

## Science and Innovation

### Adjusted budget summary

R thousand	2022/23			Adjusted appropriation
	Appropriation	Adjustments appropriation		
		Decrease	Increase	
<b>Amount to be appropriated</b>	<b>9 133 300</b>	<b>(9 675)</b>	<b>9 675</b>	<b>9 133 300</b>
<i>of which:</i>				
Current payments	577 594	(9 675)	–	567 919
Transfers and subsidies	8 552 691	–	1 411	8 554 102
Payments for capital assets	3 015	–	8 264	11 279
Executive authority	Minister of Science and Technology			
Accounting officer	Director-General of Science and Technology			
Website	www.dst.gov.za			

### Vote purpose

Realise the full potential of science and technology in social and economic development by developing human resources, research and innovation.

### Performance

Indicator	Programme	MTSF priority	Annual performance		
			Projected for 2022/23	Achieved in the first half of 2022/23 (April to September)	Changed target for 2022/23
Number of commercial outputs in designated areas per year	Technology Innovation	Priority 2: Economic transformation and job creation	5	0	–
Number of technology demonstrations, prototypes, products and services developed per year	Technology Innovation		20	0	–
Funds invested by international partners in their own organisations and initiatives targeted at cooperation with South African partners in the areas of research, innovation, science, technology and innovation human capital development as part of cooperation initiatives implemented by the department per year	International Cooperation and Resources	Priority 7: A better Africa and world	R300m	0	–
Number of doctoral students awarded bursaries per year, as reflected in reports from the National Research Foundation and relevant entities	Research, Development and Support	Priority 3: Education, skills and health	3 200	2 200	–
Number of pipeline postgraduate students (BTech, honours and masters students) awarded bursaries per year, as reflected in reports from the National Research Foundation and relevant entities	Research, Development and Support		10 800	4 200	–
Number of researchers awarded research grants per year through programmes managed by the National Research Foundation, as reflected in the foundation's project reports	Research, Development and Support		4 700	3 000	–
Number of knowledge and innovation products (patents, prototypes, technology demonstrators or technology transfer packages) added to the intellectual property portfolio through fully funded or co-funded research initiatives per year	Socioeconomic Innovation Partnerships	Priority 2: Economic transformation and job creation	70	0	–
Number of knowledge products on innovation for inclusive development published per year	Socioeconomic Innovation Partnerships		5	0	–

## Progress

By mid-year, the number of researchers awarded grants per year through programmes managed by the National Research Foundation reached 3 000. This fast progress is due to an increased number of researchers seeking financial assistance over the period.

The bulk of the department's indicators are calculated annually. As such, it is on track to achieve all targets in the second half of 2022/23.

## Adjusted estimates

Programme	2022/23								
	Appropriation	Adjustments appropriation						Total adjustments appropriation	Adjusted appropriation
		Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments <sup>1</sup>		
R thousand									
Administration	335 077	–	–	11 317	–	–	–	11 317	346 394
Technology Innovation International	1 784 052	–	–	121 248	–	–	–	121 248	1 905 300
Cooperation and Resources	149 881	–	–	(2 272)	–	–	–	(2 272)	147 609
Research, Development and Support	5 105 044	–	–	(127 190)	–	–	–	(127 190)	4 977 854
Socioeconomic Innovation Partnerships	1 759 246	–	–	(3 103)	–	–	–	(3 103)	1 756 143
<b>Total</b>	<b>9 133 300</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>9 133 300</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>577 594</b>	<b>–</b>	<b>–</b>	<b>(9 675)</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>(9 675)</b>	<b>567 919</b>
Compensation of employees	363 688	–	–	(18 000)	–	–	–	(18 000)	345 688
Goods and services	213 906	–	–	8 325	–	–	–	8 325	222 231
<b>Transfers and subsidies</b>	<b>8 552 691</b>	<b>–</b>	<b>–</b>	<b>1 411</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>1 411</b>	<b>8 554 102</b>
Departmental agencies and accounts	6 562 279	–	–	(14 492)	–	–	–	(14 492)	6 547 787
Public corporations and private enterprises	1 583 041	–	–	(70 331)	–	–	–	(70 331)	1 512 710
Non-profit institutions	407 371	–	–	86 234	–	–	–	86 234	493 605
<b>Payments for capital assets</b>	<b>3 015</b>	<b>–</b>	<b>–</b>	<b>8 264</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>8 264</b>	<b>11 279</b>
Machinery and equipment	3 015	–	–	8 264	–	–	–	8 264	11 279
<b>Total</b>	<b>9 133 300</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>9 133 300</b>

1. Other adjustments include funds shifted within a vote following a function shift, funds shifted between votes, adjustments due to significant and unforeseeable economic and financial events, self-financing expenditure, and the use of funds in terms of section 16 of the Public Finance Management Act (1999).

