3.2 COMMUNITY POLICIES ON RTDI, COMPETITIVENESS AND COHESION

3.2.1 The New Context for RTDI

Agenda 2000 is explicit in regard to future EU policy on RTDI.

"In response to the challenges of technological change and innovation coming at a time when Europe's competitors are stepping up their efforts significantly, it is vital that Community research and technological development be given new impetus". A combination of technological development and "putting knowledge at the forefront" are the key tools to be used to meet the challenge of global competition. "In order to derive the maximum benefit from this process [globalisation] in terms of growth, competitiveness and employment, special attention must be paid to the development, dissemination and use of these immaterial goods. Knowledge policies - research, innovation, education and training - are therefore of decisive importance for the future of the Union".

The Structural Funds RTD objective for 1989-93 was targeted primarily at strengthening infrastructure with many Member States using this opportunity to catch up after years without adequate RTD investment. This programming period aimed particularly at improving regional capacity in science and technology by improved infrastructure and at fostering the development of human capital. This assisted public administrations in the Member States "to appreciate the strategic importance of technology development for regional productivity, it encouraged both the forging of links between universities and business and private sector involvement, and facilitated access to the RTD Framework Programme". An evaluation conducted at the conclusion of the 1989-93 period in three countries with Objective 1 status noted that structural interventions, while having an overall positive impact, experienced several problems, including insufficient revenue finance to operate facilities, overemphasis of the public supply sector at the expense of stimulating private sector demand or participation, inadequate decentralisation of RTD activities and an over-reliance in Member States on EU funding.

The objectives for the 1994-99 programming period have evolved more towards underpinning enterprise involvement in RTD, promoting technology transfer from more developed to less developed regions, and to a strategy based on market demand rather than on S&T supply. This model focuses on the creation of partnerships and linkages between the industrial sector and between the industrial sector and universities and research institutes. The

---

2 See Footnote 1 above
5 See footnote 3 above
allocation dedicated to the development of technological potential in the Objective 1 regions increased from 2% to 6.5% in this programming period. The change of approach was based on a recognition which suggested "that the regional capacity to innovate and adopt new technologies depends not only on regional supply but, also, and to an increasing extent, on demand, or more precisely the receptiveness of the economic structure (in particular the SMEs) which is often insufficient because it is unable to identify and express its needs."

Continued policy evolution has resulted in a further shift of priorities: "Priorities have changed as well, increasing the emphasis on building human capital, networking, brokerage and demand stimulation." Moreover, the creation of the pilot projects pursuant to Article 10 of the ERDF and the Innovation Programme - Regional Innovation Strategies (RIS) and Regional Innovation and Technology Transfer Strategies and Infrastructures (RITTS) - is intended "to reinforce the co-operation between the private and public sectors and between the firms in the region and the supply of RTD and Innovation infrastructures and services." Nonetheless, the Commission expresses concern in its Cohesion Communication that "despite all these positive changes, a large part of structural interventions still tend to support the existing scientific (public-oriented) system - especially in the Objective 1 regions - perpetuating and eventually reinforcing the structural problems besetting the regional innovation system."

Despite the more commercial orientation of EU RTD policy, S&T indicators continue to show that the technology gap between Member States and regions remains significantly wide. The Second Indicators Report shows, however, that the EU's regional technology gap, measured as ratios of GERD/GDP, is 20 times higher than its Member States technology gap. (The cohesion gap remains about the same). The report poses the questions of why regional gaps are larger than those of Member States and how much value should be attached to them. It acknowledges that closing the EU's regional technology gaps will be a long term task, and one which will require, inter alia, that "accessibility of information on technology" is assured and that "receptiveness to new technology" is promoted. Furthermore, it points out that "Policy choice should be guided by consistency and selectivity criteria. While the former criteria refers to the integrated character of any development strategy and the coherence of actions over time, the latter will help to avoid a scatter-gun style of public support and to adapt the strategy to a region's characteristics."

The Second Indicators Report identifies a "cohesion paradox" developing in Europe, whereby many of the EU's poorest and less developed regions have

---

6 See footnote 3 above
7 See footnote 3 above
8 Cohesion Report. See footnote 4 above
9 Cohesion Report. See footnote 4 above
10 Cohesion Report. See footnote 4 above
12 See footnote 11 above
become even poorer (Greece in particular) although a catch-up is occurring in many other regions (the German Laender, Ireland, Algarve.). There is also a trend of catch-up in the poorer regions of the richer states, but in any case, the worst performing regions in the richer states "still remain very rich in comparison with the poor parts of Europe." The report underlines that a small number of regions continue to dominate European RTD (Baden-Wurtenberg, Ile de France, Rheinland, Bayern and Nordrein-Westfalen, Voralberg, Hamburg, Rhone-Alpes, and Alsace), as well as a small group of "extremely rich 'city-regions' " such as Brussels and Hamburg. On the technology side "a clear convergence" is occurring among the regions which have been identified by the report as being economically in the middle range. An "important element in this technological growth process" may be "the presence of a well-elaborated innovation system." The report found the existence of a high correlation in the 'middle class of regions' identified by it, between their growth in GDP per head and the increase of patents per head, and suggests that "it would be worthwhile to explore the main drivers of this growth."

There is concern that the technology gap has not decreased in regions in areas of the information society. It is thought that there is a concern that the technology gap between regions in respect of areas involving computer, communications and electronic media has not only not decreased but that, in fact, polarisation may be widening between the North-South and between the richer and poorer regions.

The new programming period (2000-06) will undergo modifications to accommodate enlargement and the phasing out of support for certain regions, subject to transitional arrangements. Under the new programme a fall of around 11-16% of Member States population qualifying for Objectives 1 and 2 is expected i.e. from 51% to 35-40%. The qualifying threshold of per capita GDP of 75% of the Community average will remain, and be subject to strict application. Regional Policy Commissioner Wulf Mathies, has firmly re-established the context of the Structural Funds, ie. that "structural fund sources need to be seen more as incentives for carrying out efficient structural schemes and less as entitlements", warning that "this includes making it possible to transfer funds away from the regions that are not able to use them efficiently, towards regions that are more successful at doing so..."

The five-year assessment of the Community RTD Framework Programmes (Davignon Report) contains policy implications beyond its specific mandate. It regards the Fourth Framework Programme as underachieving, lacking in focus and operating in a structure "which inhibits the formulation of real strategy and makes effective implementation difficult".

