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**Inter-Institutional RTD Co-operation between Austria and the
Central European Candidate Countries under the 4th and 5th
European Framework Programme for RTD**

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Inter-Institutional RTD Co-operation between Austria and the Central European Candidate Countries¹ under the 4th and 5th European Framework Programme for RTD

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Abstract:

The discussion paper provides information about the institutional background of consortia co-operating under the 4th and 5th European Framework Programme for RTD. It can be concluded that RTD co-operation with Central and Eastern Europe as well as the NIS was predominantly a matter of academic co-operation under FP4. Universities and non-university research organisations (especially the national Academies of Science in the CECs and NIS) were the driving forces for collaborative research projects, whereas the industrial research sector was strongly underrepresented. As regards the institutional origin of the participating Austrian entities in projects carried out with partners from the CECs, the situation under FP5 has not changed compared to COPERNICUS (FP4). Austrian industrial participation in projects involving partners from the CECs launched under the first FP5 calls for proposals was considerably lower than the industrial participation in projects without partners from the CECs. This was especially true for projects approved for funding. This indicates that a harmonised pan-European co-operation structure has not yet been realised in terms of a balanced institutional participation pattern.

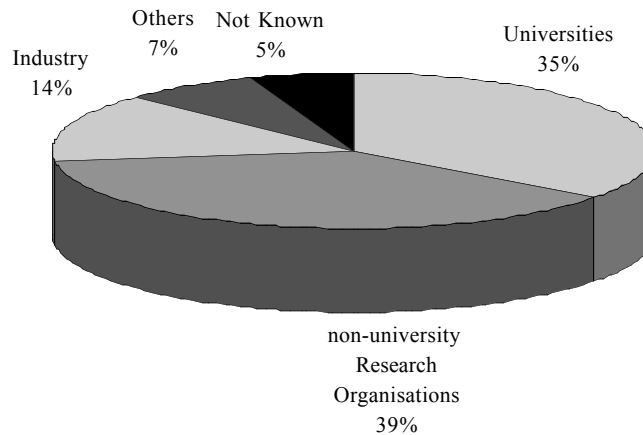
¹ At the time of writing this article, the new EU member states were ‘Candidate Countries’. This term is used for Bulgaria and Romania and those countries from Central Europe which are now new EU member states.

1. Introduction

Since the very beginning of RTD co-operation between the EU and the Central European Candidate Countries (CECs) under the European Framework Programmes for RTD, the lack of industrial participation (both SMEs and large firms) in East-West co-operation has been remarkable. This is valid for both the EU and the CECs and may indicate a deficit between the transfer systems of their respective innovation systems. In other words, industrial users of scientific and technological advancements seem to be a rare species in the Central European Candidate Countries, and in addition, potential industrial users from the EU, who are generally well represented in pure Western European consortia, are reluctant to become involved in RTD co-operation with scientific and technological knowledge providers from the CECs. It is the aim of this article to identify the institutional consortium composition of RTD projects, that were funded under to the 4th and 5th European Framework Programmes for RTD and that included both participants from the Central European Candidate Countries as well as from Austria. The chapter starts with an analysis of the status of those institutions involved from both the CECs and Austria under COPERNICUS (FP4) and continues by analysing the institutional background of Austrian research organisations co-operating with the individual CECs under FP4 and FP5.

2. Institutional Status of Participants in Joint Projects under COPERNICUS

By analysing the COPERNICUS projects listed in the compendia provided by Blanc and Rota-Bulo (1997) as well as Blanc and Deschamps (1999), one can attempt to identify the status of the participating institutions from the Central and Eastern European Countries as well as from the NIS. As summarised in Fig. 1, industrial participation by the Central European Candidate Countries amounted to just 14 % under COPERNICUS. This is considerably lower than the average share of industrial participation in projects under the European Framework Programmes for RTD. Comparable data from 1998 (see European Commission, 1999) for the EU as a whole reveal that industrial participation under FP4 amounted to approximately 38 %. With this share, industrial participation exceeded the relative shares of all other types of organisations. This evidences the Framework Programme's orientation towards industrial goals. The university sector ranked second (approx. 24 %) in the EU, followed by non-university research organisations (20 %), third country participation (10 %), other organisations (7 %) and international organisations (1 %). The category 'other organisations' comprises various institutional entities which cannot be assigned to any other category, such as territorial authorities, ministries, bridging institutions or information brokers.

