

EISCAT Scientific Association Annual Report 2004

EISCAT Scientific Association  
Registered as a Swedish non-profit organisation  
Organisation number: 897300-2549

Annual report for the financial year 2004-01-01 – 2004-12-31

The EISCAT Council and the Director for the Association herewith submits the annual report for 2004.

<b>Content</b>	<b>Page</b>
Administration report	1
Profit and loss accounts	5
Balance sheet	6
Statement of cash flows	7
Notes	8

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## ADMINISTRATION REPORT

### Ownership, organisation and objective

The EISCAT Scientific Association was established in 1975 through an agreement between the Centre National de la Recherche Scientifique (France), the Max Planck Gesellschaft (Germany), Vetenskapsrådet (Sweden), Norges forskningsråd (Norway), the Particle Physics and Astronomy Research Council (United Kingdom) and Suomen Akatemia (Finland). In 1996, the National Institute of Polar Research (Japan) joined the Association. These organisations are called EISCAT Associates. The Association has its formal seat in Kiruna, Sweden, and is registered as a non-profit organisation.

The aim of the Association is to make significant progress in the understanding of physical processes in the high latitude atmosphere by means of experimental programmes, which may be carried out as part of wider international project. For this purpose, the Association has developed, constructed, and now operates a number of radar facilities at high latitudes. At present, these comprise a system of stations at Tromsø (Norway), Kiruna (Sweden), Sodankylä (Finland), and Longyearbyen (Svalbard).

The Association is fully funded by the Associates. Depending on the available funding, scientific priorities and operational targets are adjusted on an annual basis.

The Association is governed by the EISCAT Agreement, Statutes, Financial Rules, and the Rules for the Management of Scientific Programmes.

The EISCAT Council is charged with the overall administration and supervision of the Association's activities. The Council consists of a Delegation of each Associate with a maximum of three members from each Associate. The Council appoints a Director, who is responsible for the daily management and operation of the facilities of the Association, for signing negotiable instruments, cheques and contracts entered into in the Association's name, and executing the Council's decisions, subject to such rules as may be laid down by the Council. The Council, in consultation with the Director, also selects the senior management team.

Two committees support the EISCAT Council, one handles scientific issues, and the other covers administrative and financial matters.

The current Director is Professor Anthony P. van Eyken. His employment contract with the Council was prolonged during the year and will run until December 31, 2008.

### Operation and scientific development

The Association's facilities were generally in excellent condition throughout 2004. The EISCAT Svalbard Radar has operated with great reliability. The available power output of the UHF radar continues to increase steadily towards the planned routine 2MW and the VHF radar has conducted a full programme using one klystron while efforts have continued to complete the repair of the second tube. The ionospheric modification facility in Tromsø has also operated smoothly throughout the year.

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The various elements operated for a total of 4 667 hours (3 510 hours in 2003), exceeding the previous record by more than 1100 hours. Last year was the third consecutive year that EISCAT exceeded 3500 hours and together the last three years account for more than 25% of the total EISCAT operation to date.

58% (51%) of the operations were accounted to the Common Programme, while the remaining 42% (49%) were accounted to the Special Programme of experiments conducted by scientists from the countries of the Association. The increased proportion of Common Programme operations results from the inclusion of a unique 42-day experiment by the EISCAT Svalbard Radar, by far the longest continuous operation ever conducted by a radar of this type.

