

# Vote 35

## Science and Innovation

### Adjusted budget summary

R thousand	2020/21				Adjusted appropriation
	Appropriation	Adjustments appropriation	Second adjustments appropriation		
			Decrease	Increase	
<b>Amount to be appropriated</b>	<b>8 797 393</b>	<b>(1 435 500)</b>	<b>(84 246)</b>	<b>640</b>	<b>7 278 287</b>
<i>of which:</i>					
Current payments	632 471	(93 442)	(32 055)	–	506 974
Transfers and subsidies	8 162 158	(1 342 058)	(52 191)	–	6 767 909
Payments for capital assets	2 764	–	–	640	3 404
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 2020/21	Achieved in the first half of 2020/21 (April to September)	Changed target for 2020/21
Number of instruments funded in support of knowledge utilisation per year	Technology Innovation	Priority 2: Economic	10	0	–
Number of commercial outputs in designated areas per year	Technology Innovation	transformation and job creation	4	0 <sup>1</sup>	–
Number of international resource leveraging engagements undertaken by the department per year	International Cooperation and Resources	Priority 7: A better Africa and world	43	11 <sup>1</sup>	–
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	2 400	2 462	–
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		8 000	7 214	–
Number of researchers awarded research grants per year through programmes managed by the National Research Foundation reflected in the foundation's project reports	Research, Development and Support		3 000	2 322	–
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		42	8	–

1. Target not met due to COVID-19 lockdown.

### Changes to indicators and targets published in the 2020 ENE

The indicator on the number of instruments funded in support of knowledge utilisation per year was erroneously included in the 2020 Budget, which was completed before the department's strategic and annual performance plans were finalised. These plans do not include this indicator.

## Mid-year progress

Administrative delays in 2019/20 resulted in funds being carried over to 2020/21. As a result, the National Research Foundation was able to support more doctoral students, postgraduate students and researchers than anticipated in the first half of the year.

By mid-year, only 8 knowledge and innovation products were added to the intellectual property portfolio against an annual target of 42. The slow progress is due to a lack of industrially relevant knowledge and innovation products in the market.

## Adjusted estimates

Programme	2020/21								Adjusted appropriation
	Appropriation	Adjustments appropriation	Second adjustments appropriation					Total second adjustments appropriation	
Roll-overs			Unforeseeable/unavoidable <sup>1</sup>	Virements and shifts	Declared unspent funds	Other adjustments			
R thousand									
Administration	360 303	(41 982)	–	–	(4 716)	–	(9 498)	(14 214)	304 107
Technology Innovation	1 504 480	(129 542)	–	–	10 397	–	(7 014)	3 383	1 378 321
International Cooperation and Resources	156 440	(35 293)	–	–	(1 372)	–	(2 973)	(4 345)	116 802
Research, Development and Support	4 882 470	(1 070 616)	–	–	32 935	–	(99 541)	(66 606)	3 745 248
Socioeconomic Innovation Partnerships	1 893 700	(158 067)	–	44 999	(37 244)	–	(9 579)	(1 824)	1 733 809
<b>Total</b>	<b>8 797 393</b>	<b>(1 435 500)</b>	<b>–</b>	<b>44 999</b>	<b>–</b>	<b>–</b>	<b>(128 605)</b>	<b>(83 606)</b>	<b>7 278 287</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>632 471</b>	<b>(93 442)</b>	<b>–</b>	<b>–</b>	<b>(12 055)</b>	<b>–</b>	<b>(20 000)</b>	<b>(32 055)</b>	<b>506 974</b>
Compensation of employees	421 993	(40 000)	–	–	–	–	(20 000)	(20 000)	361 993
Goods and services	210 478	(53 442)	–	–	(12 055)	–	–	(12 055)	144 981
<b>Transfers and subsidies</b>	<b>8 162 158</b>	<b>(1 342 058)</b>	<b>–</b>	<b>44 999</b>	<b>11 415</b>	<b>–</b>	<b>(108 605)</b>	<b>(52 191)</b>	<b>6 767 909</b>
Departmental agencies and accounts	6 179 895	(1 034 659)	–	44 999	45 898	–	(104 301)	(13 404)	5 131 832
Public corporations and private enterprises	1 593 265	(297 842)	–	–	(34 483)	–	(4 304)	(38 787)	1 256 636
Non-profit institutions	388 998	(9 557)	–	–	–	–	–	–	379 441
<b>Payments for capital assets</b>	<b>2 764</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>640</b>	<b>–</b>	<b>–</b>	<b>640</b>	<b>3 404</b>
Machinery and equipment	2 764	–	–	–	640	–	–	640	3 404
<b>Total</b>	<b>8 797 393</b>	<b>(1 435 500)</b>	<b>–</b>	<b>44 999</b>	<b>–</b>	<b>–</b>	<b>(128 605)</b>	<b>(83 606)</b>	<b>7 278 287</b>