Fig. 1: Institutional Status of the CEC Participants under COPERNICUS (FP4)

Among the CECs the largest share under COPERNICUS (FP4) was made up of non-university research organisations. Their share amounted to 39 % and was even higher in the NIS (for instance Russia: 56 %; Ukraine: 63 %). Universities were ranked second (35 %), followed by industrial organisations (14 %) and other organisations (7 %). Quite a high share of organisations listed in the two compendia mentioned above could not be identified or properly assigned to the pre-defined institutional categories. The low industrial participation corresponds with the conclusions of the report on the CEC's innovation capabilities (see Mickiewicz and Radošević, 2001). It confirms also the findings of the comprehensive study on *'Innovation Policy Issues in Six Candidate Countries'* commissioned by the European Commission (2001) arguing that the most severe problems of the Candidate Countries are not so much related to knowledge creation but to transmission and application of knowledge, i.e. in issues related to the overall trans- institutional interconnectivity of their national innovation systems.

As indicated in Tab. 1 the only countries to demonstrate a higher proportion of industrial participation were Slovenia (23 %), followed by the Czech Republic (19 %) and Romania (16%). The rear was brought up by the three Baltic States which had shares of around 5 % and even below. However, even Slovakia with its strong manufacturing sector demonstrated low industrial participation under COPERNICUS (10 %). This share resembled that which Russia (11 %) and the Ukraine (10 %) achieved under COPERNICUS. On the other hand, the university sector was relatively strong involved in Lithuania (43 %), Poland (41 %), Hungary (40 %) and Latvia (40%) but comparatively weak involved in Slovenia (28 %), the Czech Republic (29 %) and Romania (30 %), i.e. the countries with the highest participation of the industrial sector. In comparison, Russia's (21 %) and the Ukraine's (16 %) shares were even lower, which may indicate that research capacities in the university sector in the NIS remained either underdeveloped or underexploited in the period between 1994 and 1998.

Tab. 1: Participation of Universities, non-university Research Organisations, Industry and Other Organisations under COPERNICUS (FP4) by CEC in %

COPERNICUS (FP4)	Universities (in %)	non-university Research Organisations (in %)	Industry (in %)	Others (in %)	not known (in %)	Total (in %)
Bulgaria	31.21	37.59	14.89	9.93	6.38	100
Czech Republic	29.02	44.56	18.65	3.63	4.15	100
Estonia	38.18	30.91	5.45	20.00	5.45	100
Hungary	40.09	32.08	15.09	8.96	3.77	100
Latvia	40.00	40.00	2.86	14.29	2.86	100
Lithuania	42.86	35.71	2.38	16.67	2.38	100
Poland	41.06	33.82	13.53	4.35	7.25	100
Romania	29.76	42.86	16.07	4.76	6.55	100
Slovak Republic	38.94	40.71	9.73	5.31	5.31	100
Slovenia	28.38	32.43	22.97	8.11	8.11	100
CEC Total	35.32	37.50	14.27	7.42	5.48	100

Among the Central European Candidate Countries, the share of non-university research organisations participating in COPERNICUS was highest in the Czech Republic (45 %), showing a strong involvement from the Czech Academy of Sciences, and Romania (43%) with many newly privatised research organisations included. However, these shares were far below the corresponding figures for the non-university research sector in the Ukraine (63%) and Russia (56%), where the national Academies of Sciences still form a strong backbone of knowledge creation. Despite strong participation by the Slovenian Jozef Stefan Institute and the Hungarian Zoltan Bay Institutes, non-university research organisations in Hungary and Slovenia accounted for just 32 % of the overall participation under COPERNICUS.

The low participation of the CEC's industrial sector under COPERNICUS (FP4), however, might be partly explained by the programmatic outline of COPERNICUS which did not explicitly support industrial participation in general. Overall industrial participation - including industrial partners from the EU15 and the CEEC as well as the NIS - amounted to just 14% under the first COPERNICUS call for proposals (see Blanc and Rota-Bulo, 1996) and to just 11% under the second COPERNICUS call for proposals launched under FP4 (see Blanc and Deschamps, 1999).

Tab. 2: Organisational Status of Austrian Participants under COPERNICUS and FP4 (total)

Programme	Universities (in %)	non- university Research Organisa- tions (in %)	Industry (in %)	Others (in %)	not known (in %)
COPERNICUS (FP4) 1)	53.22	24.80	14.04	07.94	0.00
FP4 (Total) ²⁾	27.70	12.60	49.50	10.00	0.20

sources: ¹⁾ BIT; note: only projects with CEC involvement are considered; ²⁾ Schibany et al., 2000

If Austria is taken as an example for an EU member state, one can easily distinguish different institutional patterns between the Austrian participation under COPERNICUS on one hand and the general Austrian participation under FP4 on the other hand (see Tab. 2). Industrial participation under FP4 amounted in Austria to almost 50 % of total participation (see Schibany et al., 2000). The corresponding share under COPERNICUS, however, was just 14%, which was in line with the EU average. Austrian research co-operation with Central and East European Countries (CEECs) and NIS under COPERNICUS was mainly carried out by universities and non-university research organisations. The general percentage of participation of universities under FP4, however, was 28 %, whilst the corresponding one of the non-university research organisations was just 13 %. In COPERNICUS the shares were 53 % for universities respectively 25 % for non-university research organisations. One can conclude that RTD co-operation with Central and Eastern Europe under FP4 was predominantly a matter of academic co-operation.