14 Second Indicators Report at p353
15 Second Indicators Report at p357
16 Second Indicators Report at p357
17 Second Indicators Report at p357
The Commission accepts the need for a "more strategic vision" and for the incorporation of the 'European Value Added' criterion of Agenda 2000 into the Fifth Framework Programme.20

The Fifth Framework Programme 21 will implement a systemic approach, which is multidisciplinary and multisectoral, and comprise priority key actions "in which European research could make an urgent contribution by way of innovative products, processes or services, to problem resolution". On the demand side, research will focus on socio-economic needs (health, environmental sustainability, food and diet); on the supply side it will be directed towards economic growth and job creation in traditional and high tech industries. The programme will also endeavour to capitalise on scientific strength and knowledge and on productive sectors with strong growth potential in an effort to improve competitiveness.

The Fifth Framework Programme will be streamlined in management; simplified and concentrated under fewer themes and actions; give more prominence to dissemination and exploitation of research results; and concentrate resources through the strict application of selection criteria. Programming budgets will retain the flexibility of committing a proportion of funding to the earlier implementation period, and withholding the remainder of the amount pending results at a later stage, retaining the option of continuing to fund the programme or to reallocate the amount to a new programme.

The principles inherent in the new approach of the Fifth Framework Programme have a wider application to Community structural policy. In fact, the Davignon Report 22 suggests that since the Structural Funds could be a source of finance for research in some Member States, the same criteria for establishing European Added Value should be applied. It further suggests that the Commission should encourage Member States to use Structural Funds to improve the quality of their research and to reinforce the benefits of the Framework Programme.

3.2.2 Management and Planning Processes

Improvements in management at Commission level are currently being addressed within the Commission's services.23 Future Community research management should result in increased flexibility; a decentralised approach; and increased partnership with the Member States resulting in a clearer division of responsibility between the Commission and the Member States.24 It is intended to institute a system for a strategic framework with each Member State in which clear targets and benchmarks are incorporated and the Commission would withdraw from detailed programme management to focus

21 See footnote 20 above
22 Davignon Report at p11
24 Davignon Report; Fifth Framework Programme; Eight Annual Report on Structural Funds.
on monitoring and evaluation of performance.\textsuperscript{25} The EU’s role would therefore be mainly that of complementing and enhancing Member States research activities and would address the weaknesses of European RTD vis à vis its competitors.\textsuperscript{26}

Three areas for bureaucratic improvement have been identified: transparency; quality and rapidity. Transparency is seen as essential for the evaluation process, both in terms of criteria and in the selection of experts, and in the need to give reasons for rejection. Quality should be assured through the use of high level experts and the confidentiality of the evaluation process should be guaranteed. Rapid responses are essential; contracts should be processed more quickly; a slimmed down accounting system should ensure faster payments by the Commission; better money transfer procedures should be standard practice, particularly in the recognition that SMEs tend to have cash flow problems. Commission internal procedural improvements are claimed to have reduced from six months to three months, the time between the receipt of a proposal and an evaluation decision in respect of SME-specific measures.\textsuperscript{27}

A new division of responsibilities envisaged at Community, regional and local level are designed to result in the identification of verifiable targets for development and assistance in partnership; decentralised management to the Member States and regions; and guaranteed systems for management, evaluation and auditing of results by the Commission.\textsuperscript{28}

Article 8 of Council Regulation No 2083/93 lays down the concept of partnership.\textsuperscript{29} The decentralised approach tends to be accepted and promoted in the literature, substantially on the basis that "Effective RTD requires region-specific institutions and instruments that are capable of addressing regional bottlenecks and promoting linkages between technology agencies, knowledge institutions, funding organisations and enterprises."\textsuperscript{30}

There is an apparent concern about the need for good quality appraisal, monitoring and evaluation systems. The Edinburgh European Council emphasised that prior appraisal and ex-post evaluation should be conducted in the most cost-efficient manner. The revised Structural Funds Regulation (1994-99)\textsuperscript{31} specifies that "assistance will be allocated where appraisal shows medium-term economic and social benefits commensurate with the resources deployed" and Member States have a mandatory requirement to incorporate into their development plans and applications for assistance specifically quantified objectives for the operations proposed. The Regulation also states that ex-post evaluation should be greatly facilitated by prior approval, in that it

\textsuperscript{25} See footnote 24 above

\textsuperscript{26} Management of European Projects. Professor Dr-Ing Franz, J.Heeg, Dipl – Ing Mathias Kromker, Bremen Institute of Industrial Technology and Applied Work Science at the University of Bremen (BIBA) 1997.

\textsuperscript{27} See footnote 23 above

\textsuperscript{28} Agenda 2000 at pp 22,25, and 26

\textsuperscript{29} Council regulation No 2083/93 of 20 July 1993 laying down provisions for implementing Regulation (EEC) no. 2052/89 as regards the European Regional Development Fund. OJL193/34; 31/7/93


involves subsequent verification that the objectives identified initially have been satisfactorily carried out and that any discrepancies observed in respect of these objectives can be examined. There is a view that there will be an intensified demand for evaluation in future policy development, which will require "simpler semi-automatic approaches and refined qualitative methods." The strengthening of the Monitoring Committees, in accordance with the principle of subsidiary, is favoured by the Community. The Commission has established an inter-service working group on management to look at the steps involved in the implementation of programmes, with a view to recommending improved management methods where deemed necessary. A general manual of evaluation procedures and a vade mecum on the use of the Commission's model contract is under preparation.

While it is recognised that relevant quality and performance indicators are essential for Member States to quantify the performance of EU funded research, it is also acknowledged that these indicators may be difficult to define, compared with indicators relating to expenditure and activity levels. Difficulties identified during the CSF mid-term review were a lack of qualitative data; no identified impact indicators or inappropriate impact indicators; a lack of quantitative targets set for indicators; and indicators used for the same measure differ in different measures. A suggested remedy for such deficiencies is that "an agreed set of performance indicators for the RTD measures in the CSF should be developed and used by the programme managements." Member States tend to be conservative in the nature of the indicators and targets they set, and in the absence of realistic indicators they might have to revisit their indicators during the programme. Ireland had to do in its mid-term review, when it realised that its original target had been far exceeded. Italy's Programmi Operativi Plurifondi (POP) had to be reprogrammed at an early stage in one of its regions in order to adjust it to demand trends.

Decentralised administration of the Structural Funds to local levels implies a capacity at regional and local level to manage the programmes and funds. Experiences and best practice examples of local bodies will be useful to the less experienced regions. There seems to be a developing consensus that strong regional partnerships will best deliver the Structural Funds to the regions.