1. Unforeseeable and unavoidable expenditure in terms of section 6(1)(a) of the Appropriation Act (2020).

**Programme 1: Administration**

Subprogramme	2020/21									
	R thousand	Appropriation	Adjustments appropriation	Second adjustments appropriation					Total second adjustments appropriation	Adjusted appropriation
				Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds	Other adjustments		
Ministry	5 886	–	–	–	–	–	–	–	5 886	
Institutional Planning and Support	185 935	(32 989)	–	–	(6 765)	–	(5 001)	(11 766)	141 180	
Corporate Services Office	162 875	(8 993)	–	–	2 049	–	(4 497)	(2 448)	151 434	
Accommodation	5 607	–	–	–	–	–	–	–	5 607	
<b>Total</b>	<b>360 303</b>	<b>(41 982)</b>	<b>–</b>	<b>–</b>	<b>(4 716)</b>	<b>–</b>	<b>(9 498)</b>	<b>(14 214)</b>	<b>304 107</b>	
<b>Economic classification</b>										
<b>Current payments</b>	<b>341 945</b>	<b>(41 982)</b>	<b>–</b>	<b>–</b>	<b>(5 356)</b>	<b>–</b>	<b>(9 498)</b>	<b>(14 854)</b>	<b>285 109</b>	
Compensation of employees	200 394	(18 995)	–	–	–	–	(9 498)	(9 498)	171 901	
Goods and services	141 551	(22 987)	–	–	(5 356)	–	–	(5 356)	113 208	
<b>Transfers and subsidies</b>	<b>15 594</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>15 594</b>	
Non-profit institutions	15 594	–	–	–	–	–	–	–	15 594	
<b>Payments for capital assets</b>	<b>2 764</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>640</b>	<b>–</b>	<b>–</b>	<b>640</b>	<b>3 404</b>	
Machinery and equipment	2 764	–	–	–	640	–	–	640	3 404	
<b>Total</b>	<b>360 303</b>	<b>(41 982)</b>	<b>–</b>	<b>–</b>	<b>(4 716)</b>	<b>–</b>	<b>(9 498)</b>	<b>(14 214)</b>	<b>304 107</b>	

