be supported from Enterprise Ireland for a further 4 years.

### **Evaluation of ARE + Application**

Eligible ARE centres within the last year of their ARE seed funding will be invited to submit an ARE + proposal to Enterprise Ireland by an agreed date. The ARE+ applicant centre will host an industry open field to help identify the future structure and direction of the centre followed by submission of the ARE + application for evaluation. Please see the following flowchart to illustrate the evaluation process for ARE + application.

## Evaluation of ARE + Application



## Evaluation of ARE + Application

The ARE + application will be evaluated by an evaluation panel which will consist of 6 consisting of representatives from the relevant applied research community, 2 industry representatives and 2 Enterprise Ireland representatives, a Sectoral DA & a Commercialisation Specialist

The independent evaluation of the ARE+ application will be a 2 stage process:

1. A written evaluation
2. Site visit

### 1. Written Evaluation of the ARE + Application

#### Evaluation Scoring Scheme

The marking scheme for the ARE + is designed to rate proposals under two main sections: *Section 1: Performance & Impact of ARE Centre* & *Section 2: Future Direction & Strategy of ARE Centre*. A total of 50 marks may be awarded for each section. In awarding marks under the sub-sections for the written assessment the evaluators are asked to adopt the following guidelines

Percentage of available mark awarded	Ranking level
0 – 25%	Poor
26% - 50%	Moderate
51% - 75%	Good
76% - 100%	Excellent

### 2. Site Visit Assessment of the Proposal

Following the written evaluation the evaluation panel, with an Independent Chair will undertake a site visit evaluation of the ARE + applicants. This evaluation will entail:

- Clarifications from the proposal in relation to issues raises in the written evaluation
- Feedback from industrial collaborators
- Assessment of facilities and the colleges capacity to assist in delivering the ARE + applicants applied research programme

The final funding recommendation which be decided on the day of the site visit in a closed session and by consensus.

The 3 funding recommendations which can be given on the day of the site visit will be

- Recommended for funding as presented.
- Recommended for funding subject to a set of specified conditions.
- Not recommended for funding.

The final phase of the process will be the presentation of the recommended ARE+ Centre proposals to the IRCC (Industrial Research and Commercialisation Committee) with the funding recommendation from the evaluation panel. The funding recommendation may be to support the proposal or to recommend that the proposal should not be supported for funding. The IRCC will have the final approval decision on all ARE + application. Official correspondence from the funding decision from the IRCC will be sent to the host IoT. This will inform the IoT whether the ARE + has been approved for funding or if the IRCC has declined to support this proposal.

Successful centres will receive funding of €800,000 which will be provided to cover operational costs for 4 years. If the centre meets agreed targets additional measures will be implemented to increase and strengthen the interactions between the ARE centres and local industry. These activities will focus on awareness and dissemination, networking and personnel. Enterprise Ireland will award operational costs only to the ARE+ Centres as the Centres at this stage are expected to have their research activities funded under other programmes.

## **Guidelines Common to all 3 Phases of the ARE Programme**

### **Location**

The research must be undertaken in facilities which are part of or immediately adjacent to the host Institute of Technology.

### **Confidentiality**

A condition of funding is that the researchers and the host institution accept that the primary purpose of the programme is to generate applied research results with potential for exploitation in Ireland. As a consequence, the protection of intellectual property and/or the ability to exploit the results must never be prejudiced by publication or other disclosure. However, Enterprise Ireland recognises that publication of results is a normal and reasonable aspiration for researchers. It will, therefore, use its best endeavours to ensure that a reasonable balance is maintained between the need to protect IP and the desire to publish. Nonetheless, proposers must accept as a condition of support under this programme that circumstances may arise wherein publication will be necessarily considerably delayed or even indefinitely deferred in the interests of protection of the intellectual property generated and the requirements of successful exploitation. (see also Standard Grant Agreement)