EURADA has prepared a useful report on the creation, development and management of RDAs, which offers advice on their role in supporting production and management systems, technology transfer, innovation, quality management, information to enterprises, non-financial services to SMEs, financial services to enterprises, training, evaluation etc. The Conseil des 

33 See footnote 31 above
34 Report of the Department of Enterprise and Employment (Office of Science and Technology) to the ESF Monitoring Committee. May 1997.
35 See footnote 34 above
36 See footnote 34 above
38 Creation, Development and Management of RDAs. Does it have to be so difficult? EURADA 1997.
Communes et Régions d'Europe\textsuperscript{39} recommends the development of partnerships through local and regional authorities, involving the public and private sectors, the associative sector, the social partners, universities, research centres and 'representational organisations' of local and regional authorities. It focuses on a new form of partnership with these 'representational organisations' with a view to ensuring an increased recognition by the Commission of the impact of structural actions locally and regionally.

Weak planning and management and unclear delineation of roles and responsibilities between national and regional government can seriously disrupt the functioning of regional programmes: this point has been strongly made in respect of the operation of the Structural Funds in Italy.\textsuperscript{40} Recommendations to improve management included better programme management through training; use of qualified external technical assistance; outsourcing of parts of management; and the upgrading of generic tools and mechanisms for management. On the planning side, it was suggested that a planning process should include a regional technology plan and the identification of an RTD strategy which fits into a regional development policy.

If it is possible to characterise the 1989-93 period as priorities and project driven, the 1994-99 period was characterised by the programme approach.\textsuperscript{41} This represented a more efficient method of managing the Structural Funds, insofar as it provides more flexibility and adaptability within the planning and implementation process.\textsuperscript{42} However, there are also limitations to this approach,\textsuperscript{43} notably the management difficulties arising from the plethora of programmes, as well as the financial complexities of programming. In the new Structural Funds for the period 2000-06, the Commission wants Member States to go further and adopt a strategic approach linking RTD as directly as possible into the economic development of the region, with a renewed emphasis on innovation.

Good management of technology has been underlined as a means of enhancing competitiveness.\textsuperscript{44} The management of science systems themselves, as opposed to the management of programmes, has been addressed by the OECD.\textsuperscript{45}

\textsuperscript{40} See footnote 37 above
\textsuperscript{41} See footnote 3 above
\textsuperscript{44} Competitiveness through the Management of Technology. 2\textsuperscript{nd} National Innovation Conference. FORFAS Summary Report. Dublin, 4 November 1996.
3.2.3 Policy Development and Delivery

The importance of policies to stimulate the demand for RTD activities, particularly in Objective 1 areas where demand tends to be weak, is widely recognised.

Recent insights into policy development for regional RTD and innovation point out the challenge of turning regions into "learning regions"46 and "the policy lesson is to facilitate sources for the innovating firms."47 However this is accomplished, "it is crucial to combine innovation, technology, infrastructure, training and legislation; these are all factors in favour of creating an improved environment for firms in terms of economic development."48 It has been suggested that future regional innovation strategies and EU policies should focus on motivating enterprises, for instance, by "opening new technology routes" and "to activate the demand side using innovation financing and technology auditing."49

The policy challenges of the global knowledge-based economy have been elaborated as requiring a recognition of the "complexity of the new industrial landscape"; the requirement for "considerable resources"; the need to move away from the traditional funding of projects; a cognisance of the "varied needs" of enterprises; and a "comprehensiveness in implementation of plans."50

The regional economic and social impact of innovation policy is a key concern in the EU.51 A pragmatic view is that "efforts should be concentrated on what is regionally feasible" and on what can be done to implement strategies in the context of economic and social impact.52 Account should be taken of regional needs and be linked closely to economic and social development. Promotion and support of partnerships and networks between the public and private sector is seen as "essential" in respect of the economic and social impact of RTD and innovation policy.53 In the context of technology transfer and RTD networks, the necessity to find the correct balance between government intervention and private initiative and between the different levels of government has been highlighted.54

The Community has recently focused its attention on spatial planning at EU level as a means of tackling problems relating to social and economic cohesion.

47 RESPOR 96. Session on Innovation Systems.
48 See footnote 47 above
49 RESPOR 96. Presentation by Professor N. Komninos on session on the Role of Industry in Regional Technological Development.
50 See footnote 49 above
51 Agenda 2000 at p14.
52 RESPOR 96. Session on Regional Economic and Social Impact of RTD and Innovation policy
53 See footnote 52 above
54 RESPOR 96. Session on Technology Transfer and RTD Networks.
The Structural Funds are seen as having an important role in this area. The debate is at a relatively early stage. There is no legal base, except, arguably under an interpretation of Article 130a, and there is no financial allocation for a spatial policy at present. However, the Member States are proceeding to discuss spatial planning, in conjunction with the Council of Europe, the European Commission, European Parliament and Committee of the Regions in the framework of the European Spatial Development Perspective (ESDP). The aim of the ESDP is to reach an agreement with the Member States, with the participation of the towns and regions, on a final document in 1999, subsequent to the launch of a European wide political debate on policy orientations for the spatial development of the European territory.

The Commission Communication on Cohesion, Competitiveness, RTD and Innovation\textsuperscript{55} is aimed at implementing an integrated strategy. The Commission is focusing on human resources development, innovation and networking. The Communication takes account of the main policy challenges and within its strategy seeks to create the space which will allow regions to implement bottom up strategies.

The Cohesion Communication aims to identify practical ways "to enhance a systemic approach to RTD and innovation in order to contribute to the economic growth of less favoured regions and help promote socio-economic cohesion."\textsuperscript{56} This would include complementarity between the Structural Funds and the Framework Programme. The Communication points out that "while focusing on excellence, the fourth Framework Programme has contributed to socio-economic cohesion in different ways".\textsuperscript{57} Examples cited include increased participation by less favoured regions in the Framework Programme; improvement in RTD capability in less favoured regions through exposure to and involvement in international research projects; enhanced training and mobility of researchers; and improved promotion of innovation and dissemination of research results.

While the fundamental aims of the Structural Funds and the Framework Programme are different, the fifth Framework Programme will concentrate some of its actions on measures of specific and strategic importance to economic and social cohesion. These are: the dissemination and valorisation of research results; training of research workers; and research on subjects of interest to less favoured areas and social groups.\textsuperscript{58} In view of the high priority accorded to economic and social cohesion, and the importance attached to RTD and innovation in contributing to its achievement, one area which might be further built on in the future is the links between the Structural Funds, particularly the CSFs, and the Framework Programme.