**Programme 2: Technology Innovation**

Subprogramme	2020/21									
	R thousand	Appropriation	Adjustments appropriation	Second adjustments appropriation					Total second adjustments appropriation	Adjusted appropriation
				Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds	Other adjustments		
Space Science	230 105	(20 471)	–	–	18 982	–	(2 682)	16 300	225 934	
Hydrogen and Energy	185 240	(1 890)	–	–	–	–	–	–	183 350	
Bio-innovation	201 164	(5 031)	–	–	11 415	–	(2 885)	8 530	204 663	
Innovation Priorities and Instruments	826 879	(99 273)	–	–	(20 000)	–	(1 447)	(21 447)	706 159	
National Intellectual Property Management Office	55 776	(1 540)	–	–	–	–	–	–	54 236	
Office of the Deputy Director-General: Technology Innovation	5 316	(1 337)	–	–	–	–	–	–	3 979	
<b>Total</b>	<b>1 504 480</b>	<b>(129 542)</b>	<b>–</b>	<b>–</b>	<b>10 397</b>	<b>–</b>	<b>(7 014)</b>	<b>3 383</b>	<b>1 378 321</b>	
<b>Economic classification</b>										
<b>Current payments</b>	<b>84 221</b>	<b>(15 747)</b>	<b>–</b>	<b>–</b>	<b>(1 018)</b>	<b>–</b>	<b>(2 885)</b>	<b>(3 903)</b>	<b>64 571</b>	
Compensation of employees	60 866	(5 769)	–	–	–	–	(2 885)	(2 885)	52 212	
Goods and services	23 355	(9 978)	–	–	(1 018)	–	–	(1 018)	12 359	
<b>Transfers and subsidies</b>	<b>1 420 259</b>	<b>(113 795)</b>	<b>–</b>	<b>–</b>	<b>11 415</b>	<b>–</b>	<b>(4 129)</b>	<b>7 286</b>	<b>1 313 750</b>	
Departmental agencies and accounts	988 271	(113 795)	–	–	11 415	–	(4 129)	7 286	881 762	
Public corporations and private enterprises	116 492	–	–	–	–	–	–	–	116 492	
Non-profit institutions	315 496	–	–	–	–	–	–	–	315 496	
<b>Total</b>	<b>1 504 480</b>	<b>(129 542)</b>	<b>–</b>	<b>–</b>	<b>10 397</b>	<b>–</b>	<b>(7 014)</b>	<b>3 383</b>	<b>1 378 321</b>	

**Programme 3: International Cooperation and Resources**

Subprogramme	2020/21								
	R thousand	Appropriation	Adjustments appropriation	Second adjustments appropriation				Total second adjustments appropriation	Adjusted appropriation
				Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds		
Multilateral Cooperation and Africa	34 661	(7 110)	-	-	-	-	-	-	27 551
International Resources	69 955	(13 354)	-	-	-	-	-	-	56 601
Overseas Bilateral Cooperation	46 132	(13 413)	-	-	(1 372)	-	(2 973)	(4 345)	28 374
Office of the Deputy Director-General: International Cooperation and Resources	5 692	(1 416)	-	-	-	-	-	-	4 276
<b>Total</b>	<b>156 440</b>	<b>(35 293)</b>	<b>-</b>	<b>-</b>	<b>(1 372)</b>	<b>-</b>	<b>(2 973)</b>	<b>(4 345)</b>	<b>116 802</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>81 814</b>	<b>(20 368)</b>	<b>-</b>	<b>-</b>	<b>(1 372)</b>	<b>-</b>	<b>(2 973)</b>	<b>(4 345)</b>	<b>57 101</b>
Compensation of employees	62 724	(5 946)	-	-	-	-	(2 973)	(2 973)	53 805
Goods and services	19 090	(14 422)	-	-	(1 372)	-	-	(1 372)	3 296
<b>Transfers and subsidies</b>	<b>74 626</b>	<b>(14 925)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>59 701</b>
Departmental agencies and accounts	16 718	(5 368)	-	-	-	-	-	-	11 350
Non-profit institutions	57 908	(9 557)	-	-	-	-	-	-	48 351
<b>Total</b>	<b>156 440</b>	<b>(35 293)</b>	<b>-</b>	<b>-</b>	<b>(1 372)</b>	<b>-</b>	<b>(2 973)</b>	<b>(4 345)</b>	<b>116 802</b>