## Programme 1: Administration

Subprogramme	2022/23								
	Appropriation	Adjustments appropriation						Total adjustments appropriation	Adjusted appropriation
		Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments		
R thousand									
Ministry	5 642	–	–	–	–	–	–	–	5 642
Institutional Planning and Support	172 468	–	–	(12 632)	–	–	–	(12 632)	159 836
Corporate Services Office	151 264	–	–	23 949	–	–	–	23 949	175 213
Accommodation	5 703	–	–	–	–	–	–	–	5 703
<b>Total</b>	<b>335 077</b>	<b>–</b>	<b>–</b>	<b>11 317</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>11 317</b>	<b>346 394</b>

**Programme 1: Administration (continued)**

Economic classification	2022/23								Adjusted appropriation
	Appropriation	Adjustments appropriation						Total adjustments appropriation	
		Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments		
R thousand									
<b>Current payments</b>	<b>316 397</b>	–	–	<b>3 053</b>	–	–	–	<b>3 053</b>	<b>319 450</b>
Compensation of employees	172 711	–	–	(9 159)	–	–	–	(9 159)	163 552
Goods and services	143 686	–	–	12 212	–	–	–	12 212	155 898
<b>Transfers and subsidies</b>	<b>15 665</b>	–	–	–	–	–	–	–	<b>15 665</b>
Non-profit institutions	15 665	–	–	–	–	–	–	–	15 665
<b>Payments for capital assets</b>	<b>3 015</b>	–	–	<b>8 264</b>	–	–	–	<b>8 264</b>	<b>11 279</b>
Machinery and equipment	3 015	–	–	8 264	–	–	–	8 264	11 279
<b>Total</b>	<b>335 077</b>	–	–	<b>11 317</b>	–	–	–	<b>11 317</b>	<b>346 394</b>

**Programme 2: Technology Innovation**

Subprogramme	2022/23								Adjusted appropriation
	Appropriation	Adjustments appropriation						Total adjustments appropriation	
		Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments		
R thousand									
Space Science	210 527	–	–	75 080	–	–	–	75 080	285 607
Hydrogen and Energy	193 713	–	–	59 449	–	–	–	59 449	253 162
Bio-innovation	209 321	–	–	39 073	–	–	–	39 073	248 394
Innovation Priorities and Instruments	1 109 730	–	–	(51 354)	–	–	–	(51 354)	1 058 376
National Intellectual Property Management Office	55 959	–	–	–	–	–	–	–	55 959
Office of the Deputy Director-General: Technology Innovation	4 802	–	–	(1 000)	–	–	–	(1 000)	3 802
<b>Total</b>	<b>1 784 052</b>	–	–	<b>121 248</b>	–	–	–	<b>121 248</b>	<b>1 905 300</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>76 217</b>	–	–	<b>(8 716)</b>	–	–	–	<b>(8 716)</b>	<b>67 501</b>
Compensation of employees	52 454	–	–	(5 254)	–	–	–	(5 254)	47 200
Goods and services	23 763	–	–	(3 462)	–	–	–	(3 462)	20 301
<b>Transfers and subsidies</b>	<b>1 707 835</b>	–	–	<b>129 964</b>	–	–	–	<b>129 964</b>	<b>1 837 799</b>
Departmental agencies and accounts	1 255 729	–	–	43 730	–	–	–	43 730	1 299 459
Public corporations and private enterprises	119 750	–	–	–	–	–	–	–	119 750
Non-profit institutions	332 356	–	–	86 234	–	–	–	86 234	418 590
<b>Total</b>	<b>1 784 052</b>	–	–	<b>121 248</b>	–	–	–	<b>121 248</b>	<b>1 905 300</b>

