



Association of Independent  
Research & Technology Organisations

**AIRTO response to the DTI  
proposal for a network of regional  
regional centres for manufacturing  
excellence and productivity**

AIRTO Paper 2000/2

July 2000

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for a network of regional regional centres  
for manufacturing excellence and productivity

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## **Executive Summary**

This AIRTO policy paper describes the organisation's response to consultation by the DTI on a means to upgrade manufacturing excellence and productivity in UK industry. AIRTO members will co-operate with any scheme introduced for this purpose but this document proposes an alternative approach to that suggested by the DTI and advocates utilising information and communications technology (ICT) and a structure which would integrate the contribution of all players.

AIRTO confirms that the DTI analysis of the need to upgrade manufacturing excellence and productivity is valid.

AIRTO argues that the proposals for physical centres (Regional Units) and a structure of parent institutions will represent poor value for money and add to bureaucracy instead of focusing on the real issue which is stimulating industry demand and supplying solutions based on global sources.

AIRTO recommends the development of a solution based on a "virtual network" for manufacturing excellence and productivity. It will create synergy between companies, the supply chains, the RDAs, universities, the SBS and knowledge transfer companies. It will build on existing infrastructure and provide the DTI with a significant multiplier effect on its investment.

AIRTO formally requests a meeting with the DTI to discuss the development of a plan for the implementation of such a virtual network to solve the problem of raising manufacturing excellence and productivity in the UK.

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### **Members of the AIRTO Working Party on AIRTO response to the DTI proposal for a network of regional centres for manufacturing excellence and productivity**

Dr Brian Blunden OBE - President of AIRTO (Chairman of Working Party)  
Professor Richard Brook - Chief Executive SIRA Group (Chairman of AIRTO)  
Mr David Goodrich - Chairman BMT (Vice Chairman AIRTO)  
Mr Roger Courtney – Special Research Advisor BRE  
Professor Colin Dennis - Director General CCFRA  
Mr John Wilkinson - Co. Secretary/Finance Director CCFRA (Hon Treasurer & Co Sec AIRTO)  
Dr Neil Sanderson - Chief Executive CERAM  
Dr John White - Managing Director CRL  
Dr Stuart Exell - Chief Executive EA Technology  
Mr John Wood - Managing Director MIRA  
Dr John Perkins - Chief Executive NCC  
Dr Ron Whittaker - Chief Executive SATRA  
Mr Bevan Braithwaite OBE - Chief Executive TWI

## **AIRTO response to the DTI proposal for a network of regional centres for manufacturing excellence and productivity**

### **1) Introduction**

AIRTO welcomes DTI consultation on the proposal for a network of regional centres for manufacturing excellence and productivity. AIRTO notes the recognition that its members are significant players in the subject area. This response follows the pattern of the consultation document under the following headings.

- Analysis of the validity of the proposal for a network of regional centres for manufacturing excellence and productivity.
- The implications of the proposal for sectors and technologies with which AIRTO members are concerned.
- The possible working relationship between AIRTO members and the proposed centres for manufacturing excellence.
- Arrangements for setting up “Parent Institutions”.
- Conclusions.

The authority of the AIRTO contribution to consultation is based on the following credentials.

- The AIRTO community is the largest network of knowledge transfer companies in the UK concerned with manufacturing excellence and productivity (£1 billion turnover annually employing some 10,000 scientists and engineers).
- AIRTO is in regular discussion with the Fraunhofer Gesellschaft and similar organisations throughout Europe, giving it an authoritative EU vision of best practice.
- AIRTO is in continuous dialogue with the university community through contact with individual institutions and informal exchanges with CVCP.
- AIRTO members have been leaders in new initiatives for knowledge transfer through participation in Faraday Partnerships and the creation of new solutions such as E-SYNERGY Limited.
- Members of the AIRTO Board participate in the activities of Regional Development Agencies.
- AIRTO members participate in many Foresight Programmes.
- AIRTO maintains dialogue with the Research Councils and sponsors research into the drivers of knowledge transfer in supply chains.