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

Subprogramme	2020/21								
	R thousand	Appropriation	Adjustments appropriation	Second adjustments appropriation				Total second adjustments appropriation	Adjusted appropriation
				Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds		
Human Capital and Science Promotions	2 707 929	(414 672)	-	-	-	-	(10 286)	(10 286)	282 971
Science Missions	247 400	(42 459)	-	-	-	-	(2 170)	(2 170)	202 771
Basic Science and Infrastructure	1 094 915	(250 804)	-	-	-	-	(87 085)	(87 085)	757 026
Astronomy	827 741	(362 329)	-	-	32 935	-	-	32 935	498 347
Office of the Deputy Director-General: Research, Development and Support	4 485	(352)	-	-	-	-	-	-	4 133
<b>Total</b>	<b>4 882 470</b>	<b>(1 070 616)</b>	<b>-</b>	<b>-</b>	<b>32 935</b>	<b>-</b>	<b>(99 541)</b>	<b>(66 606)</b>	<b>3 745 248</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>62 222</b>	<b>(10 394)</b>	<b>-</b>	<b>-</b>	<b>(1 548)</b>	<b>-</b>	<b>(2 170)</b>	<b>(3 718)</b>	<b>48 110</b>
Compensation of employees	45 779	(4 339)	-	-	-	-	(2 170)	(2 170)	39 270
Goods and services	16 443	(6 055)	-	-	(1 548)	-	-	(1 548)	8 840
<b>Transfers and subsidies</b>	<b>4 820 248</b>	<b>(1 060 222)</b>	<b>-</b>	<b>-</b>	<b>34 483</b>	<b>-</b>	<b>(97 371)</b>	<b>(62 888)</b>	<b>3 697 138</b>
Departmental agencies and accounts	4 560 030	(860 222)	-	-	34 483	-	(97 371)	(62 888)	3 636 920
Public corporations and private enterprises	260 218	(200 000)	-	-	-	-	-	-	60 218
<b>Total</b>	<b>4 882 470</b>	<b>(1 070 616)</b>	<b>-</b>	<b>-</b>	<b>32 935</b>	<b>-</b>	<b>(99 541)</b>	<b>(66 606)</b>	<b>3 745 248</b>

**Programme 5: Socioeconomic Innovation Partnerships**

Subprogramme	2020/21								Adjusted appropriation
	Appropriation	Adjustments appropriation	Second adjustments appropriation					Total second adjustments appropriation	
			Roll-overs	Unforeseeable/unavoidable <sup>1</sup>	Virements and shifts	Declared unspent funds	Other adjustments		
R thousand									
Sector Innovation and Green Economy	1 081 244	(65 282)	–	12 133	(36 532)	–	(4 304)	(28 703)	987 259
Innovation for Inclusive Development	383 814	(37 274)	–	28 438	–	–	(5 275)	23 163	369 703
Science and Technology Investment	36 970	(4 951)	–	–	–	–	–	–	32 019
Technology Localisation, Beneficiation and Advanced Manufacturing	388 143	(50 560)	–	4 428	(712)	–	–	3 716	341 299
Office of the Deputy Director-General: Socioeconomic Innovation Partnership	3 529	–	–	–	–	–	–	–	3 529
<b>Total</b>	<b>1 893 700</b>	<b>(158 067)</b>	<b>–</b>	<b>44 999</b>	<b>(37 244)</b>	<b>–</b>	<b>(9 579)</b>	<b>(1 824)</b>	<b>1 733 809</b>
<b>Economic classification</b>									
<b>Current payments</b>	<b>62 269</b>	<b>(4 951)</b>	<b>–</b>	<b>–</b>	<b>(2 761)</b>	<b>–</b>	<b>(2 474)</b>	<b>(5 235)</b>	<b>52 083</b>
Compensation of employees	52 230	(4 951)	–	–	–	–	(2 474)	(2 474)	44 805
Goods and services	10 039	–	–	–	(2 761)	–	–	(2 761)	7 278
<b>Transfers and subsidies</b>	<b>1 831 431</b>	<b>(153 116)</b>	<b>–</b>	<b>44 999</b>	<b>(34 483)</b>	<b>–</b>	<b>(7 105)</b>	<b>3 411</b>	<b>1 681 726</b>
Departmental agencies and accounts	614 876	(55 274)	–	44 999	–	–	(2 801)	42 198	601 800
Public corporations and private enterprises	1 216 555	(97 842)	–	–	(34 483)	–	(4 304)	(38 787)	1 079 926
<b>Total</b>	<b>1 893 700</b>	<b>(158 067)</b>	<b>–</b>	<b>44 999</b>	<b>(37 244)</b>	<b>–</b>	<b>(9 579)</b>	<b>(1 824)</b>	<b>1 733 809</b>