**Programme 3: International Cooperation and Resources**

Subprogramme		2022/23							
		Adjustments appropriation						Total adjustments appropriation	Adjusted appropriation
R thousand	Appropriation	Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments		
Multilateral Cooperation and Africa	32 742	-	-	-	-	-	-	-	32 742
International Resources	68 423	-	-	-	-	-	-	-	68 423
Overseas Bilateral Cooperation	43 652	-	-	-	-	-	-	-	43 652
Office of the Deputy Director-General: International Cooperation and Resources	5 064	-	-	(2 272)	-	-	-	(2 272)	2 792
<b>Total</b>	<b>149 881</b>	-	-	<b>(2 272)</b>	-	-	-	<b>(2 272)</b>	<b>147 609</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>73 454</b>	-	-	<b>(2 272)</b>	-	-	-	<b>(2 272)</b>	<b>71 182</b>
Compensation of employees	54 052	-	-	(2 272)	-	-	-	(2 272)	51 780
Goods and services	19 402	-	-	-	-	-	-	-	19 402
<b>Transfers and subsidies</b>	<b>76 427</b>	-	-	-	-	-	-	-	<b>76 427</b>
Departmental agencies and accounts	17 077	-	-	-	-	-	-	-	17 077
Non-profit institutions	59 350	-	-	-	-	-	-	-	59 350
<b>Total</b>	<b>149 881</b>	-	-	<b>(2 272)</b>	-	-	-	<b>(2 272)</b>	<b>147 609</b>

**Programme 4: Research, Development and Support**

Subprogramme		2022/23								
		Adjustments appropriation						Total adjustments appropriation	Adjusted appropriation	
R thousand	Appropriation	Special appropriation	Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds			Other adjustments
Human Capital and Science Promotions	2 770 311	-	-	-	(14 492)	-	-	-	(14 492)	2 755 819
Science Missions	256 204	-	-	-	(144 000)	-	-	-	(144 000)	112 204
Basic Science and Infrastructure	1 190 818	-	-	-	(232 245)	-	-	-	(232 245)	958 573
Astronomy Office of the Deputy Director-General: Research, Development and Support	883 691	-	-	-	263 547	-	-	-	263 547	1 147 238
	4 020	-	-	-	-	-	-	-	-	4 020
<b>Total</b>	<b>5 105 044</b>	-	-	-	<b>(127 190)</b>	-	-	-	<b>(127 190)</b>	<b>4 977 854</b>
<b>Economic classification</b>										
<b>Current payments</b>	<b>56 289</b>	-	-	-	<b>(1 453)</b>	-	-	-	<b>(1 453)</b>	<b>54 836</b>
Compensation of employees	39 455	-	-	-	-	-	-	-	-	39 455
Goods and services	16 834	-	-	-	(1 453)	-	-	-	(1 453)	15 381
<b>Transfers and subsidies</b>	<b>5 048 755</b>	-	-	-	<b>(125 737)</b>	-	-	-	<b>(125 737)</b>	<b>4 923 018</b>
Departmental agencies and accounts	4 766 985	-	-	-	(55 406)	-	-	-	(55 406)	4 711 579
Public corporations and private enterprises	281 770	-	-	-	(70 331)	-	-	-	(70 331)	211 439
<b>Total</b>	<b>5 105 044</b>	-	-	-	<b>(127 190)</b>	-	-	-	<b>(127 190)</b>	<b>4 977 854</b>

**Programme 5: Socioeconomic Innovation Partnerships**

Subprogramme		2022/23							Adjusted appropriation
		Adjustments appropriation						Total adjustments appropriation	
R thousand	Appropriation	Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments		
Sector Innovation and Green Economy	1 092 037	-	-	-	-	-	-	-	1 092 037
Innovation for Inclusive Development	383 058	-	-	(1 788)	-	-	-	(1 788)	381 270
Science and Technology Investment	25 099	-	-	-	-	-	-	-	25 099
Technology Localisation, Beneficiation and Advanced Manufacturing	255 624	-	-	-	-	-	-	-	255 624
Office of the Deputy Director-General: Socioeconomic Innovation Partnership	3 428	-	-	(1 315)	-	-	-	(1 315)	2 113
<b>Total</b>	<b>1 759 246</b>	<b>-</b>	<b>-</b>	<b>(3 103)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(3 103)</b>	<b>1 756 143</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>55 237</b>	<b>-</b>	<b>-</b>	<b>(287)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(287)</b>	<b>54 950</b>
Compensation of employees	45 016	-	-	(1 315)	-	-	-	(1 315)	43 701
Goods and services	10 221	-	-	1 028	-	-	-	1 028	11 249
<b>Transfers and subsidies</b>	<b>1 704 009</b>	<b>-</b>	<b>-</b>	<b>(2 816)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(2 816)</b>	<b>1 701 193</b>
Departmental agencies and accounts	522 488	-	-	(2 816)	-	-	-	(2 816)	519 672
Public corporations and private enterprises	1 181 521	-	-	-	-	-	-	-	1 181 521
<b>Total</b>	<b>1 759 246</b>	<b>-</b>	<b>-</b>	<b>(3 103)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(3 103)</b>	<b>1 756 143</b>