3. Barriers for Increased Participation under COPERNICUS

In order to discover the reasons for the uneven participation under COPERNICUS (FP4), a postal inquiry was carried out by the author in Winter 1997/1998 (see Schuch, 1998). The target group was Austrian researchers both from the academic and the business sector who had contacted the BIT in order to receive information and to prepare joint proposals to submit to the European Commission under COPERNICUS '97, but who finally decided to refrain from such an undertaking. 364 researchers potentially interested in S&T co-operation with the CEECs and the NIS were addressed. 74 returned the questionnaire, a return rate of 20.3 %. The addressees were asked for their subjective assessment of the relevance ('absolute highest relevance', 'strong relevance', 'low relevance', 'no relevance') of some given reply categories such as 'too high bureaucratic effort for the preparation of a project proposal', 'too low perspectives for a successful project evaluation', 'not enough preparation time', 'no partner found', 'no free available resources' etc. Eleven fixed reply categories were asked for. In addition, one open category was introduced to record other reasons for their failure to submit a proposal.

No single dominant category could be identified to explain the decision not to submit a proposal under the COPERNICUS call for proposals launched in 1997. The categories 'no adequate topic',

'not enough preparation time', 'lack of free available resources' and 'other reasons' gained most nominations in the category 'absolute highest relevance'. The latter were predominantly specifications of some fixed reply categories and referred mainly to problems with partner search and partner communications, the problem of fitting the project idea into the thematic frame and context of the call, the high bureaucratic effort connected with a submission (especially for SMEs) and the lack of free available resources in terms of staff and space. In addition, the lack of own financial means, the apparent lack of connection between the call for proposals and market needs, the lack of (financial) incentives for partners from the EU15, bad experiences with previous calls for proposals and finding out too late about the existence of the call itself were mentioned by the interviewees.

Fig. 2: Results of an Inquiry on Barriers for Participating in COPERNICUS

(in %; multiple choice)

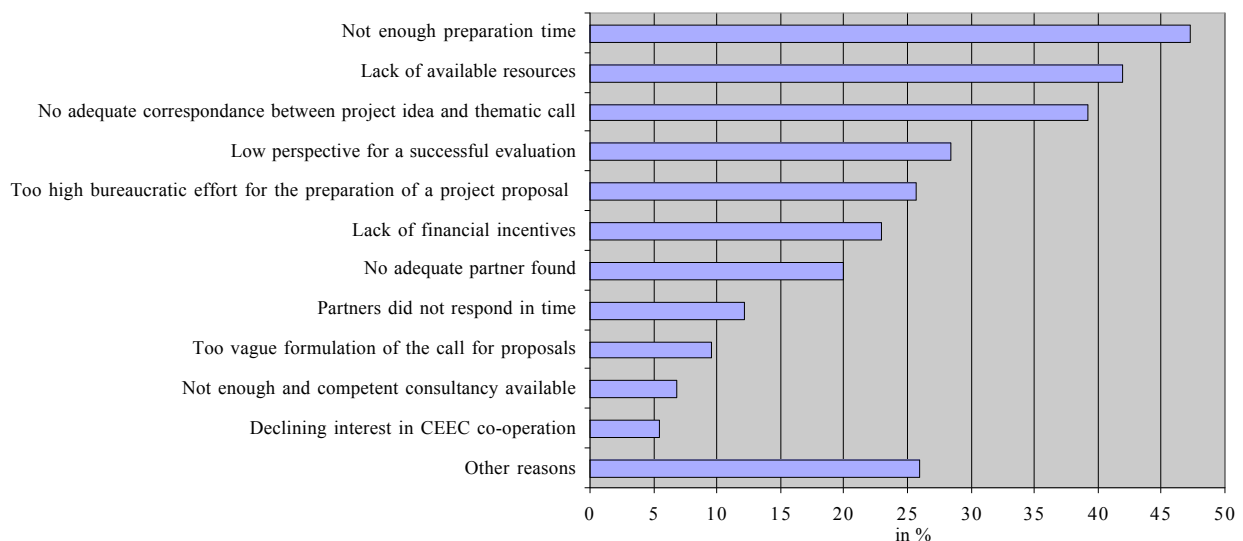


Fig. 2 shows the percentage of interviewees who ascribed at least strong relevance to the categories listed. Almost half of the interviewees who responded (47.3 %) referred to a much too short available preparation time as the main reason for non-submission. In this respect it could be argued that time pressure was intensified by postponing the launch of the COPERNICUS call from 15 March to 15 April 1997 whilst maintaining the deadline as previously fixed. Moreover, the preparation period coincided with the summer months. Due to a lack of managerial skills in terms of international project management, this was especially a problem for SMEs who seem to have their hands tied by their daily routines.