1. Unforeseeable and unavoidable expenditure in terms of section 6(1)(a) of the Appropriation Act (2020).

## Details of adjustments to the 2020 Estimates of National Expenditure

### Unforeseeable and unavoidable expenditure – R44.999 million

#### Programme 5: Socioeconomic Innovation Partnerships

An additional R28.438 million is allocated to the Human Science Research Council as part of the presidential employment intervention for recruiting 1 000 graduates to be health promotion agents.

An additional R4.329 million is allocated to the Council for Scientific and Industrial Research to train 350 graduates as environmental champions to conduct door-to-door community education and awareness campaigns; and an additional R4.428 million is allocated to provide experiential training to a targeted 150 graduates.

An additional R7.804 million is allocated to the programme for the department to appoint 400 unemployed graduates to the water graduate employment programme, implemented in partnership with the Water Research Commission.

**Virements and shifts within the vote****Programmes**

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>		
<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 1</b>		<b>(7 405)</b>	<b>Programme 1</b>		<b>640</b>
Goods and services	Travel and subsistence	(640)	Machinery and equipment	ICT equipment	640
	Operating leases, travel and subsistence, and venues and facilities	(6 765)	<b>Programme 2</b>		<b>6 765</b>
			Departmental agencies and accounts	Indigenous knowledge systems projects in the agriculture, health and water sectors	6 765
Shifts within the programme as a percentage of the programme budget		0.2%			
<b>Virements to other programmes as a percentage of the programme budget</b>		<b>1.9%</b>			
<b>Programme 2</b>		<b>(1 018)</b>	<b>Programme 2</b>		<b>1 018</b>
Goods and services	Travel and subsistence	(1 018)	Departmental agencies and accounts	Indigenous knowledge systems projects in the agriculture, health and water sectors	1 018
Shifts within the programme as a percentage of the programme budget		0.1%			
<b>Virements to other programmes as a percentage of the programme budget</b>		<b>0.0%</b>			
<b>Programme 3</b>		<b>(1 372)</b>	<b>Programme 2</b>		<b>1 372</b>
Goods and services	Travel and subsistence	(1 372)	Departmental agencies and accounts	Indigenous knowledge systems projects in the agriculture, health and water sectors	1 372
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>0.9%</b>			
<b>Programme 4</b>		<b>(1 548)</b>	<b>Programme 2</b>		<b>1 548</b>
Goods and services	Travel and subsistence	(1 548)	Departmental agencies and accounts	Indigenous knowledge systems projects in the agriculture, health and water sectors	1 548
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>0.0%</b>			
<b>Programme 5</b>		<b>(37 244)</b>	<b>Programme 1</b>		<b>2 049</b>
Goods and services	Travel and subsistence	(2 049)	Goods and services	Operating leases	2 049
	Travel and subsistence	(712)	<b>Programme 2</b>		<b>712</b>
			Departmental agencies and accounts	Indigenous knowledge systems projects in the agriculture, health and water sectors	712
Public corporations and private enterprises	Reclassification of funds incorrectly classified in the 2020 Supplementary Budget <sup>1</sup>	(34 483)	<b>Programme 4</b>		<b>34 483</b>
			Departmental agencies and accounts	National Research Foundation (Square Kilometre Array) <sup>1</sup>	34 483
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>2.0%</b>			
<b>Total</b>		<b>(48 587)</b>			<b>48 587</b>

1. National Treasury approval has been obtained.

**Other adjustments – R128.605 million****Adjustments to expenditure earmarked in the 2020 Budget and Supplementary Budget****Programme 1: Administration**

A reduction of R9.498 million is effected on compensation of employees.