**Details of adjustments to the 2022 Estimates of National Expenditure****Virements and shifts within the vote**

<b>Programmes</b>					
1. Administration					
2. Technology Innovation					
3. International Cooperation and Resources					
4. Research, Development and Support					
5. Socioeconomic Innovation Partnerships					
<b>From:</b>			<b>To:</b>		
Programme by economic classification	Motivation	R thousand	Programme by economic classification	Motivation	R thousand
<b>Programme 1</b>		<b>(14 947)</b>	<b>Programme 1</b>		<b>13 919</b>
Compensation of employees	Vacant posts <sup>1</sup>	(9 159)	Goods and services	Business and advisory services <sup>1</sup>	9 159
Goods and services	Travel and subsistence	(3 500)	Machinery and equipment	Audit costs	3 500
	Travel and subsistence	(1 211)	Machinery and equipment	Finance leases	1 211
	Travel and subsistence	(49)	Machinery and equipment	Vehicles	49
	Travel and subsistence	(1 028)	<b>Programme 5</b>		<b>1 028</b>
			Goods and services	Geographic information systems	1 028
Shifts within the programme as a percentage of the programme budget		4.2%			
<b>Virements to other programmes as a percentage of the programme budget</b>		<b>0.3%</b>			

**Virements and shifts within the vote (continued)**

<b>From:</b>			<b>To:</b>		
<b>Programme by economic classification</b>	<b>Motivation</b>	<b>R thousand</b>	<b>Programme by economic classification</b>	<b>Motivation</b>	<b>R thousand</b>
<b>Programme 2</b>		<b>(13 893)</b>	<b>Programme 1</b>		<b>7 305</b>
Compensation of employees	Vacant posts <sup>1</sup>	(5 254)	Goods and services	Finance leases <sup>1</sup>	5 254
Goods and services	Travel and subsistence	(2 051)	Machinery and equipment	Vehicles	2 051
	Travel and subsistence <sup>1</sup>	(1 411)	<b>Programme 2</b>		<b>6 588</b>
			Non-profit institutions	International Centre for Genetic Engineering and Biotechnology <sup>1</sup>	1 411
Non-profit institutions	Bioeconomy strategy <sup>1</sup>	(5 177)	Departmental agencies and accounts	South African National Space Agency: Space Weather Centre and Deep Space Ground Station facility <sup>1</sup>	5 177
Shifts within the programme as a percentage of the programme budget		0.4%			
<b>Virements to other programmes as a percentage of the programme budget</b>		<b>0.4%</b>			
<b>Programme 3</b>		<b>(2 272)</b>	<b>Programme 1</b>		<b>2 272</b>
Compensation of employees	Vacant posts <sup>1</sup>	(2 272)	Goods and services	Finance leases <sup>1</sup>	2 272
Shifts within the programme as a percentage of the programme budget		0.0%			
<b>Virements to other programmes as a percentage of the programme budget</b>		<b>1.5%</b>			
<b>Programme 4</b>		<b>(358 829)</b>	<b>Programme 1</b>		<b>1 453</b>
Goods and services	Travel and subsistence	(1 453)	Machinery and equipment	Finance leases	1 453
			<b>Programme 2</b>		<b>128 553</b>
Departmental agencies and accounts	Research and development infrastructure <sup>2</sup>	(18 723)	Departmental agencies and accounts	Deep Space Ground Station facility <sup>2</sup>	18 723
	Research and development infrastructure <sup>2</sup>	(2 830)	Departmental agencies and accounts	South African National Space Agency: Space Weather Centre <sup>2</sup>	2 830
	Research and development infrastructure <sup>2</sup>	(7 000)	Departmental agencies and accounts	Bio Africa Convention 2022 <sup>2</sup>	7 000
	Research and development infrastructure <sup>2</sup>	(10 000)	Departmental agencies and accounts	Data analysis and research workstream for the energy national joint operational and intelligence structure <sup>2</sup>	10 000
	Research and development infrastructure <sup>2</sup>	(40 000)	Non-profit institutions	Vaccine innovation development and manufacturing strategy <sup>2</sup>	40 000
	Research and development infrastructure <sup>2</sup>	(50 000)	Non-profit institutions	Hydrogen society roadmap catalytic projects <sup>2</sup>	50 000
	Strategic science platforms <sup>2</sup>	(144 000)	<b>Programme 4</b>		<b>228 823</b>
	Science awareness <sup>2</sup>	(13 303)	Departmental agencies and accounts	National Research Foundation: Square Kilometre Array <sup>2</sup>	144 000
	Human resource development <sup>2</sup>	(1 189)	Departmental agencies and accounts	National Research Foundation: Square Kilometre Array <sup>2</sup>	13 303
Public corporations and private enterprises	Cyber infrastructure <sup>2</sup>	(70 331)	Departmental agencies and accounts	National Research Foundation: Square Kilometre Array <sup>2</sup>	1 189
Shifts within the programme as a percentage of the programme budget		4.5%			
<b>Virements to other programmes as a percentage of the programme budget</b>		<b>2.5%</b>			