The EISCAT radars have continued to support World class research by the scientific communities of the member nations of the Association. Development of the observational technique has resulted in both improved capabilities which increase the radars resolution in both space and time. Technical advances have also made the routine inclusion into the analysis of outlying features of the return signal practical; this now provides much greater precision in the calibration of the radar data than has been achieved elsewhere. Substantial resources have been committed to continuing high-profile programmes in co-ordination with various satellite projects, notably the European Space Agency's CLUSTER and NASA's FAST mission. New community interest is focussed on the small scale behaviour of the ionosphere and physical reflection processes other than the well known mechanisms of incoherent scatter are being exploited for this purpose. This includes, at the Svalbard radar for example, exciting developments in interferometric capabilities, to provide spatial resolution at scales much smaller than the radar beam widths, and the commissioning of a new ionospheric modification facility. Such developments are already opening new lines of research within the related Associate communities and will undoubtedly also form important parts of the features programme. Such new developments are not only underway on Svalbard; the mainland systems have also been in high demand with, for example, the Tromsø modification facility showing its highest ever annual demand and providing support for new physical insights into the physics of both thin layer formation in the mesosphere and the generation of atmospheric optical emissions.

EISCAT has also formalised the mechanisms were by outside scientists can locate and operate additional observational equipment at the radar sites. These arrangements typically allow such instruments to be operated over much extended periods, increasing the information available to all users of the facilities.

#### **Future operation and scientific development**

During the coming year, EISCAT plans to continue to support the wide range of existing and new programmes proposed by the various Associate scientific communities, including the hosting of additional user-supplied equipment.

In addition to the traditional programme of observations and technique development, EISCAT will invest substantial staff resources following the mid-year start of a four-year design study to develop a replacement for the two mainland incoherent scatter radars. This study is supported by matching funding through the European Union's 6<sup>th</sup> Framework programme and will be conducted in partnership with research institutions in Norway, Sweden and the United Kingdom. The ESA-supported space debris monitoring project will expand into new areas

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following the signing of a new contract with ESA; the new contract covers work to be completed during 2005 as well as the option for a follow-on phase in 2006.

During the year, it is expected that the Associates will agree on the long term future of the Association, leading to the signing of a new Agreement which will take effect from 1 January 2007 following on from the present instrument. Some rearrangement of staff and resources to facilitate the transition to the new Agreement will begin to be implemented during 2005. The total funding available from 2007 is expected to be reduced compared with past years, but plans for the replacement radar, coupled with new funding possibilities, should allow the Association to expand again from a firmer foundation in future years.

#### **The work of the Council and its committees**

The Council held two meetings during 2004 under the leadership of the Chairman, Professor Ryoichi Fujii. The supporting committees, the Administrative and Finance Committee and the Scientific Advisory Committee both held two meetings each.

Work relating to establishing a new agreement was continued during 2004 leading to the completion of a proposal which was considered at the autumn Council meeting. At a subsequent extraordinary meeting 1 March 2005, the Council adopted the proposal as the basis for the post-2006 Agreement, thus ending doubts over the future of the Association.

A new agreement will come into force on 1 January 2007 and will include at least six Associates. One of these will be the China Research Institute of Radio Wave Propagation of the People's Republic of China that joins the Association. The agreement will run for an initial term until 31 December 2011.

Professor Asgeir Brekke became the next Chairman of the EISCAT Council immediately after the November meeting and will serve for two years.

#### **Budget development during the year**

2004 was an exceptional year in terms of operations, where the systems ran more than budgeted and much more than any other year in the history of the Association. Despite the massive amount of operations, the systems operated very reliable and the cost for repairs became lower than predicted. Staffing remained stable over the year. Some vacancies were covered by short-term employments. The budget was deliberately based on a fairly weak Swedish currency in order to protect the finances from unwanted rate changes. As a consequence, since the Swedish currency stayed reasonably strong over the year, the overall exchange rate influence on the final result was expected and favourable. The final outcome became positive.

#### **The long-term budget plan**

The plan for the period up to the end of the current agreement is balanced. An outline for the 2007 budget, which will be under the new agreement, has also been prepared. Due to an envisaged reduction of funding in 2007, some emphasis on reducing costs will be required during 2005 and 2006.

#### **The result for 2004 and the surplus handling**

The year was balanced by transferring the surplus, relative to the budget, of 3 273 kSEK to the new restructuring reserve.