## **2) Analysis of the validity of the proposal for a network of regional centres for manufacturing excellence and productivity.**

The DTI proposal for regional centres for manufacturing excellence and productivity is based on the claim that it will address two issues and provide a solution to the associated problems. Those issues are as follows.

- Many companies make do with old plant, uninspiring technology, and inadequate working practices – thus working harder but not succeeding in the global competitive race.
- A network of regional centres based on a team of people would address these problems – and, by implication, cure them and raise economic performance.

From wide practical experience AIRTO members confirm that some UK companies do employ outdated plant and outdated methods in manufacturing. However, AIRTO experience suggests this problem has much to do with attitudes, risk aversion and resource availability. The problem is more complex than the consultation paper implies.

The proposal for regional centres “based on a team of people combining practical ability in both technology and best practice” is not well founded and the proposed centres are not the solution to this complex issue. It is liable to be expensive, it will duplicate existing infrastructure, it will be inflexible in response to rapid global changes and out-of-touch with the trend to replace physical networks with those which are “virtual”. The concept of providing a team of people with the above attributes is valid but a different means of access is needed. Also, the team should be based on existing rather than new additional infrastructure.

Industry is weary of government initiatives which offer advice. The experiment with Business Links has not been successful in achieving significant change among technology based companies. It is these companies which will drive competitiveness and thus economic performance on the global markets. A new approach to networking is needed. It must provide incentive and connectivity among existing players.

Government pressure on universities to “trade in knowledge locally” will meet with a limited response from most Vice Chancellors, many of whom regard this as a role unsuited to universities. However the university community will respond to partnerships in knowledge transfer based on trust and which provides equitable financial benefits.

Regional Development Agencies (RDAs) are aimed at stimulating local industry and inducing a degree of regional competitiveness which will drive forward the economy. (This inter-regional competitiveness model is well developed in a number of EU Member States where it has been a driver of local enterprise.) AIRTO discussions with RDAs indicate urgent need for networking among them. There is need to supply awareness of present UK infrastructure and expertise to both the elected members of the RDAs and the executive staff. In general there is limited understanding in the new RDA community of global challenges and UK solutions needed in a knowledge driven economy. This includes awareness of early stage venture funding and the comprehensive resources required for incubation of new business.

**AIRTO concludes that the DTI analysis of the need to enhance manufacturing excellence and productivity is valid. However AIRTO suggests alternative proposals for a solution to this problem based on practical experience and modern methods of networking. The proposal as presented in the consultation document is not the optimum solution. It may cause irritation to technology-based entrepreneurs as another bureaucratic intervention that does not relate to the real problem. In any case public support must be selective as there are not the public funds to cure all problems in one programme.**

The real problem and its solution requires concentration on the following issues.

- Identification of sectors or company clusters which have maximum leverage on UK economic performance.
- Linkage of the above analysis to UK supply chains where there is global market opportunity with potential to enhance the UK economy.
- Virtual networking of the identified companies, sectors or supply chains with appropriate university departments and knowledge transfer companies eg AIRTO members.
- Provision of financial incentives to the demand side (companies) for a programme (three to five years) of manufacturing excellence and productivity enhancement through focused collaboration between the company, appropriate university departments and knowledge transfer companies, funded through a financial incentives programme administered by RDAs.

### **3) The implications of the proposal for sectors and technologies with which AIRTO members are concerned.**

In the “information age” and the era of the knowledge economy, a proposal to create physical centres to promote change, is outdated and too costly.

AIRTO members and similar companies are well placed to offer help with an alternative creation of “virtual centres“ of manufacturing excellence and productivity. These organisations are skilled in problem diagnostics. They often have good contacts with manufacturing companies albeit this contact range can be beneficially expanded. AIRTO members and similar companies understand diagnostics of company problems and the mechanisms for managing knowledge transfer from academic research into industry.