**Virements and shifts within the vote (continued)**

From:			To:		
Programme by economic classification	Motivation	R thousand	Programme by economic classification	Motivation	R thousand
<b>Programme 5</b>		<b>(4 131)</b>	<b>Programme 1</b>		<b>1 315</b>
Compensation of employees	Vacant posts <sup>1</sup>	(1 315)	Goods and services	Finance leases <sup>1</sup>	1 315
Departmental agencies and accounts	Innovation for Inclusive Development <sup>2</sup>	(2 816)	<b>Programme 4</b>		<b>2 816</b>
			Departmental agencies and accounts	National Research Foundation: Square Kilometre Array <sup>2</sup>	2 816
Shifts within the programme as a percentage of the programme budget		0.0%			
Virements to other programmes as a percentage of the programme budget		0.2%			
<b>Total</b>		<b>(394 072)</b>	<b>394 072</b>		

1. National Treasury approval has been obtained.

2. Only Parliament may approve this virement.

**Expenditure outcome for 2021/22 and mid-year expenditure for 2022/23**

Programme	2021/22					2022/23				
	R thousand	Outcome			Adjusted appropriation/Total (%)	Actual expenditure				
Adjusted appropriation		Apr 21 - Sep 21 % of	Apr 21 - Sep 21 adjusted appropriation	Apr 21 - Mar 22 % of		Apr 21 - Mar 22 adjusted appropriation	Apr 22 - Sep 22 % of	Apr 22 - Sep 22 adjusted appropriation		
Administration	334 724	127 681	38.1	304 454	91.0	346 394	3.8	164 077	47.4	
Technology Innovation International	1 705 289	490 142	28.7	1 719 613	100.8	1 905 300	20.9	460 621	24.2	
Cooperation and Resources	144 416	37 123	25.7	131 808	91.3	147 609	1.6	53 068	36.0	
Research, Development and Support	4 995 632	3 024 290	60.5	4 991 443	99.9	4 977 854	54.5	3 031 416	60.9	
Socioeconomic Innovation Partnerships	1 825 577	926 749	50.8	1 814 725	99.4	1 756 143	19.2	852 402	48.5	
<b>Total</b>	<b>9 005 638</b>	<b>4 605 985</b>	<b>51.1</b>	<b>8 962 043</b>	<b>99.5</b>	<b>9 133 300</b>	<b>100.0</b>	<b>4 561 584</b>	<b>49.9</b>	
<b>Economic classification</b>										
<b>Current payments</b>	<b>569 291</b>	<b>217 910</b>	<b>38.3</b>	<b>485 583</b>	<b>85.3</b>	<b>567 919</b>	<b>6.2</b>	<b>269 291</b>	<b>47.4</b>	
Compensation of employees	363 326	163 535	45.0	332 751	91.6	345 688	3.8	163 939	47.4	
Goods and services	205 965	54 375	26.4	152 832	74.2	222 231	2.4	105 352	47.4	
<b>Transfers and subsidies</b>	<b>8 430 994</b>	<b>4 386 030</b>	<b>52.0</b>	<b>8 467 427</b>	<b>100.4</b>	<b>8 554 102</b>	<b>93.7</b>	<b>4 289 212</b>	<b>50.1</b>	
Departmental agencies and accounts	6 520 587	3 684 103	56.5	6 017 023	92.3	6 547 787	71.7	3 550 530	54.2	
Higher education institutions	–	47 589	–	240 526	–	–	–	75 499	–	
Foreign governments and international organisations	–	–	–	2 000	–	–	–	–	–	
Public corporations and private enterprises	1 512 323	545 724	36.1	1 957 502	129.4	1 512 710	16.6	514 859	34.0	