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**PROFIT AND LOSS ACCOUNTS**

in thousands of Swedish Crowns

	Note 1	<b>2004</b>	<b>2003</b>
Associate contributions	Note 2	29 489	31 166
Other operating income		1 258	1 503
		<u>30 746</u>	<u>32 670</u>
Operation costs		-5 065	-5 487
Administration costs		-4 401	-5 162
Personnel costs	Note 3	-16 961	-19 737
Depreciation of fixed assets		-21 718	-22 736
		<u>-48 145</u>	<u>-53 122</u>
<i>Operating profit/loss</i>		-17 399	-20 452
Interest income		274	446
Other financial income and cost		57	169
Own reserves and funds	Note 4	-1 377	458
		<u>-1 046</u>	<u>1 073</u>
<i>Profit/loss after financial items</i>		-18 445	-19 380
Appropriations	Note 5	-3 273	-3 356
Transfer from funds invested	Note 6	21 718	22 736
		<u>18 445</u>	<u>19 380</u>
<i>Net profit/loss for the year</i>		0	0

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**BALANCE SHEET**

in thousands of Swedish Crowns

		2004	2003
<b>ASSETS</b>			
<u>Fixed assets</u>			
<i>Tangible fixed assets</i>	Note 7		
Buildings		11 004	14 161
Radar systems		35 840	51 699
Equipment and tools		3 636	4 907
		<hr/> 50 481	<hr/> 70 767
<u>Current assets</u>			
Receivables		468	399
Prepayments and accrued income	Note 8	221	572
Cash at bank and in hand	Note 9	18 035	13 873
		<hr/> 18 724	<hr/> 14 844
<i>Total assets</i>		<i>69 204</i>	<i>85 610</i>
<b>CAPITAL AND LIABILITIES</b>			
<u>Capital</u>			
Funds invested	Note 10	49 795	70 081
Funds held on reserve	Note 11	12 360	9 141
		<hr/> 62 154	<hr/> 79 222
<u>Long term liabilities</u>			
Long term liabilities	Note 12	605	599
<u>Current liabilities</u>			
Liabilities, trade		5 193	4 198
Provisions	Note 13	720	1 254
Other liabilities		532	337
		<hr/> 6 445	<hr/> 5 789
<i>Total capital and liabilities</i>		<i>69 204</i>	<i>85 610</i>
<i>Pledged assets</i>		<i>605</i>	<i>599</i>
<i>Contingent liabilities</i>		<i>none</i>	<i>none</i>

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**STATEMENT OF CASH FLOWS**

in thousands of Swedish Crowns

	<i>2004</i>	<i>2003</i>
<u>Operating activities</u>		
Operating result before financial items	-17 399	-20 452
Transfer from funds invested	21 718	22 736
Interest received	274	446
Currency exchange rate changes	-35	131
Extra ordinary income and cost	92	38
Increase/decrease of receivables	-69	-136
Increase/decrease of prepayments and accrued income	351	-26
Increase/decrease of creditors and liabilities	662	-909
<i>Cash flow from operations</i>	<i>5 594</i>	<i>1 827</i>
<u>Investment activities</u>		
Investments in tangible assets	-1 432	-2 171
<i>Cash flow from investment activities</i>	<i>-1 432</i>	<i>-2 171</i>
<i>Cash flow for the year</i>	<i>4 162</i>	<i>-344</i>
<i>Liquid assets at the beginning of the year</i>	<i>13 873</i>	<i>14 217</i>
<i>Liquid assets at the end of the year</i>	<i>18 035</i>	<i>13 873</i>

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**Note 1 Accounting principles**

The accounting and valuation principles applied are consistent with the provisions of the Swedish Annual Accounts Act and generally accepted accounting principles (bokföringsnämnden allmänna råd och vägledningar).

All amounts are in thousands of Swedish kronor (SEK) unless otherwise stated.

*Receivables*

Receivables are stated at the amounts estimated to be received, based on individual assessment.