The lack of availability of free resources for project preparation ranked second (41.9 %). The results showed that representatives from the industrial RTD sector attached considerable importance to this category. Interviewees from the universities on the other hand very often referred to budget restrictions and staff shortages in the university sector imposed by governmental structural and fiscal policies. It goes without saying that such limitations have to be taken seriously into account to avoid negative effects on the Austrian S&T sector's internationalisation efforts under multilateral European RTD programmes. Finland provides a good

example of a different approach by making considerable investments in R&D on a national level, both in the governmental and the business sector, and achieving a positive position under FP4 and FP5 in terms of 'juste retour'. The third most important reason given was a lack of concurrence between potential project ideas and the topics presented in the call for proposals (39.2 %).

The low success perspectives (28.4 %) and the administrative efforts connected with the preparation of a project (25.7 %) were also perceived as important obstacles. Results of the inquiry showed, that universities seem to be more used to dealing with the latter than the business sector. Lack of financial incentive for Austrian participants under COPERNICUS (23.0 %) was also clearly related to the different organisational background of the respondent. Although not such an important argument for representatives from universities, for whom EU funding on a project level is usually higher than national funding in terms of financial allocations, the business sector had a more negative opinion of the financial opportunities available under COPERNICUS. Partner search and finding an appropriate partner were also clearly problematic for a fifth of the respondents, especially for those from industry. Problems with existing partnerships (12.2 %), the vague formulation of the COPERNICUS call for proposals (9.5 %) as well as the perceived lack of advisory help (6.8 %) were the least important reasons for the non-submission of initially planned project ideas under the COPERNICUS call for proposals (see Fig. 2).

4. General Overview on the Institutional Status of Austrian Participants in Joint Research Projects with Central European Candidate Countries under FP5

Since no comprehensive project data comparable to the compendia of Blanc and Rota-Bulo (1997) and Blanc and Deschamps (1999) exist for the participation of the Central European Candidate Countries under FP5, the following analysis is devoted to the structural changes of institutional involvement in Austrian RTD co-operation with the CECs under FP5. It is intended to find out whether there was an increase in the participation of the Austrian industrial sector in joint RTD projects with CEC partners funded under FP5 compared to FP4. It is assumed that, if the industrial sector was more willing to co-operate in RTD projects with the CECs, this would indicate a harmonisation in terms of the institutional composition of the consortia between the pan-European RTD co-operation pattern, which involves participants from the EU and the CECs on one side and the intra-European RTD co-operation pattern, which involves only participants from the EU on the other side.

As regards Austrian participation under FP5, Tab. 3 still shows remarkably different institutional co-operation patterns between all projects submitted and selected under FP5 and projects submitted and selected under FP5 with involvement of partners from the Central European Candidate Countries. This indicates that a harmonised co-operation structure in terms of institutional status, independently from the fact whether the involved consortia include participants from the CECs or not, has not yet been realised. Industrial participation from Austria in projects involving partners from the CECs is considerably lower than in projects which do not include partners from the CECs. This is especially true for projects selected for funding. While the overall rate of industrial participation in selected projects (40.10 %) exceeds the rate in projects submitted (32.17 %), a fundamentally different pattern is revealed if project consortia are considered that involve inter alia at least one partner from a Central European Candidate Country. In this case, industrial participants from Austria had a share of 18.40 % in projects submitted, but a mere 12.87 % in projects selected for funding (see Tab. 3).

Tab. 3: Institutional Status of Austrian Participants in Thematic Programmes of FP5 (by July 2000) Dissaggregated by All Projects Submitted and Selected for Funding and by Projects Submitted and Selected which involve Partners from the CECs

Share of Austrian Participants under FP5 in ...	Universities (in %)	non-university Research Organi- sations (in %)	Industry (in %)	Others (in %)	Total (in %)
All projects <i>submitted</i>	38.13	17.52	32.17	12.18	100
Projects <i>submitted</i> which include a partner from the CECs	46.25	18.27	18.40	17.08	100
All Projects <i>selected</i>	34.78	15.22	40.10	9.90	100
Projects <i>selected</i> which include a partner from the CECs	53.68	13.60	12.87	19.85	100

Source: BIT and Säckl, 2000

As was already the case under COPERNICUS (FP4), universities constitute the main Austrian source in RTD co-operation with the CECs under the Thematic Programmes of FP5. Its share is 46.25 % of the projects submitted and 53.68 % of the projects selected for funding. The share of the residual group 'others' is also comparably much higher in RTD projects involving partners from the Central European Candidate Countries than in all projects together. This indicates that specialised organisations which cannot be subsumed under the other categories have cornered certain fields of activity in RTD co-operation with the CECs (for instance the BIT, which runs a series of projects, especially accompanying measures, with the Central European Candidate Countries under the Thematic Programmes and which is – in terms of the number of projects funded by the EC - one of the most successful Austrian participants under FP5).