### **Ownership, protection and exploitation of IP**

Under normal circumstances the ownership of intellectual property arising from the research will reside with the host institution. However, a feature of the programme is that Enterprise Ireland and the institution will work together to manage the protection of intellectual property with commercial potential, and separate funding will be available for this purpose. Enterprise Ireland, will also, in consultation with the host institution and the researchers, take a proactive role in the exploitation of the outputs arising from the projects. (see also Standard Grant Agreement)

### **Standard Grant Agreement**

Enterprise Ireland's Standard Grant Agreement will be applicable to awards made under the ARE Programme. The Agreement covers in detail the specific requirements relating to confidentiality and the ownership, protection and exploitation of IP. However, the offer to fund successful proposals may be subject to changes in the project as originally proposed, for example with respect to its cost structure, deliverables and work plan.

Copies of the Agreement are available on request to the Programme manager.

### **Payment of Grant**

Normally 20% of the grant will be paid on signing of the grant agreement. Further payment of the grant will be made in instalments specified in an annex to the grant agreement and subject to the satisfactory progress of the project in terms of deliverables and milestones reached. 10% of the grant will be retained for payment at the end of the project subject to all obligations with respect to final deliverables.

This programme receives support under the National Development Plan (NDP) 2007 – 2013 and is co-financed by the EU through the ERDF. It is a requirement of both NDP and ERDF funding that there be compliance with the funding regulations including due acknowledgement of the support be given by the recipient of any

support provided under the programme.

Grantees should ensure that Enterprise Ireland, the National Development Plan and European Union are given acknowledgement for their support in all Reports, Publications & Presentations derived from the Project. With respect to EU acknowledgement ensure that it is in accordance with the requirements currently detailed in Commission Regulation (EC) No. 1159/2000 or as may be amended in the future. Grantees will be required to display a plaque (with appropriate funding logos) which should be displayed in appropriate prominent location(s) near the research activity.



See link below and click on download corporate mark for the EI Logo

[http://www.enterprise-ireland.com/AboutUs/logo/ei\\_logo.htm](http://www.enterprise-ireland.com/AboutUs/logo/ei_logo.htm)

The NDP logo is found in [www.ndp.ie](http://www.ndp.ie)

#### **Technical/financial audit**

The basis of funding is the amount of the grant approved for the project or the actual cost whichever is the lower and its implementation in accordance with the project plan. Therefore, all funded projects will be subject to financial and technical audit at the discretion of Enterprise Ireland and/or any other competent authority. The host institution is obliged to maintain appropriate financial, administrative and scientific records to enable any such audits to be carried out.