An important policy consideration at all levels is the need for co-operation and synergy to ensure the maximum impact of EU and national RTD and related policies and their implementation on the ground. This point is well

\textsuperscript{55} Cohesion Communication. See footnote 4 above.
\textsuperscript{56} Cohesion Communication. See footnote 4 above.
\textsuperscript{57} Cohesion Communication. See footnote 4 above.
\textsuperscript{58} Second Indictors Report 1997 at pp396-397.
made in the Second Indicators Report. 59 "To ensure policy coherence and 
minimise transaction costs, it is essential to ensure proper co-ordination 
between the different decision levels in charge of implementing these policies. 
Without co-ordination, the different actors in a given area, for instance, the 
regions of the European Union, could waste their energy on destructive 
competition and on the expensive duplication of projects, rather than 
exploring the synergy effects that result from a joint exploitation of different 
competencies and specialisations".

3.2.4 Funding and Financing Mechanisms

The focus on combining public-private financing for EU research has been 
sharpened by the new financial framework referred to in Agenda 2000. "Ways 
will have to be developed to get the best leverage from operations funded by 
the Community budget by using public-private partnerships as well as 
combining subsidy arrangements, loans and venture capital." 60 The 
Amsterdam European Council gave formal acknowledgement to the 
significance of the role that pan-European risk capital markets can hold for job 
creation. The Community has recognised for some time that private financing 
for RTD achieves positive results in bringing it to the market place, whereas 
RTD funded by the public sector has tended to be less close to industrial 
activity.61

As pointed out in the Cohesion Communication, public funding for RTD can, 
nonetheless, be effective, provided it forms part of a regional strategy. In the 
absence of a strategy to promote innovation "an injection of public funding for 
RTD into the system will not make a substantial increase in the contribution 
made by that funding to regional economic development."62

At the regional level, the challenge facing regional policymakers is how to 
develop new financial instruments and institutions to support new technology-
based enterprises. Some Member States, such as the UK, are quite well 
developed in terms of a venture capital industry and secondary stock market 
for the provision of accessible capital resources. But "major spatial variations" 
exist in respect of the availability of innovation finance which could "reinforce 
regional inequalities in factors such as new firm formation, new product 
development."63

In Europe the proportion of risk capital going into technology-based 
enterprises is stated to be only 17% compared with around 80% in the US.64

59 Second Indicators Report 1997 at p368 
60 Agenda 2000 at p63 
61 Research after Maastricht. A. Strategy. Communication from the Commission to the Council and 
European Parliament. SEC (92) 682 final; 9.4.92 
62 Cohesion Communication. See footnote 4 above. 
63 Regional Development and Innovation – the Regional Innovation Grant in Great Britain. John 
Bachtler, European Policies Research Centre, University of Strathclyde, 1994. 
64 Workshop: New Approaches to Support Research and Development within the European Union. 
Istituto di Richerche Farmacologiche Mario Negri. Clinical Research Centre for Rare Diseases, 
The Community Innovation Programme 65 directs specific activities to this area. A scheme, Financing Technology according to Performance (FTP) 66 aims to promote acquisition of new technologies by industrial companies by making payment dependent on the performance of the technology supplied. The EU offers technical expertise plus loan guarantees to help motivate lending institutions to provide loans to finance projects. Another scheme, the creation of a European securities market for rapidly growing companies, is establishing an electronic European securities market based on the US NASDAQ model. It has also assisted in the creation of the European Association of Securities Dealers. Commission support in this field has already resulted in the establishment of new investment markets in the Member States, such as the Alternative Investment Market in the UK and the Nouveau Marché in France.

Other EU financial schemes to create and support financial instruments include the important European Seed Capital scheme, 68 initially a pilot scheme adopted by the Commission in 1998, five years after its inception. A European Seed Capital Fund Network has been created, comprising 50 funds. The scheme is to be extended in 1998 to help smaller seed capital funds to invest in start-up companies, and will operate a reimbursable advance of 50% of operating costs for the first three years of establishment of a new venture capital fund.

The Eurotech Capital 69 and Eurotech Data 70 schemes have been operating since 1990; EIF Equity Investments, 71 established since 1996, is managed by the European Investment Fund (EIF). I-TEC Finance 72 established in 1997, is designed to build within venture capital operators, a capability to appraise and manage early stage projects in technologically innovative SMEs and is managed jointly by the Commission and the EIF.

A large number of new financial instruments are in preparation. These include JEV 11 (1998-00) to succeed an earlier instrument, JEV 1 73 (1997-98) which supports the creation of joint ventures between SMEs within the EU; an SME Guarantee Fund to be funded by the European Investment Bank (EIB) and managed by the EIF. Two new I-TEC instruments, I-TEC Partner and I-TEC Info (1998-00), will create an interface between Community research programmes and the financial sector and support transnational information exchange (best practice) in innovation financing, respectively. A European Technology Facility (1998-00) will be set up to support high-risk innovation in technologically-oriented SMEs. A proposed 'Eurofin' instrument will create new regional investment funds to finance innovative SMEs in less favoured 65 Third Activity of the Fourth Framework Programme: Dissemination and Exploitation of the Results of Research: The Innovation Programme.
66 Financing Technology according to Performance (FTP). Launched in 1991. Managed by DG XIII.
67 European Securities Market. In 1997 the Commission began work on the conditions and legal and financial frameworks needed to develop European Capital Markets.
70 Eurotech Data, launched 1990.
71 EIF Equity Investments, Launched in 1996 by the EIF.
72 I-TEC Finance. Launched under the Innovation Programme in 1997 in collaboration with the EIF.
regions; it will be managed jointly by the Commission, the EIB and the EIF. An anticipated MECU 60 is expected to generate further resources of up to MECU 300.

The Biotechnological Entrepreneurship\(^ {74}\) is a good example of a dynamic relationship forged between RTD and enterprise. Promoted by the Commission, the Biotechnology Entrepreneurship draws together a network of scientific, management and financial partners from across the EU. The European Association of Securities Dealers (EASD) has recently created The European Association of Securities Dealers Automated Quotation (EASDAQ), a pan-European stock-market for high growth companies. Biotechnology companies are a significant part of their portfolio. The Commission initially funded EASD to enable it to strengthen its membership base, and it received other non-financial support from the Commission's services. EASD now has over 110 members. In May 1997 the Commission and EASD chairman organised the Biotechnology and Finance Forum to harness the biotechnology sector and the finance and investment sector.

EU and Member States measures such as grants, loans and guarantees available for eligible regions can be successfully combined with venture capital.\(^ {75}\) Difficulties experienced in obtaining traditional financing for RTD arise from its nature as an intangible asset and financial institutions tend to value it against tangible assets. This 'empathy gap' has to be overcome and private investors must be convinced that intangible knowledge does eventually become tangible when projects result in products or processes.\(^ {76}\) It can be possible to secure financing from banks for intangible projects, when supported by sound scientific evaluation.\(^ {77}\) In the US, it is regarded as being part of a researcher's job to be able to persuade potential financial backers of the value of their projects.