Compared to the Austrian engagement under the two COPERNICUS calls for proposals launched under FP4 (see Tab. 2), Austrian industrial participation in consortia involving CEC partners saw a slight increase in FP5 in terms of projects submitted for funding but remained almost on an equally low level in terms of projects selected for funding (see Tab. 3). As far as projects involving partners from the Central European Candidate Countries were concerned, the residual sector 'others' gained in importance under FP5 compared to COPERNICUS (FP4) - both in terms of projects submitted and selected - whereas the sector of Austrian non-university research organisations decreased sharply in importance. The Austrian universities remained top and were even able to slightly improve their position under FP5 as the main source in RTD co-operation with the Central European Candidate Countries in comparison to FP4.

5. Institutional Status of Austrian Participants in Joint Research Projects under FP5 Differentiated by Individual CECs

In addition to this general overview, a country specific analysis - on the basis of raw data provided by the BIT in December 2000 - was carried out. Starting with the Baltic States (see Tab. 4) one can distinguish between the institutional status of Austrian participants

- in projects submitted under FP4 (including the two calls for proposals launched under COPERNICUS and Activity 1 project-by-project participation),
- in projects submitted under FP5,
- in projects selected under FP4 (including the two calls for proposals launched under COPERNICUS and Activity 1 project-by-project participation) and
- in projects selected under FP5.

Tab. 4: Austrian RTD Co-operation with the Baltic States under FP4 and FP5¹⁾ by Institutional Status

	Austrian Co-operation Partner from					Total (in %)
	Univer- sities (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not Known (in %)	
<i>In proposals submitted</i>						
under FP4	49.49	25.77	11.34	13.40	0.00	100
under FP5	42.33	21.17	10.22	26.28	0.00	100
<i>In proposals selected</i>						
under FP4	62.50	31.25	00.00	06.25	0.00	100
under FP5	30.95	11.90	19.05	38.10	0.00	100

notes: ¹⁾ by 4 December 2000

source: BIT

In order to avoid statistical distortions due to low absolute figures, the three Baltic States Estonia, Latvia and Lithuania are analysed jointly. Under FP4, 97 Austrian organisations submitted 74 project proposals together with organisations from the three Baltic States (including COPERNICUS and Activity 1 project proposals). 15 proposals including 16 Austrian organisations were selected for funding by the European Commission. By December 2002, 137 Austrian organisations had submitted 80 project proposals with Baltic partners under FP5. 21 project proposals including 42 Austrian organisations were selected for funding.

Austria's institutional co-operation pattern with the Baltic States differs considerably from FP4 to FP5. In FP4, 93.75 % of all scientific and technological relations in projects selected for funding

were carried out by Austrian academic institutions (university sector plus non-university research sector). There were no Austrian organisations from the industrial sector participating and the sector of other organisations was also only marginally involved. This changed considerably under FP5 when the Austrian sector of other organisations became the most important source for RTD co-operation with the Baltic States in projects selected for funding (38.10 %). It was followed by the university sector (30.95 %) and the industrial sector (19.05 %), which performed on a quite high level in comparison to Austria's overall industrial co-operation with the other Central European Candidate Countries. The Austrian non-university research sector, however, did badly under FP5 in terms of projects selected for funding (11.90 %). Thus, Austrian academic involvement (universities and non-university research organisations) fell from its high FP4 level to a mere 42.85 % under FP5. This is even lower than the regular Austrian FP5 academic co-operation value, which accounts for 50.00 % across all European countries (see Tab. 3).

Tab. 5: Austrian RTD Co-operation with Bulgaria under FP4 and FP5¹⁾ by Institutional Status

	Austrian Co-operation Partner from					Total (in %)
	Univer- sities (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not Known (in %)	
<i>In proposals submitted</i>						
under FP4	55.24	20.95	12.38	11.43	0.00	100.00
under FP5	38.10	21.43	22.62	17.86	0.00	100.01
<i>In proposals selected</i>						
under FP4	40.00	25.00	10.00	25.00	0.00	100.00
under FP5	40.00	20.00	6.67	33.33	0.00	100.00

notes: ¹⁾ by 4 December 2000

source: BIT

Under FP4, 105 Austrian organisations submitted 75 project proposals together with Bulgarian organisations (including COPERNICUS and Activity 1 project proposals). 16 proposals including 20 Austrian organisations were successful. By December 2002, 84 Austrian organisations had submitted 42 project proposals with Bulgarian partners under FP5. 8 project proposals including 15 Austrian organisations were selected for funding. Most Austrian co-operation partners in projects with Bulgaria came from the university sector (see Tab. 5). Although this sector declined under FP5 in comparison to FP4 in terms of participation in projects submitted, it remained on the same level regarding participation in projects selected for funding (40.00 % of all participants).