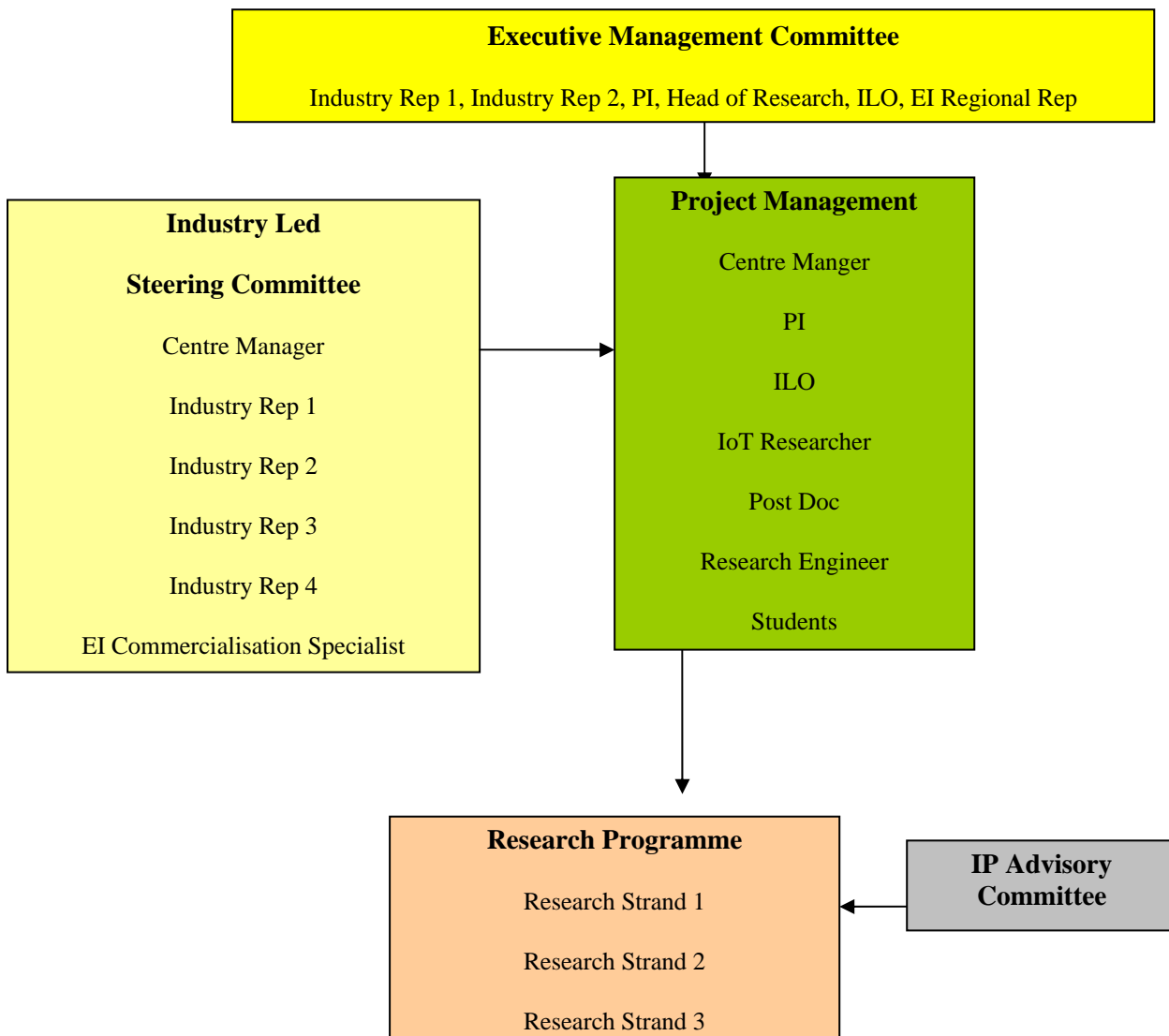
All payments are subject to the maintenance of time sheets.

#### **Progress Reports**

The ARE supported Pioneer or ARE centre will be required to submit quarterly reports on technical progress and annual financial reports. Progress reports will serve as the basis for performance review and for determining the level of continued funding. Such reporting requirements will be included in the grant agreement, which is binding between the research body and Enterprise Ireland. Notes of the Steering Committee Meetings must be included in the Quarterly reports.

**Time Sheets** are required by all personnel working on the project.

## Management Structure for Pioneer, ARE & ARE + Phases



### Centre Manager

**For all three phases of the ARE**, applied research centre should be lead by a Centre Manager, (Commercialisation Manager in the case of Pioneer) who will be appointed specifically as a part of this initiative. He / she will:

- Have a proven capability in commercialisation of research
- Have industrial experience in the target technology area at the level of research or senior research engineer / scientist. The ideal candidate should have an in-depth knowledge of the development of innovation solutions from an industrial perspective and have the capacity to transfer this speciality to the applied research centre.

### **Executive Committee**

The function of the Executive Committee is to have the ultimate responsibility for the centre, and would come into existence once the contracts have been signed. Its function is to meet quarterly and provide guidance and support of the centre. It will have ultimate responsibility for implementing the strategy and monitoring the operations of the centre.

### **Steering Committee**

Each ARE centre must have a Steering Committee in place as part of its management structure prior to the launch of a new ARE centre. Its function is to meet on a monthly basis and provide guidance towards the research and commercialisation strategy of the centre. It will also assess the performance of the research team and implementation of the selected strategies. The composition of the steering committee must ensure a balance of stake holders acceptable to Enterprise Ireland.