It has been found that small firms find it difficult to benefit from many EU programmes,\(^ {78}\) particularly the Framework Programmes. The BEST Task Force,\(^ {79}\) set up by the Commission, is currently examining access to finance by SMEs. Options under consideration include increased government involvement in seed capital funds, particularly for start-ups which are not high tech; public funding for venture capital schemes to overcome the problem of risk aversion by venture capital organisations; tax reductions on reinvested profits; preferential tax rates for SMEs; possible EIB and EIF measures to provide working capital for SMEs. There is already a commitment through the Third Multi-annual Programme for SMEs\(^ {80}\) to simplify and improve the financial, legislative and administrative environment in order to enhance their

\(^ {74}\) Biotechnology Entrepreneurship and Finance Forum 1997, DG XII. Joint Initiative by EASD and Commission planned (conferences, workshops, studies).
\(^ {75}\) See footnote 64 above.
\(^ {76}\) See footnote 64 above
\(^ {77}\) See footnote 64 above
\(^ {78}\) See footnote 3 above
\(^ {79}\) Business Environment Simplification Task Force (BEST) established by the Commission at request of Amsterdam European Council.
access to RTD and training. 81 The Community Innovation Survey 82 indicates that while financial barriers are significant for all enterprises, SMEs are particularly vulnerable in respect of participation in international RTD cooperation and the Framework Programme. Specific problems relate to the high investment required for the preparation of projects; the high cost of overhead expenses; and the difficulty experienced by SMEs in securing matching funding. Cash flow problems resulting from payment delays also have a significant negative impact on SMEs.

A report presented by the Commission to the Madrid European Council 83 pointed out that SMEs are undercapitalised because Member States’ tax systems tend to have a bias towards debt financing and against equity financing, thereby diminishing the incentives of SMEs to reinvest in their firms. This report also notes the problems encountered by SMEs in obtaining loans and that SMEs tend to pay higher interest rates than large companies. There are many indirect schemes and measures in the Member States in support of RTD in companies. These include tax-based incentives in respect of RTD expenditure, fixed assets and personnel costs. Various tax credit schemes operate in several Member States.

3.2.5 Technology Transfer

Improved technology transfer is a national priority for S&T in most Member States. A study into regionally based technology strategies in OECD countries 84 points out that countries with decentralised authority and strong levels of regional government have a more regionally differentiated structure of technology transfer mechanisms: "In such situations, policy instruments tend to be less a regional dimension of national technology policy than a technology dimension of a regionally based economic development policy". This was particularly evident in countries with a federal structure such as Belgium and Germany.

A clear message from the RESPOR conference on global regional RTD and innovation strategies for development and cohesion 85 is that the regions should formulate their own regional innovation strategies and develop clear action plans with the key players in the region. This should include local enterprise as well as local research institutes. 86 The strengths of the links to regional and local government agencies involved in the delivery of regional and local development programmes is perceived as a significant factor for increasing the regional development impact of technology transfer organisations and measures. 87 The efficiency of transfer systems in place,

---

85 RESPOR 96
87 See footnote 84 above
which includes universities and research institutes in the local economy, and in particular, the local capability to put new knowledge to good use is underlined as a key element in regional development.88

Responsibility for policy designed to integrate local universities and research centres into the local economy and to orientate RTD policy towards wider dissemination of information of new technologies and processes is as much that of regional authorities in the area as it is that of the Commission.89 The Cohesion Communication,90 whilst offering guidelines, would place full responsibility on the region. Nonetheless, the Commission should show a lead and Commission programme directors and managers within the programmes have a "clear responsibility for ensuring the diffusion of the technology developed within their programmes into the market place for commercial exploitation."91 In fact, the expert panel assessing the Fourth Framework Programme considers that "the most important aspect of the Commission's implementation of the Fifth Framework Programme is to remedy the defect of Europe's less developed entrepreneurial culture compared with the US, ie. technology diffusion and transfer."92 The Commission agrees that dissemination and exploitation of results should be given priority emphasis in research programmes.93

Innovation networks and demand oriented technology transfer mechanisms have been described as "important catalysts" in exploiting and strengthening regional innovation potential: "Only by co-operation between enterprises and research and transfer institutions can synergies arise which have a favourable impact on the successful realisation of innovation projects."94 This strategy should include bringing together partners from different regions on the basis that it is only through the integration of regional partners into "supra-regional innovation networks" that technology and development "impulses" can be expected.95

Government intervention is considered necessary to ensure the integration of regional players into such supra-regional networks.96 Initiatives taken by RTD agencies, while regarded as essential, are deemed to be insufficient on their own.97 A more important role for such organisations is perceived as that of providing assistance with the adoption of more advanced production methods or with new forms of inter-company co-operation, and, moreover, that such actions are further stimulated if accompanied by complementary changes at national government level.

88 See footnote 86 above
89 See footnote 86 above
90 Cohesion Communication. See footnote 4 above.
91 Davignon Report. See footnote 19 above.
92 Davignon Report. See footnote 19 above
95 See footnote 94 above
96 RESPOR 96. Presentation by Dr K. Koschatzsy at Session on Technology Transfer and RTD Networks.
97 RESPOR 96. Barriers to Technology Transfer: Culture and the Limits to Regional Systems of Innovation. Meric S. Gertler, Department of Geography, University of Toronto, Canada, 1996.
Of fundamental importance to technology transfer is "to find the right balance between government intervention and private initiative, and between the different levels of government." A study on the agri-food sector in four EU regions argues that the way to ensure sustainability through technology transfer is for regions and enterprises to follow their own strengths towards a specific development path, which will enable them to compete on the global market.

3.2.6 Small And Medium Sized Enterprises

Commission communications and Community programmes have been identifying the specific problems facing small and medium sized enterprises (SMEs). Recent policy emphasis on stimulating RTD is reflected in a variety of new activities. The Fifth Framework Programme intends to build upon the previous programme in important respects. The new third activity, Innovation and Participation of SMEs, targets easy access by SMEs to advanced technologies and to Community research programmes as a priority. A one stop shop for all research programmes with specific SME applications will be established and managed by the Commission, and common mechanisms to facilitate SME participation in the programmes will be created, such as electronic information provision, helplines etc. A new support for SME participation in 'co-operative research' activities has the objective of facilitating cross-border cooperation by SMEs to resolve common technical problems. The Fifth Framework Programme will also devise activities to encourage SMEs to participate in collaborative and co-operative research projects.