**Programme 2: Technology Innovation**

A reduction of R2.885 million is effected on compensation of employees. Reductions on transfers to the South African National Space Agency (R2.682 million) and the Technology Innovation Agency (R1.447 million) are effected.

**Programme 3: International Cooperation and Resources**

A reduction of R2.973 million is effected on compensation of employees.

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

A reduction of R2.17 million is effected on compensation of employees. Reductions on transfers to the Academy of Science of South Africa (R268 000) and the National Research Foundation (R10.018 million) are effected.

**Programme 5: Socioeconomic Innovation Partnerships**

A reduction of R2.474 million is effected on compensation of employees. Reductions on transfers to the Council for Scientific and Industrial Research (R4.304 million) and the Human Sciences Research Council (R2.801 million) are effected.

**Funds shifted between votes**

R87.085 million is transferred to the Department of Public Enterprises for the implementation of the South African Airways business rescue plan in terms of section 30(2)(e) of the Public Finance Management Act (1999).

**Expenditure outcome for 2019/20 and actual expenditure for 2020/21**

Programme	2019/20					2020/21				
	Adjusted appropriation	Outcome				Adjusted appropriation	Adjusted appropriation/ Total (%)	Actual expenditure		
		Apr 19 - Sep 19	% of adjusted appropriation	Apr 19 - Mar 20	% of adjusted appropriation			Apr 20 - Sep 20	% of adjusted appropriation	
R thousand										
Administration	391 317	153 888	39.3	352 076	90.0	304 107	4.2	107 641	35.4	
Technology Innovation	1 224 305	469 581	38.4	1 236 673	101.0	1 378 321	18.9	653 262	47.4	
International Cooperation and Resources	149 008	56 053	37.6	136 027	91.3	116 802	1.6	30 558	26.2	
Research, Development and Support	4 572 935	2 555 714	55.9	4 578 431	100.1	3 745 248	51.5	2 056 241	54.9	
Socioeconomic Innovation Partnerships	1 834 739	881 139	48.0	1 778 196	96.9	1 733 809	23.8	864 306	49.9	
<b>Subtotal</b>	<b>8 172 304</b>	<b>4 116 375</b>	<b>50.4</b>	<b>8 081 403</b>	<b>98.9</b>	<b>7 278 287</b>	<b>100.0</b>	<b>3 712 008</b>	<b>51.0</b>	
<b>Total</b>	<b>8 172 304</b>	<b>4 116 375</b>	<b>50.4</b>	<b>8 081 403</b>	<b>98.9</b>	<b>7 278 287</b>	<b>100.0</b>	<b>3 712 008</b>	<b>51.0</b>	