*Receivables and payables in foreign currencies*

Receivables and payables in foreign currencies are valued at the closing day rate. Where hedging measures have been used, such as forwarding contracts, the agreed exchange rate is applied. Gains and losses relating to operations are accounted for under other financial income and cost.

*Bank accounts in foreign currencies*

Bank balances in foreign currencies are valued at the closing day rate.

*Fixed assets*

Tangible fixed assets are stated at their original acquisition values after deduction of depreciation according to plan. Assets are depreciated systematically over their estimated useful lives.

The following periods of depreciation are applied: Buildings 10 - 50 years, Radar systems 3 - 20 years and Equipment and tools 3 - 5 years.

**Note 2 Associate contributions**

The Associates contributed to the operation during the year according to a fixed percentage.

		<u>2004</u>
CNRS (France)	23.25%	6 856
MPG (Germany)	23.25%	6 856
NIPR (Japan)	7.00%	2 064
PPARC (United Kingdom)	23.25%	6 856
RCN (Norway)	9.30%	2 742
SA (Finland)	4.65%	1 371
SRC (Sweden)	9.30%	2 742
	<u>100.00%</u>	<u>29 489</u>

Accumulated contributions status as of 2004-12-31

	<u>1976 - 2004</u>
CNRS (France)	176 362
MPG (Germany)	169 692
NIPR (Japan), 1996 -	58 434
PPARC (United Kingdom)	188 302
RCN (Norway)	111 861
SA (Finland)	45 506
SRC (Sweden)	86 117
	<u>836 274</u>

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2004 2003

**Note 3 Personnel costs and average number of employees**

The Association employs directly the Headquarters staff, currently seven positions, including the Directors. The Headquarters is located in Kiruna, Sweden. The personnel working at the Kiruna (Sweden), Sodankylä (Finland), Svalbard and Tromsø (Norway) sites are not employed by the Association. Instead, the personnel are provided via site contracts by the Swedish Institute of Space Physics (Kiruna site staff), Oulu University (Sodankylä staff) and Tromsø University (Tromsø and Svalbard staff). The Association refunds all expenses related to the provided staff, as well as an additional overhead.

*Personnel costs in total*

Salaries and emoluments paid to the Directors	1 880	1 834
Other personnel, employed and provided via site contracts	10 335	12 168
Social security contributions amounted to of which for pension costs	4 108 2 175	5 051 2 368

Of the pension costs, 792 kSEK (764 kSEK) relates to the Directors. The Directors and all other directly employed staff are included in ITP based occupational pension plans. For the personnel provided via site contracts, the pension plans are handled by their respective employer.

The members of the board (EISCAT Council) and members of committees do not receive remunerations from the Association. Travel expenses in connection with Council and committee meetings are paid by the different Associates and is then usually reimbursed from the Association, excluding the Japanese Associate who pays the travel cost for their own members.

*Salaries and emoluments and average number of staff per country*

Finland		
Salaries and emoluments	1 463	1 810
Average number of staff - men and women	4 + 0	4 + 1
Norway (including Svalbard)		
Salaries and emoluments	7 255	6 993
Average number of staff - men and women	12 + 2	15 + 2
Sweden		
Salaries and emoluments	3 497	5 199
Average number of staff - men and women	7 + 2	8 + 2

*Members of the board and Directors at year-end - men and women*

Board members (EISCAT Council)	14 + 3	14 + 3
Directors	2 + 0	2 + 0

**Note 4 Own reserves and funds**

The following is the financing use of our own reserves and funds

Capital Operating reserve		
Budgeted transfer to the reserve for capital operating use	-1 571	-1 136
Spare parts reserve		
Budgeted transfer to the reserve	-35	-103
Spare parts purchased	19	126

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	<i>2004</i>	<i>2003</i>
Equipment repair fund		
Transfer from the fund for the VHF klystron repair	66	440
Budgeted use of our own funds/reserves		
Surplus fund transfer	144	1 131
<i>Sum own reserves and funds</i>	<i>-1 377</i>	<i>458</i>

**Note 5 Appropriations**

The outcome for this year became a surplus relative to the budget amounting to 3 273 kSEK. The amount has been transferred to the restructuring reserve. The 2003 outcome resulted in a surplus (3 356 kSEK) and it was transferred to the same reserve.