These new activities will complement existing Structural Fund measures such as the Community SME initiative and activities under the current Fourth Framework Programme like the RTD Technical Stimulation measures for SMEs which encourage SME participation in Community RTD programmes. In this context, CRAFT - Co-operative Research Action for Technology - targets SMEs which individually lack research capacity but which can identify common research needs on a group basis, and receive Community funding towards having the research performed by one or more research organisation. Other pilot schemes for SMEs including European Enterprise and innovation Centres (EEIC) and Business and Innovation Centres Network (EC-BIC) and Europartenariat are designed to support SME co-operation in terms of partner-seeking.

---

98 RESPOR 96. Conclusions of Session on Technology Transfer and RTD Networks.
101 Fifth Framework Programme. Com (970) 553/3
102 CRAFT has been operating since 1994
The third activity of the Fourth Framework Programme, which has created the Innovation Programme (primarily but not exclusively for SMEs) has the objective of fostering the dissemination and exploitation of research results and to stimulate the integration of new technologies into European companies. Innovation Programme activities include Innovation relay centres; CORDIS; patent and intellectual property services; development of professional networks; facilitation of access to innovation financing - a major function. The Euromanagement multiannual programme has also been used for SMEs in respect of its provisions on the performance of technology audits, eco-audits, help with standardisation matters and assistance for training and consultancy.

Commission figures\(^\text{103}\) indicate that aggregate data for the specific RTD programmes of the Fourth Framework Programme show that enterprises constitute 40% of the EU participants in shared cost actions and account for 43% of the funds dispersed. SMEs represent more than 50% of the enterprises involved in the Fourth Framework Programme projects and their absolute participation has more than doubled in comparison with the previous programme. Figures also indicate that 75% of the 1200 SMEs participating in the Technical Stimulation Measures to facilitate access to RTD have taken part for the first time in EU RTD programmes. Nevertheless, it has been observed that "... the Framework Programme has relatively little relevance to many SMEs because of their low technological capacity or their main innovation needs."\(^\text{104}\)

Organisations like EURADA\(^\text{105}\) help to create an interface between the Community and regional development agencies, which take responsibility for developing SMEs, and articulate issues encountered through their role in providing support for SMEs in the development and delivery of national development programmes through Regional Development Agencies.

### 3.2.7 Links to the Framework Programme

Knowledge policies have become more important instruments of all Community policies to stimulate competitiveness and cohesion. The Framework Programme does this via a top-down, subject-oriented approach. On the other hand, the Structural funds are driven locally and targeted at embedding RTD and innovation into local economic structures.

However, there are evident commonalities in the core objectives of both instruments. For example, the Structural Funds try to improve competitive capacity and thus they share a common purpose with the Framework Programme. Both instruments support innovation and SMEs. Both address the cohesion objective, albeit in different ways. The FP does this through training and mobility of researchers, innovation support in SMEs, innovation support in SMEs, innovation support in SMEs, innovation support in SMEs.

---


\(^{104}\) Increasing Participation by Small and Medium Sized Enterprises in International Technology Co-operation – the Role of Public Policy. An Irish Experience. D O'Doherty. FORFAS, October 1997

\(^{105}\) The Future of the Structural Funds. EURADA Memorandum, 1997
dissemination activities and networking of contractors. The Funds focus on helping to reduce disparities in RTDI capabilities between the central and less favoured regions and on embedding RTDI into the productive fabric of the regions.

Because of these shared purposes, achieving synergy and complementarity between these instruments is becoming more important.

In theory, the Structural Funds are intended to help regions to improve their capacity to undertake research, rather than to support the research itself. In practice, many beneficiaries have used the Funds to support research projects and are sometimes in receipt of more funding for research from the Funds, than from the Framework Programme. While dissimilar in many ways, both instruments converge closely in their objectives relating to research stimulation. In practice, it is very difficult to separate support for the capacity to undertake research (the Funds) and support for research performance (The FP). In the case of research support therefore, both instruments may be interchanged for the same purpose.

As RTD and innovation become increasingly important in Community policies, rationalisation of their respective roles becomes more important. Some progress was made in this direction in 1993 with a Commission policy paper on the interaction between the Framework Programme and Structural Funds in supporting RTDI actions, and the recent publication on cohesion and competitiveness further elaborates this complex relationship. Fundamentally, a sharing of roles is envisaged. The objectives are different, one is aimed at strengthening EU's scientific and technological performance, while the other is aimed at reducing disparities in the development of the least favoured regions by strengthening their competitive structures locally.

It is precisely the potential of RTDI for promoting economic and social cohesion which has attracted the attention of the Funds and which accounts for a growing allocation of the funds in this direction.

But a growing convergence between the two requires more attention to ensuring that evident complementarities and synergies are fully exploited. Making better use of the synergies which are growing between the two, especially in the area of innovation support and promotion, should be an important policy objective for the future.

Recent comment on the Structural Funds suggest that the RTD part of the Structural Funds tends to attach too much attention to high R&D standards which tends to mitigate against less advanced regions. Many projects therefore aimed to build prestigious RTD infrastructure to enable them to carry out R&D to the high standards of the Framework Programme. As a result, there was little spillover into local industry.

106 Second Indicators Report, 1997 at p 398
3.2.8 Innovation

Innovation has been described as a "process of interactive learning in which a wide array of institutional mechanisms can play a role." The traditional pattern of innovation across Europe i.e. 'islands of innovation' which host almost 80% of the laboratories involved in international cooperation in RTD are concentrated in Europe's central regions.

Geographical location has a significant influence on the innovation process. Overcoming these inherent structural imbalances and their negative impacts for innovation in Europe's weaker regions underpins much of the current Community innovation objectives and strategy.

Community objectives, as expressed in the Innovation Action Programme are threefold: to foster an innovation culture; to establish a framework conducive to innovation; and to better articulate research and innovation. An "innovation mentality" needs to be promoted and neither legislation nor short term means are capable of providing it. There is also the recognition that regional innovation capacity depends not only on supply, but increasingly on demand, particularly from SMEs, resulting in more emphasis being placed on market demand rather than on technological and scientific supply.

As regards implementing regional innovation strategies, the Member States and EU have complementary roles. At the national level, the Innovation Action Plan highlights five key areas: development of a strategic foresight vision of research and its application; strengthening of research carried out by industry; strong encouragement of start-ups of technology based firms; intensification of cooperation between public, private and industrial research; and strengthening the capacity of SMEs for absorbing new technologies and know-how.

The Member States also have a role to play in the endowment of public research centres; provision of an adequate education system; and in the definition of an appropriate legal, administrative and fiscal framework.