Most problems experienced in companies related to manufacturing excellence and productivity require the assembly of inputs from many sources to deliver a solution. This is the core skill of the knowledge transfer community. The impediment to delivering this service at present is the lack of demand from UK industry and their lack of profits from which to fund solutions.

A scheme provided through the DTI which channelled financial resources to the demand side for selective purchasing of counselling would change this situation. Knowledge transfer companies are in a unique position to act as broker between companies, universities and RDAs and to provide independent advice drawing on a range of inputs. A modified proposal following the recommendations in this document would create a powerful network for change in industry practice and competitiveness in the UK economy. In the longer-term it could be financially self-sustaining.

#### **4) The possible working relationship between AIRTO members and the proposed centres for manufacturing excellence.**

If the proposed centres were structured as a virtual network which brought together companies, university departments, RDAs, AIRTO members and like organisations, it would be an effective way for the DTI to obtain leverage on the present infrastructure at minimum cost. It would stimulate synergy between all players. It would change progressively the culture towards knowledge management and skills upgrading in industry. AIRTO would be willing to support the DTI in developing a business plan and model for the implementation of such a virtual network aimed at stimulating manufacturing excellence and productivity in the UK. This proposal should not be confused with the Supernet experiment by Business Links. That concept was ill conceived. The new proposal would be radically different. It would follow best international practice in knowledge management. At its centre would be connectivity of all players (companies, RDAs, universities, service providers etc) to produce enhanced performance by links to global best practice. It would be linked interactively to other “international knowledge pool” players. It would incorporate a means to target key



companies and to measure improvement. A consortium of AIRTO members and similar companies could act for the DTI as the “managing agent” for the virtual network. This consortium would be accountable to the DTI against agreed performance criteria.

#### **5) Arrangements for setting up “Parent Institutions”.**

The proposal in the DTI consultation document for the establishment of “Parent Institutions” and “Regional Units” is costly and bureaucratic. The RDAs provide already a system of regional infrastructure. To introduce an additional mechanism will only confuse further the recipient community – industry and commerce.

The Parent Institution should be the RDA. The Regional Unit should be a service facility operated through the present executive structure of the RDA and linked to a national network of virtual centres managed by a consortium of knowledge transfer companies in conjunction with appropriate university departments. This would ensure that RDAs were incentivised to stimulate their local industry but at the same time to have available to them both national and global resources of expertise for delivery to companies in their region.

The consultation document properly draws attention to the need for companies to have available to them that which is at the forefront of a wide range of technology specialisms. This should be at the core of the virtual network. It is core business for AIRTO members. Various Information and Communications Technology (ICT) mechanisms should be used for delivery of new technology stimulation in conjunction with the physical RDA structure. Some of the mechanisms which could be used through virtual network management would be as follows.

- Internet based communities focusing on application of particular issues of technology development.
- Through the work of the virtual network, the establishment of multi-RDA multi-client programmes managed by the network consortium in consultation with other providers eg universities and other contractors.
- Regional virtual networks, through RDA hubs, as a dissemination mechanisms but managed through the virtual network organisation.
- Regional meetings and conferences organised through the RDAs but managed by the virtual network organisation highlighting new developments and application exemplars to stimulate industry participation.
- Continuous promotion of the virtual network resources through RDA networks, the Small Business Service Gateway, Chambers of Commerce and Trade Associations.

## **6) Conclusion**

AIRTO confirms that the DTI analysis of the need to upgrade manufacturing excellence and productivity is valid.

AIRTO argues that the proposals for physical centres (Regional Units) and a structure of parent institutions will represent poor value for money and add to bureaucracy instead of focusing on the real issue which is stimulating industry demand and supplying solutions based on global sources.

AIRTO recommends the development of a solution based on a “virtual network” for manufacturing excellence and productivity. It will create synergy between companies, the supply chains, the RDAs, universities, the SBS and knowledge transfer companies. It will build on existing infrastructure and provide the DTI with a significant multiplier effect on its investment.