Non-profit institutions	398 084	108 247	27.2	249 246	62.6	493 605	5.4	147 705	29.9	
Households	–	367	–	1 130	–	–	–	619	–	
<b>Payments for capital assets</b>	<b>5 353</b>	<b>1 964</b>	<b>36.7</b>	<b>8 941</b>	<b>167.0</b>	<b>11 279</b>	<b>0.1</b>	<b>3 078</b>	<b>27.3</b>	
Machinery and equipment	5 353	1 964	36.7	8 941	167.0	11 279	0.1	3 078	27.3	
<b>Payments for financial assets</b>	<b>–</b>	<b>81</b>	<b>–</b>	<b>92</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>3</b>	<b>–</b>	
<b>Total</b>	<b>9 005 638</b>	<b>4 605 985</b>	<b>51.1</b>	<b>8 962 043</b>	<b>99.5</b>	<b>9 133 300</b>	<b>100.0</b>	<b>4 561 584</b>	<b>49.9</b>	

**Expenditure trends**

Total expenditure in 2021/22 was R9 billion, 99.5 per cent of the adjusted appropriation for the year. Mid-year expenditure in 2021/22 was R4.6 billion, 51.1 per cent of the adjusted appropriation, whereas expenditure in the first half of 2022/23 was R4.56 billion, 49.9 per cent of the adjusted appropriation of

R9.1 billion. Compared to the first half of 2021/22, expenditure over the same period in 2022/23 decreased by R44.4 million. This was due to slow spending by implementing agencies as a result of administrative delays on contracts.

## Departmental receipts

R thousand	2021/22					2022/23				
	Adjusted estimate	Outcome			Budget estimate	Adjusted estimate	Adjusted receipts estimate/ Total (%)	Actual receipts		
		Apr 21 - Sep 21	Apr 21 - Sep 21 % of adjusted estimate	Apr 21 - Mar 22				Apr 21 - Mar 22 % of adjusted estimate	Apr 22 - Sep 22	Apr 22 - Sep 22 % of adjusted estimate
<b>Departmental receipts</b>	<b>897</b>	<b>508</b>	<b>56.6</b>	<b>1 090</b>	<b>121.5</b>	<b>633</b>	<b>726</b>	<b>100.0</b>	<b>156</b>	<b>21.5</b>
Sales of goods and services produced by department	60	35	58.3	69	115.0	60	70	9.6	35	50.3
Sales of scrap, waste, arms and other used current goods	5	2	40.0	4	80.0	3	6	0.8	3	54.5
Interest, dividends and rent on land	32	19	59.4	37	115.6	20	30	4.1	14	47.2
Sales of capital assets	250	234	93.6	235	94.0	–	–	–	–	–
Transactions in financial assets and liabilities	550	218	39.6	745	135.5	550	620	85.4	104	16.7
<b>Total</b>	<b>897</b>	<b>508</b>	<b>56.6</b>	<b>1 090</b>	<b>121.5</b>	<b>633</b>	<b>726</b>	<b>100.0</b>	<b>156</b>	<b>21.5</b>

## Revenue trends

Mid-year revenue in 2021/22 was R508 000, 56.6 per cent of the adjusted estimate, whereas revenue for the first half of 2022/23 was R156 000, 21.5 per cent of the adjusted estimate of R726 000. Compared to the first half of 2021/22, revenue over the same period in 2021/22 decreased by R352 000, 69.3 per cent. This was mainly due to a decrease in surplus funds refunded to the department because of measures introduced by the department to reduce surpluses held by implementing agents.