Community instruments to be mobilised to support innovation include the Structural Funds (Article 10 of the ERDF, the SME initiative, ADAPT, Leader 1) and the Framework Programme. RITTS and RIS (and previously STRIDE) have demonstrated that "a stimulus from above may be very helpful to introduce new practices in policy building", while at the same time, there is "a fundamental need to respect the diversity of the regions and let their

107 The Learning Regime, by Kevin Morgan. See footnote 46 above.
108 Eight Annual Report on the Structural Funds 1996 at p18
109 Ruhr, Frankfurt, Stuttgart, Munich, Lyon, Grenoble, Turin, Milan, Rotterdam, Amsterdam, Greater London
112 See footnote 111 above.
113 Building Regional Innovation Strategies, RTP's in an evolutionary perspective. Claire Nauwelaers and Jan Cobbenhagen, Jean-Claude Moretti, Jean Severijns, Merion Thomas, Discussion Paper, 1997.
endogenous specific dynamics play, in a word, to act in subsidiarity.”\textsuperscript{114} Indeed the characteristics of RTP/RIS in their bottom up, demand driven, strategic and integrative approach present an interesting model, but one which requires sound monitoring and evaluation in order to build on their successes.\textsuperscript{115}

The Innovation Programme, under the third action of the Fourth Framework Programme, continues to finance innovation projects, pilot schemes, electronic information, facilitate innovation financing etc.

### 3.2.9 Human Resources

"Europe must invest massively in developing its human capital and its R&D and innovative capacity if it is to take up the challenges arising at the end of the 20th century and be among the economic, scientific and technological powers of the 21st."\textsuperscript{116}

Agenda 2000 refers to the need to invest in "the constant upgrading of human resources" \textsuperscript{117} and it proposes to bring human resource development centre stage and forge a direct link between the Structural Funds and the new policy thrust on employment arising out of the Amsterdam Treaty.

Current EU funding committed to training activities is concentrated in the Structural Funds and the Framework Programme. The Fourth Framework Programme has a budget of ECU 744 million dedicated to researcher training and mobility, representing 6% of its budget. Structural Funds are available for human resources pursuant to Article 123 EC Treaty on adaptation to industrial changes and to changes in production systems. The Leonardo programme\textsuperscript{118} provides support for the quality of Member States training systems and innovation in the training market through the development of products and methods and their dissemination.

The Commission, in collaboration with the Member States, is currently implementing pilot programmes for the benchmarking of performance in human resources and the development of skills. The BEST Task Force\textsuperscript{119} is considering ways to improve the education and training and RTD of SMEs. It is examining types of training most relevant to entrepreneurs (management training, mentoring schemes etc.) and to employees (harmonisation of national training, schemes to foster mobility of apprentices and trainers, flexible training schemes etc.)

\textsuperscript{114} See footnote 113 above
\textsuperscript{116} Second Indicators Report 1997, at p75
\textsuperscript{117} Agenda 2000 at p14
\textsuperscript{118} The Leonardo da Vinci programme supports the quality of Member States training systems, seeks to increase the capacity for innovation on the training market and supports the development of linguistic ability.
\textsuperscript{119} See footnote 79 above
The fourth activity of the draft Fifth Framework Programme, under the theme of Improving Human Potential sets out a mission statement: "The world is increasingly based on knowledge. The Community's prime asset in this area is the quality of its researchers, engineers and technicians. The aim is to develop this knowledge potential through greater support for the training and mobility of researchers, including towards enterprises, and by supporting better use of research infrastructure." 120 To implement this policy five action lines have been identified: reinforcing the Community's research capital (research training and fellowship schemes); improving the utilisation of major research infrastructures (primarily transnational access to large facilities); promoting scientific and technological excellence; harnessing socio-economic research to the needs of society; and supporting the development of S&T policies in Europe.

Policies to nurture S&T oriented human resources should extend beyond scientists and engineers to include technicians. 121 The training of technicians is viewed as being equally important to the training of graduates. 122 In a wider sense, training is seen as being essential to ensure adjustment to the information society through spreading the use of communication technologies, especially to SMEs and to encourage technological awareness and RTD in this field.123

3.2.10 Regional Issues

A synthesis of the situation of RTD in the regions is described in the second Indicators Report: "The combined actions of the European Union's R&D and innovation, co-ordinated with national policies, will continue to promote the process of convergence that is underway with regard to capacities and competence in the area of R&D and innovation between European regions. Even if they are not all destined to make the best possible use of its natural assets and human resources by being effectively 'wired into' the networks of excellence supported by the EU's R&D and innovation policy, "124 Emphasis has been placed on subsidiarity, which should not be a rigid concept in practice. 125 It should elicit co-ordinated action at regional, national and European level, leaving the regional authorities feeling empowered and clearly committed to the goals established under the strategy which they have been involved in setting,126 provided there is sufficient regional and local authority participation in the preparation stage of programmes.

Regional empowerment is designed to ensure the delivery of policies in tune with the regional economy; however support at national level is also important to ensure that bottom up initiatives are complemented by top down measures.

120 Proposal for the Fifth Framework Programme (1998-2002)
121 RESPOR 96. Presentation by Mr S. Veta at Session on The Human Dimension in Regional RTD
122 Bergamo Workshop 1997. See footnote 64 above
123 Eight Annual Report on the Structural Funds 1996 at p21
124 Second Indicators Report 1997 at p397
in respect of investment, training and technology transfer, as well as to compensate the least favoured regions which lack the capacity to experiment with their own institutional resources. 127 Regional economies need to be aware of the key elements that comprise regional development: intangible investment, particularly to improve a region’s RTD capacity; access to new technology and know how; efficient technology transfer systems; and, most importantly, the local ability to use new knowledge profitably and to good effect. 128 Successful regions have been identified as those that "set a high premium on consensus, collective success, long term objectives and quasi-corporatist institutions." 129

Networking is seen as the way forward for regional development. Networks or clusters of firms are regarded as a significant means of increasing innovation capacity in firms, regions and countries. 130 Intra-regional networks are particularly favoured: "intra-regional networking must be activated across a range of firms, public and private institutions and existing programmes to make an impact upon innovative activity." 131 Benefits to be derived from innovative networking have been described as including technical resources; expert technological advice; information services provision in areas like patents, partners, technologies; and gateway services to permit SMEs to enter partnerships with leading edge firms and research institutes. 132 The process of learning by interacting with people in other regions engaged in similar exercises is regarded as a good method to improve the effectiveness of a policy, to broaden the available policy options and to benchmark the regional situation. 133

Regional economies can benefit from a strategic, flexible and decentralised approach to regional innovation, drawing together the local players - agencies, industry, research and academic institutions and other relevant groups and organisations - into regional networks, linking into wider networks in order to maximise the uptake of resources (material, financial, intangible), business opportunities and national and EU instruments and programmes in support of regional RTD and innovation.