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## Description of AIRTO

AIRTO is a network of the United Kingdom's independent research and technology organisations and promotes their role in strengthening industrial performance through consultancy, design, information management, knowledge transfer, research and development, skills provision, technology transfer and training.

AIRTO members are quality- and value-adding companies with a track record of success in knowledge transfer. They are driven by the desire for customer satisfaction and profitable success in a competitive market place.

AIRTO provides a point of contact between UK independent research and technology companies and government agencies, industry bodies and the European Community. It co-ordinates the views of its members and, by representing these to industry and government it provides policy leadership in the knowledge trading sector.

With some fifty member companies having between them a total turnover approaching £1 billion, AIRTO embraces a major portion of the growing industrial R&D effort of the UK. Members' activities span a wide range of disciplines from life sciences to engineering. Their work includes consultancy, managed fundamental research, contract research, developing and designing innovative products or processes, instrumentation, testing and certification, programmes of best practice, and techno-economic consultancy. Most run comprehensive information services, conferences and seminars as part of the process for knowledge acquisition and dissemination. Many organise joint ventures including venture capital investment programmes. The majority trade in the global market place.

Recent AIRTO Policy Papers are listed below.

- 2000/1 Summary of AIRTO recommendations for a Science and Innovation Policy
- 99/1 Encouraging people to collaborate to compete: Proposal for implementation of a Competitiveness White Paper vision – AIRTO VIRTUAL
- 98/1 The PTP Scheme Achievements, lessons and recommendation for its continuation
- 97/2 The role of the RTOs in cross sectoral technology transfer: building on the success of The Carrier Technology Programme
- 97/1 AIRTO contributions to Foresight, training and education and knowledge-transfer as presented to Mr John Battle, MP, Minister for Industry and Energy on 12 June 1997
- 96/3 Case for the continuation of the first five PTPs
- 96/2 Trading with SMEs: Improving their competitiveness
- 96/1 The role of the European Commission in funding research and technological development

## List of Members

Advanced Manufacturing Technology Research Institute	AMTRI
Aircraft Research Association Ltd	ARA
The British Glass Manufacturers' Confederation	British Glass
BHR Group Ltd	BHR
BLC Leather Technology Centre	BLC
British Maritime Technology Ltd	BMT
Building Research Establishment	BRE
Brewing Research International	BRI
The Building Services Research & Information Association	BSRIA
British Textile Technology Group	BTTG
Campden & Chorleywood Food Research Association	CCFRA
British Ceramic Research Ltd	CERAM
Construction Industry Research & Information Association	CIRIA
The Central Laboratory of the Research Councils	CLRC
CRL – The Innovation Centre	CRL
Cambridge Refrigeration Technology	CRT
EA Technology Ltd	EA
ERA Technology Ltd	ERA
FIRA International Ltd	FIRA
HR Wallingford Group Ltd	HR
Inspectorate plc	Inspectorate
Leatherhead Food Research Association	LFRA
LGC	LGC
Materials Engineering Research Laboratory Ltd	MERL
The Motor Industry Research Association	MIRA
Mineral Industry Research Organisation	MIRO
The Motor Insurance Repair Research Centre	MIRRC
The National Computing Centre Ltd	NCC
National Physical Laboratory	NPL
Pera Group	PERA
Pira International	PIRA
The Post Office Research Group	The Post Office
The Paint Research Association	PRA
RAPRA Technology Ltd	RAPRA
SATRA Technology Centre	SATRA
The Steel Construction Institute	SCI
Sira Ltd	SIRA
Smith Institute	Smith Institute
The Sports Turf Research Institute	STRI
TNO BIBRA International Ltd	TNO BIBRA
TRADA Technology Ltd	TRADA
Transport Research Laboratory	TRL
TRW Technical Centre	TRW
TWI Limited	TWI

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