The other institutional categories were generally also well represented, although big differences can be observed between participation in projects submitted and in projects selected for funding. Whilst non-university research organisations are almost balanced regarding their respective

participation shares in projects submitted and projects selected for funding (between 20.00 % and 25.00 %), industrial participation in selected projects is considerably below its share in projects submitted (it did especially badly in FP5). On contrast to the industrial sector, the sector of other organisations is considerably better represented in terms of funded projects than in terms of projects submitted.

One can conclude that the actual Austrian institutional co-operation pattern with Bulgaria in projects selected for funding both in FP4 and FP5 is still highly academic and does not correspond to the overall Austrian institutional involvement structure under FP5. By taking the university sector and the sector of non-university research organisations together, Austrian academic involvement accounted for 65.00 % of all scientific and technological relations with Bulgaria under FP4 and 60.00 % under FP5.

Tab. 6: Austrian RTD Co-operation with the Czech Republic under FP4 and FP5¹⁾ by Institutional Status

	Austrian Co-operation Partner from					Total (in %)
	Univer- sities (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not Known (in %)	
<i>In proposals submitted</i>						
under FP4	55.70	22.78	11.39	10.13	0.00	100.00
under FP5	50.49	18.45	13.92	16.50	0.64	100.00
<i>In proposals selected</i>						
under FP4	58.14	25.58	2.33	13.95	0.00	100.00
under FP5	50.00	8.93	10.71	30.36	0.00	100.00

notes: ¹⁾ by 4 December 2000

source: BIT

Under FP4, 237 Austrian organisations submitted 168 project proposals together with Czech organisations (including COPERNICUS and Activity 1 project proposals). 31 proposals including 43 Austrian organisations were successful. By December 2002, 309 Austrian organisations had submitted 156 project proposals with Czech Partners under FP5. 29 project proposals including 56 Austrian organisations were selected for funding. Most Austrian co-operation partners working together with the Czech Republic came from the university sector (see Tab. 6). Non-university research organisations ranked second for Austria. Nevertheless, this sector did very badly in terms of projects selected for funding under FP5.

In comparison to FP4, the industrial sector gained in importance under FP5. The sector of other organisations became the second most important one in terms of projects selected for funding under FP5. By taking the university sector and the sector of non-university research organisations

together, one can see that academic involvement of Austrian participants in projects selected for funding decreased from 83.72 % under FP4 to 58.93 % under FP5.

Tab. 7: Austrian RTD Co-operation with Hungary under FP4 and FP5¹⁾ by Institutional Status

	Austrian Co-operation Partner from					Total (in %)
	Univer- sities (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not Known (in %)	
<i>In proposals submitted</i>						
under FP4	40.12	24.48	26.55	8.85	0.00	100.00
under FP5	42.64	26.38	19.94	11.04	0.00	100.00
<i>In proposals selected</i>						
under FP4	41.77	31.65	15.19	11.39	0.00	100.00
under FP5	50.00	28.00	08.00	14.00	0.00	100.00

notes: ¹⁾ by 4 December 2000

source: BIT

Under FP4, 339 Austrian organisations submitted 201 project proposals together with Hungarian organisations (including COPERNICUS and Activity 1 project proposals). 50 proposals including 34 Austrian organisations were successful. By December 2002, 174 project proposals including 326 Austrian organisations had been submitted under FP5. 25 project proposals including 50 Austrian organisations were selected for funding. Most Austrian co-operation partners working with Hungary came from the university sector (see Tab. 7). Austrian non-university research organisations ranked second.

The industrial sector, which was comparatively strong under FP4, lost importance under FP5, especially in terms of projects selected for funding. The sector of other organisations from Austria does not play such a strong role in the scientific and technological RTD relations with Hungary than it does with other CECs. One can conclude that the actual Austrian institutional co-operation pattern with Hungary in projects selected for funding is highly academic and does not correspond to the overall Austrian institutional involvement structure under FP5. By considering the university sector and the sector of non-university research organisations together, one can see that academic involvement of Austrian participants, which accounted for 73.42 % of all scientific and technological relations with Hungary under FP4, increased to 78.00 % under FP5.