**Note 6 Transfer from funds invested**

The depreciation cost is covered by funds from Capital - funds invested.

**Note 7 Tangible fixed assets**

Changes in tangible fixed assets during 2004

<b>Buildings</b>		
Opening acquisition value	42 086	41 367
Acquisitions during the year	118	719
Closing acquisition value	<u>42 204</u>	<u>42 086</u>
Opening accumulated depreciation	-27 925	-24 649
Depreciations during the year	-3 275	-3 275
Closing accumulated depreciation	<u>-31 199</u>	<u>-27 925</u>
Closing residual value	11 004	14 161
<b>Radar systems</b>		
Opening acquisition value	243 624	243 086
Acquisitions during the year	0	538
Closing acquisition value	<u>243 624</u>	<u>243 624</u>
Opening accumulated depreciation	-191 925	-175 206
Depreciations during the year	-15 859	-16 720
Closing accumulated depreciation	<u>-207 784</u>	<u>-191 925</u>
Closing residual value	35 840	51 699
<b>Equipment and tools</b>		
Opening acquisition value	29 931	29 025
Acquisitions during the year	1 314	914
Disposals during the year	-373	-7
Closing acquisition value	<u>30 872</u>	<u>29 931</u>
Opening accumulated depreciation	-25 024	-22 284
Depreciations during the year	-2 585	-2 741
Disposals during the year	373	0
Closing accumulated depreciation	<u>-27 235</u>	<u>-25 024</u>
Closing residual value	3 636	4 907
<i>Sum tangible fixed assets</i>	<i>50 481</i>	<i>70 767</i>

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	<i>2004</i>	<i>2003</i>
<b>Note 8 Prepayments and accrued income</b>		
Prepaid rents	77	74
Prepaid insurances	94	464
Other items	50	34
	<u>221</u>	<u>572</u>

**Note 9 Bank balances status**

Nordea	18 033	13 871
Cash in hand	2	2
	<u>18 035</u>	<u>13 873</u>

**Note 10 Funds invested status**

Buildings	10 319	13 475
Radar Systems	35 840	51 699
Equipment and Tools	3 636	4 907
	<u>49 795</u>	<u>70 081</u>

**Note 11 Funds held on reserve**

66 kSEK was drawn from the equipment repair fund for the initial payment of the VHF klystron evaluation. The surplus for this year was transferred to the restructuring reserve.

Spare parts reserve	460	443
Capital operating reserve	1 841	1 703
Surplus fund	732	876
Equipment repair fund	1 473	1 539
Restructuring reserve	7 854	4 580
	<u>12 360</u>	<u>9 141</u>

**Note 12 Long term liabilities**

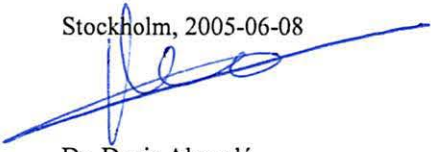
Refers to the Husbanken Norway loan concerning the owned flat on Svalbard. No amortization was done during the year.

**Note 13 Provisions**

Associate travel	273	248
Staff travel	85	33
Restructuring costs	363	972
	<u>720</u>	<u>1 254</u>