## Changes to transfers and subsidies, including conditional grants

### Summary of changes to transfers and subsidies per programme

R thousand	2022/23								Adjusted appropriation
	Appropriation	Adjustments appropriation						Total adjustments appropriation	
		Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments		
<b>Technology Innovation Departmental agencies and accounts Departmental agencies (non-business entities) Current</b>	<b>603 901</b>	–	–	<b>43 730</b>	–	–	–	<b>43 730</b>	<b>647 631</b>
Various institutions: Energy grand challenge research	44 451	–	–	10 000	–	–	–	10 000	54 451
Various institutions: Innovation projects research	519 394	–	–	(51 100)	–	–	–	(51 100)	468 294
Various institutions: Space science research: Economic competitiveness and support package	33 291	–	–	77 830	–	–	–	77 830	111 121



## Summary of changes to transfers and subsidies per programme (continued)

		2022/23							
		Adjustments appropriation							
R thousand	Appropriation	Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments	Total adjustments appropriation	Adjusted appropriation
National Research Foundation: Research and development in indigenous knowledge systems	6 765	–	–	7 000	–	–	–	7 000	13 765
<b>Non-profit institutions</b>									
<b>Current</b>	<b>159 690</b>	–	–	<b>86 234</b>	–	–	–	<b>86 234</b>	<b>245 924</b>
Various institutions: Implementation of the bioeconomy strategy	44 512	–	–	(5 177)	–	–	–	(5 177)	39 335
Various institutions: Health innovation research	54 986	–	–	40 000	–	–	–	40 000	94 986
Various institutions: Hydrogen strategy research	43 630	–	–	50 000	–	–	–	50 000	93 630
International Centre for Genetic Engineering and Biotechnology	16 562	–	–	1 411	–	–	–	1 411	17 973
<b>Research, Development and Support</b>									
<b>Departmental agencies and accounts</b>									
<b>Departmental agencies (non-business entities)</b>									
<b>Current</b>	<b>1 342 248</b>	–	–	<b>(158 492)</b>	–	–	–	<b>(158 492)</b>	<b>1 183 756</b>
National Research Foundation: Human resources development for science and engineering	1 006 850	–	–	(1 189)	–	–	–	(1 189)	1 005 661
Various institutions: Science awareness, research and initiatives to encourage youth participation in science	94 066	–	–	(13 303)	–	–	–	(13 303)	80 763
Various institutions: Strategic science platforms for research and development	241 332	–	–	(144 000)	–	–	–	(144 000)	97 332
<b>Capital</b>	<b>1 691 825</b>	–	–	<b>103 086</b>	–	–	–	<b>103 086</b>	<b>1 794 911</b>
Various institutions: Infrastructure projects for research and development	861 609	–	–	(161 914)	–	–	–	(161 914)	699 695
National Research Foundation: Square Kilometre Array: Capital contribution to research	830 216	–	–	265 000	–	–	–	265 000	1 095 216

**Summary of changes to transfers and subsidies per programme (continued)**

		2022/23							
		Adjustments appropriation							
R thousand	Appropriation	Roll-overs	Unforeseeable /Unavoidable	Virements and shifts	Amounts announced in the budget	Declared unspent funds	Other adjustments	Total adjustments appropriation	Adjusted appropriation
	<b>Public corporations and private enterprises</b>								
	<b>Public corporations</b>								
	<b>Other transfers</b>								
	<b>Capital</b>								
	<b>281 770</b>	–	–	<b>(70 331)</b>	–	–	–	<b>(70 331)</b>	<b>211 439</b>
	Council for Scientific and Industrial Research: Cyberinfrastructure research and development	–	–	(70 331)	–	–	–	(70 331)	211 439
	<b>Socioeconomic Innovation Partnerships</b>								
	<b>Departmental agencies and accounts</b>								
	<b>Departmental agencies (non-business entities)</b>								
	<b>Current</b>								
	<b>49 593</b>	–	–	<b>(2 816)</b>	–	–	–	<b>(2 816)</b>	<b>46 777</b>
	Various institutions: Innovative research and development	–	–	(2 816)	–	–	–	(2 816)	46 777