Tab. 8: Austrian RTD Co-operation with Poland under FP4 and FP5¹⁾ by Institutional Status

	Univer- sities (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not Known (in %)	Total (in %)
<i>In proposals submitted</i>						
under FP4	50.49	21.84	20.87	06.80	0.00	100.00
under FP5	43.30	18.07	18.38	20.25	0.00	100.00
<i>In proposals selected</i>						
under FP4	55.36	28.57	03.57	12.50	0.00	100.00
under FP5	54.84	14.52	08.06	22.58	0.00	100.00

notes: ¹⁾ by 4 December 2000

source: BIT

Under FP4, 206 Austrian organisations submitted 138 project proposals together with Polish organisations (including COPERNICUS and Activity 1 project proposals). 35 proposals including 56 Austrian organisations were successful. By December 2002, 179 project proposals including 321 Austrian organisations had already been submitted under FP5. 33 project proposals including 62 Austrian organisations were selected for funding. Most Austrian co-operation partners working with Poland came from the university sector (see Tab. 8). The Austrian non-university research sector ranked second under FP4 and the sector of other organisations under FP5.

In terms of projects selected for funding, the industrial sector did badly both under FP4 and FP5, although there was an upward tendency under FP5. In any case, despite a decrease under FP5 compared to FP4, Austria's institutional co-operation pattern with Poland remained highly academic. By taking the university sector and the sector of non-university research organisations together, one can see that academic involvement of Austrian participants accounted for 83.93 % of all scientific and technological relations with Poland under FP4, and for 69.36 % under FP5.

Tab. 9: Austrian RTD Co-operation with Romania under FP4 and FP5¹⁾ by Institutional Status

	Austrian Co-operation Partner from					Total (in %)
	Univer- sities (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not Known (in %)	
<i>In proposals submitted</i>						
under FP4	44.54	27.73	17.65	10.08	0.00	100.00
under FP5	39.85	16.67	23.91	19.57	0.00	100.00
<i>In proposals selected</i>						
under FP4	25.00	50.00	20.00	05.00	0.00	100.00
under FP5	68.18	18.18	09.09	04.55	0.00	100.00

notes: ¹⁾ by 4 December 2000

source: BIT

Under FP4, 119 Austrian organisations submitted 77 project proposals together with Romanian organisations (including COPERNICUS and Activity 1 project proposals). Out of these, 15 proposals including 20 Austrian organisations were successful. By December 2002, 60 project proposals including 138 Austrian organisations had been submitted under FP5. Out of these, only 9 project proposals including 22 Austrian organisations were selected for funding. In terms of projects selected for funding, the Austrian university sector became the most important co-operation partner for Romania under FP5 (see Tab. 9). It changed position with the non-university research sector, which ranked first under FP4.

The relatively high importance of the Austrian industrial sector also decreased under FP5 compared to FP4 in terms of projects selected for funding. The sector of other organisations did badly as well. All together, this resulted in a highly academic organisational co-operation pattern between Austria and Romania. By taking the university sector and the sector of non-university research organisations together, one can see that academic involvement of Austrian participants in all scientific and technological relations with Romania increased to 86.36 % under FP5 compared to 75.00 % under FP4.

Under FP4, 151 Austrian organisations submitted 116 project proposals together with Slovak organisations (including COPERNICUS and Activity 1 project proposals). 18 proposals including 24 Austrian organisations were successful. By December 2002, 130 Austrian organisations had submitted 74 project proposals with Slovak partners under FP5. Out of these, the same as with Romania, only 9 project proposals including 22 Austrian organisations were selected for funding. Most Austrian co-operation partners working with the Slovak Republic came from the university sector (see Tab. 10). The Austrian non-university research sector ranked second. Together, these two sectors accounted for 75.00 % under FP4 and for 86.36 % under FP5. The Austrian industrial

sector remained on a moderate level and the sector of other organisations made a bad showing under FP5.

Tab. 10: Austrian RTD Co-operation with Slovakia under FP4 and FP5¹⁾ by Institutional Status

	Austrian Co-operation Partner from					Total (in %)
	Univer- sities (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not Known (in %)	
<i>In proposals submitted</i>						
under FP4	57.62	25.16	09.27	07.95	0.00	100.00
under FP5	51.54	16.15	15.38	14.62	2.31	100.00
<i>In proposals selected</i>						
under FP4	45.83	29.17	08.33	16.67	0.00	100.00
under FP5	68.18	18.18	09.09	04.55	0.00	100.00

notes: ¹⁾ by 4 December 2000

source: BIT

Finally, 186 Austrian organisations submitted 110 project proposals together with Slovenian organisations under FP4 (including COPERNICUS and Activity 1 project proposals). 26 proposals including 45 Austrian organisations were successful. By December 2002, 263 Austrian organisations had submitted 107 project proposals with Slovenian partners under FP5. 19 project proposals including 46 Austrian organisations were selected for funding. In terms of projects selected for funding, most Austrian co-operation partners working with Slovenia came from the university sector, although on a comparatively lower level than for other CECs (see Tab. 11). The Austrian non-university research sector ranked second. In comparison to other CECs, the Austrian sector of other organisations as well as the Austrian industrial sector were well engaged too, indicating a balanced institutional co-operation pattern between Austria and Slovenia in general. However, the university sector and the sector of non-university research organisations together still accounted for 65.40 % under FP4 and for 60.87 % under FP5.