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Stockholm, 2005-06-08



Dr. Denis Alcaydé




Prof. Asgeir Brekke



Prof. Ole Henrik Ellestad



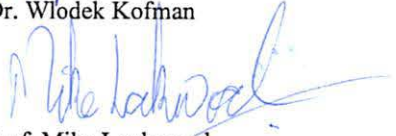
Prof. Ryoichi Fujii



Dr. Finn Karlsson



Dr. Wlodek Kofman




Prof. Mike Lockwood



Dr. Asta Pellinen-Wannberg




Mr. Michael Truchseß




Prof. Anthony P. van Eyken  
Director

Our audit report was issued on 2005-06-29



Mrs. Annika Wedin  
Authorised Public Accountant

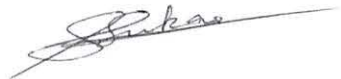
Prof. Takehiko Aso



Mr. C. Graham Brooks




Mr. Atle Engebretsen



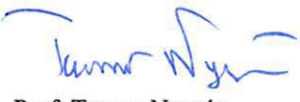
Prof. Shoichiro Fukao



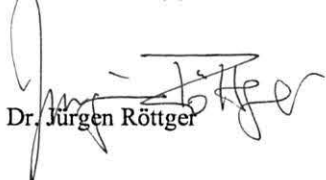
Dr. Kirsti Kauristie



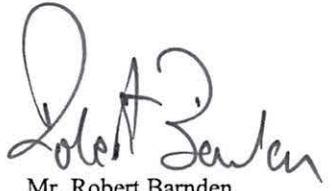
Dr. Ann-Marie Lagrange



Prof. Tuomo Nygrén



Dr. Jürgen Röttger



Mr. Robert Barnden  
Authorised Public Accountant



Kiruna June 8, 2005

To: Mike Lockwood  
Denis Alcaydé

## Annual Report of the Accounts 2004 - signing

The EISCAT Council approved the 2004 accounts and the members present at the meeting signed the document.

We miss a couple of signatures.

As soon as you have signed it, send it to the next person. The document has to be finalised during June, including the signatures of the Auditors – so please do this swiftly.

1 Prof. Mike Lockwood  
CCLRC Rutherford Appleton Laboratory  
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United Kingdom

2 Dr. Denis Alcaydé  
CESR, Universite Paul Sabatier  
9 Avenue du Colonel Roche  
BP4346  
F-31029 Toulouse  
France

3 *return to HQ*  
Henrik Andersson  
EISCAT Scientific Association  
P. O. Box 164  
SE-981 23 Kiruna  
Sweden

Drop me an e-mail when you have sent it on to the next person.

Sincerely yours,

A handwritten signature in blue ink, appearing to be "Henrik Andersson".

Henrik Andersson  
Head of Administration  
EISCAT Scientific Association

## Audit report

### To the council of EISCAT Scientific Association

Corporate Identity Number 897300-2549

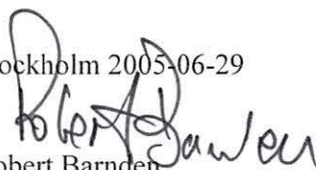
We have audited the annual accounts, the accounting records and the administration of the council and the director of EISACT Scientific Association for the year 2004. These accounts and the administration of the company and the application of the Annual Accounts Act when preparing the annual accounts are the responsibility of the council and the director. Our responsibility is to express an opinion on the annual accounts and the administration based on our audit.

We conducted our audit in accordance with generally accepted auditing standards in Sweden. Those standards require that we plan and perform the audit to obtain reasonable assurance that the annual accounts are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the accounts. An audit also includes assessing the accounting principles used and their application by the council and the director and significant estimates made by the council and the director when preparing the annual accounts as well as evaluating the overall presentation of information in the annual accounts. We examined significant decisions, actions taken and circumstances of the association in order to be able to determine whether any council member or the director has acted in contravention of the Annual Accounts Act or the statutes. We believe that our audit provides a reasonable basis for our opinion set out below.

The annual accounts have been prepared in accordance with the Annual Accounts Act and, thereby, give a true and fair view of the association's financial position and results of operations in accordance with generally accepted accounting principles in Sweden. The statutory administration report is consistent with the other parts of the annual accounts.

The council and the director have not acted in contravention of the statutes.

Stockholm 2005-06-29

  
Robert Barnden  
Authorized Public Accountant

  
Annika Wedin  
Authorized Public Accountant