3.2.11 State Aids – The Legal Conditions

State aid for R&D in the EU is regulated through specific secondary legislation for the sector, and by general legal provisions contained in Articles 92 to 94 of the Treaty, reinforced by jurisprudence of the European Court of Justice and formal Commission Decisions.

---

127 Amon and Thrift (19950 as referred to in The Learning Region by Kevin Morgan. See footnote 46 above
130 See footnote 113 above
132 See footnote 113 above
133 See footnote 113 above
Although state aid is generally regarded as leading to unfair competition between firms, to market distortion and as potentially capable of re-erecting trade barriers in the single market, it is also considered a useful instrument to remedy market imperfections, particularly as regards aid for R&D, SMEs and aid to the regions, in the context of contributing to economic cohesion. Where state aid is permitted it is always subject to defined criteria and conditions.

A Community Framework for state aid for R&D establishes the parameters in this area. The Commission takes a positive view of R&D aid on the basis that resources made available to this sector can improve the competitiveness of Community industry.

State aid for R&D must have an incentive effect and should not be for operational purposes. Its objective is to encourage R&D beyond normally envisaged levels or to encourage firms to engage in research where they would not otherwise do so. The Framework establishes the permitted intensity of aid for different research stages, based on the linear model. Maximum aid intensity is 75% for industrial research and 50% for precompetitive development activities.

The Commission and Court of Justice have confirmed these rules set by the Framework in several cases involving R&D aid for firms, most notably in the Hoffman-La Roche case which underpins that state aid notifications from Member States should demonstrate in detail the incentive effect of the aid sought, the necessity for the aid and that the aid is non-operational.

The Commission has come to realise that the criteria for structural funds and state aid should be aligned in order to avoid inconsistencies between the two policies. It is now considering the links between structural funds and state aid in the context of an alignment strategy based on concentration and mutual consistency.

The Commission has also expressed concern that large scale state aid to the more prosperous regions can mitigate against structural policies having their intended economic impact on the poorer regions. Commission statistics show differences in aid trends between the cohesion countries and the richer central regions that indicate an imbalance in favour of the richer regions. Commission policy is geared towards reducing regional disparities by concentrating state aid in order to achieve the critical mass needed to create an effective impact for economic and social cohesion. The Community regime for regional state aid is in line with this objective.

The appropriateness of current assessment criteria for R&D state aid is being questioned by industry, which tends to regard the traditional linear model of research stages as less and less relevant for global operation. There is increasingly a preference being expressed for using an interactive model. A consensus is developing in favour of a new methodology for defining state aid that would make it more responsive and adaptable to today’s industrial realities.
At international level, economic globalisation requires the EU to perceive state aid in a wider context. The WTO subsidies code regulates state aid for its signatories. The Commission should ensure that the EU state aid regime is no more stringent than the WTO code. It is argued that the WTO subsidies code is less rigid than the state aid rules insofar as the EU uses the less flexible linear model of assessment, while the WTO uses an interactive model. The Commission should remain vigilant to ensure that the global playing field is level and that EU industry is not placed at a competitive disadvantage vis-à-vis other industrialised countries as regards state aid.

The proposed block exemption for horizontal aid, which includes R&D, SMEs and regional aid, aims at reducing the administrative burden of state aid scrutiny in non-contentious areas. This should permit the Commission to focus on major cases of trade and competition distorting aid. It would give Member States more responsibility in the application of R&D aid. Such responsibility, however, should have as an important prerequisite an inbuilt monitoring system in order to guarantee, in the interests of the single market and regional equilibrium, that the state aid regime operates properly in all Member States.

The Commission’s policy towards creating mutual consistency and concentration between regional and competition policies, particularly as between the structural funds and state aid, is a significant development. For this policy to be fully effective there has to be real consistency in the assessment criteria between the two policies. To this end the Commission should ensure that an effective monitoring system and transparency mechanism are built into its operational framework, so that it operates strictly in accordance with the criteria in all Member States, and is seen to do so.

SMEs are considered by the EU and Member States to be critical for the delivery of R&D and innovation to regions. Yet despite the favourable state aid regime for state aid for SMEs, Commission statistics show that their share of state aid is falling. Moreover, the full regime for SME funding for R&D, of which state aid forms a part, does not appear to be entirely clear. Indeed, more substantively, the Second Indicators Report suggests that the returns from R&D funding for SMEs in terms of the amount invested is not clear either. Perhaps further study needs to be conducted on SME funding sources, how they are synchronised and an evaluation of the effectiveness of the funding.

Finally, the R&D state aid Framework is likely to be subject to profound Court of Justice scrutiny in respect of its application, following the registration of a complaint to the Court by Honeywell in connection with R&D aid approved by the Commission to a French company competitor, Sextant Avionique. Honeywell alleges that the Commission Decision raises questions on procedure and on misinterpretation of the Framework in respect of the definition of precompetitive research. The Commission’s services will have to prepare a defence, which will involve an analysis and possibly a reassessment of previous decisions on the award of R&D aid. The case is at an early stage, therefore an outcome is not forthcoming. If Honeywell proves its case, this would cause embarrassment to the Commission. In any case, it
is predictable that the Commission will exercise caution in its future interpretation of the state aid R&D Framework.

Tax measures also fall within the scope of the state aid rules. While there are no specific guidelines for the application of state aid rules to tax incentives for R&D, there are established criteria and conditions of general application to state aid for direct business taxation.¹³⁴

Tax exemptions capable of constituting state aid are those which result in a reduction of the tax base; reduce the amount of tax (i.e. tax credit/exemption); or defer, cancel or reschedule tax debt. Such incentives, however, are not necessarily considered to be state aid. The Commission makes a distinction between state aid and other Member State measures that apply to all (as opposed to specific) companies on the basis of equal access and non-discrimination. Tax incentives conforming with these criteria may be permitted.

In the R&D field permissible tax incentives can be measures following a Member State’s general economic policy objective, such as reducing the tax burden in respect of production costs for R&D, and tax measures for purely technical purposes. Tax incentives for R&D will be considered by the Commission in the light of the Treaty rules on state aid and the Commission’s notice on the application of the state aid rules to measures relating to direct business taxation.

¹³⁴ Commission notice on the application of the State Aid rules to measures relating to direct business taxation. OJ C 384/3; 10/12/98.