Tab. 11: Austrian RTD Co-operation with Slovenia under FP4 and FP5¹⁾ by Institutional Status

	Austrian Co-operation Partner from					Total (in %)
	Universi- ties (in %)	non- university Research (in %)	Industry (in %)	Others (in %)	Not known (in %)	
<i>In proposals submitted</i>						
under FP4	44.63	28.49	19.35	07.53	0.00	100.00
under FP5	26.67	44.44	20.00	08.89	0.00	100.00
<i>In proposals selected</i>						
under FP4	42.97	22.43	15.59	19.01	0.00	100.00
under FP5	36.96	23.91	15.22	23.91	0.00	100.00

notes: ¹⁾ by 4 December 2000

source: BIT

6. Conclusions

One can conclude that the composition of consortia involving partners from the Central European Candidate Countries differs considerably from the composition of consortia without involvement of partners from the CECs. RTD co-operation with the CECs in funded FP5 projects is still dominantly driven by academia (universities and non-university research organisations). The share of Austrian academia in % of all Austrian co-operation partners ranges from 42.85 % (Baltic States) to 86.36 % (Romania and Slovakia) and is far above the general Austrian average of 50.00 % (see Tab. 17). With the exception of the Baltic States, where the category of 'other organisations' ranks first, university institutes are the prevailing participants for RTD co-operation with the CECs under funded FP5 projects.

Despite the endeavours from the BIT in its capacity as main Austrian bridging organisation responsible for the European Framework Programmes, which even implemented a specific unit to support industrial RTD co-operation with the CECs (Pohoryles, 1999), the Austrian industrial sector still seems reluctant to co-operate with the Central European Candidate Countries. The industrial share among all Austrian co-operation partners only rises above 15% regarding the Baltic States and Slovenia, far below the regular Austrian industrial share of 40.10% (see Tab. 3).

Austrian industrial RTD co-operation is especially unresponsive as regards Bulgaria, Romania and Hungary. Its respective share with each of these three countries fell under FP5 compared to FP4. While industrial reluctance towards Bulgaria and Romania can be explained at least in part by the poor economic development of these two countries during the period under scrutiny or by the transaction costs which remain high, this rationale cannot be applied to Hungary. However, the share of Austrian industrial partners in RTD co-operation with the Czech Republic, Poland and the Baltic States increased substantially under FP5, although the starting levels under FP4 had been very low.

References

- Blanc, J.-L. and Deschamps, C., 1999: Copernicus 1998. Funded joint research projects, concerted actions and accompanying measures. European Commission, Brussels and Luxembourg: Office for Official Publications of the European Communities
- Blanc, J.-L. and Rota-Bulo, F., 1997: Copernicus 1996. Funded joint research projects, concerted actions and accompanying measures, vol. 2, European Commission, Brussels and Luxembourg: Office for Official Publications of the European Communities
- Blanc, J.-L. and Rota-Bulo, F., 1996: Copernicus 1996. Funded joint research projects, concerted actions and accompanying measures, vol. 1, European Commission, Brussels and Luxembourg: Office for Official Publications of the European Communities
- European Commission, 2001: Innovation Policy Issues in Six Candidate Countries: the Challenges. Luxembourg: Office for Official Publications of the European Communities
- European Commission, 1999: FTE-Tätigkeitsbericht 1998. Luxembourg: Office for Official Publications of the European Communities
- Mickiewicz, T. and Radosevic, S., 2001: Innovation Capabilities of the six EU Candidate Countries: Comparative Data Based Analysis. Study Commissioned by the Directorate General for Enterprise - European Commission, London: University College London
- Pohoryles, R., 1999: The Past and the Future: Austria Facing a New Stage of RTD Co-operation with its Neighbours. Innovation, Vol. 12, No. 3, pp. 377-396
- Schibany, A., Sturn, D., Gassler, H., Jörg, L. and Polt, W., 2000: Evaluierung der österreichischen Beteiligung im 4. Rahmenprogramm der EU für Forschung, technologische Entwicklung und Demonstration. Zwischenbericht. Vienna: Institute for Technology and Regional Policy at Joanneum Research
- Schuch, K., 1998: Structure of Scientific Co-operation with CEECs and NIS in European RTD Programmes - the Austrian Experience. Paper presented at the '2nd International Conference on Technology Policy and Innovation', August 3-5, 1998, Lisbon, Conference Proceedings, pp. K.P. 6

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