**Expenditure outcome for 2019/20 and actual expenditure for 2020/21**

Programme	2019/20					2020/21			
	Adjusted appropriation	Outcome				Adjusted appropriation	Adjusted appropriation/ Total (%)	Actual expenditure	
		Apr 19 - Sep 19	Apr 19 - Sep 19	Apr 19 - Mar 20	Apr 19 - Mar 20			Apr 20 - Sep 20	Apr 20 - Sep 20
R thousand	Adjusted appropriation	Apr 19 - Sep 19	% of adjusted appropriation	Apr 19 - Mar 20	% of adjusted appropriation	Adjusted appropriation	Adjusted appropriation/ Total (%)	Apr 20 - Sep 20	% of adjusted appropriation
<b>Economic classification</b>									
<b>Current payments</b>	<b>645 661</b>	<b>252 977</b>	<b>39.2</b>	<b>558 707</b>	<b>86.5</b>	<b>506 974</b>	<b>7.0</b>	<b>196 080</b>	<b>38.7</b>
Compensation of employees	389 105	168 189	43.2	336 658	86.5	361 993	5.0	155 192	42.9
Goods and services	256 556	84 788	33.0	222 049	86.5	144 981	2.0	40 888	28.2
<b>Transfers and subsidies</b>	<b>7 523 880</b>	<b>3 857 142</b>	<b>51.3</b>	<b>7 514 812</b>	<b>99.9</b>	<b>6 767 909</b>	<b>93.0</b>	<b>3 514 799</b>	<b>51.9</b>
Departmental agencies and accounts	5 605 284	3 216 053	57.4	5 165 306	92.2	5 131 832	70.5	2 839 772	55.3
Public corporations and private enterprises	1 541 908	566 373	36.7	1 811 667	117.5	1 256 636	17.3	520 010	41.4
Non-profit institutions	376 133	72 726	19.3	533 590	141.9	379 441	5.2	154 703	40.8
Households	555	1 990	358.6	4 249	765.6	–	–	314	–
<b>Payments for capital assets</b>	<b>2 763</b>	<b>6 247</b>	<b>226.1</b>	<b>7 775</b>	<b>281.4</b>	<b>3 404</b>	<b>0.0</b>	<b>1 061</b>	<b>31.2</b>
Machinery and equipment	2 763	6 247	226.1	7 775	281.4	3 404	0.0	1 061	31.2
<b>Payments for financial assets</b>	<b>–</b>	<b>9</b>	<b>–</b>	<b>109</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>68</b>	<b>–</b>
<b>Total</b>	<b>8 172 304</b>	<b>4 116 375</b>	<b>50.4</b>	<b>8 081 403</b>	<b>98.9</b>	<b>7 278 287</b>	<b>100.0</b>	<b>3 712 008</b>	<b>51.0</b>

**Expenditure trends**

Total expenditure in 2019/20 was R8.1 billion, 98.9 per cent of the adjusted appropriation for the year. Mid-year expenditure in 2019/20 was R4.1 billion, 50.4 per cent of the 2019/20 adjusted appropriation, whereas expenditure in the first half of 2020/21 was R3.7 billion, 51 per cent of the adjusted appropriation of R7.3 billion for the year. Compared to the first half of 2019/20, expenditure over the same period in 2020/21 decreased by R404.4 million, 9.8 per cent. This was mainly due to a decrease in the number of research and development initiatives conducted as a result of the COVID-19 lockdown.

**Departmental receipts**

Programme	2019/20					2020/21				
	Adjusted estimate	Outcome				Budget estimate	Adjusted estimate	Adjusted receipts estimate/ Total (%)	Actual receipts	
		Apr 19 - Sep 19	Apr 19 - Sep 19	Apr 19 - Mar 20	Apr 19 - Mar 20				Apr 20 - Sep 20	Apr 20 - Sep 20
R thousand	Adjusted estimate	Apr 19 - Sep 19	% of adjusted estimate	Apr 19 - Mar 20	% of adjusted estimate	Budget estimate	Adjusted estimate	Adjusted receipts estimate/ Total (%)	Apr 20 - Sep 20	% of adjusted estimate
<b>Departmental receipts</b>	<b>20 081</b>	<b>16 040</b>	<b>79.9</b>	<b>19 416</b>	<b>96.7</b>	<b>545</b>	<b>2 076</b>	<b>100.0</b>	<b>1 570</b>	<b>75.6</b>
Sales of goods and services produced by department	66	27	40.9	69	104.5	35	60	2.9	34	56.7
Sales of scrap, waste, arms and other used current goods	–	–	–	–	–	–	3	0.1	2	66.7
Interest, dividends and rent on land	15	2	13.3	13	86.7	10	10	0.5	1	10.0
Transactions in financial assets and liabilities	20 000	16 011	80.1	19 334	96.7	500	2 003	96.5	1 533	76.5
<b>Total</b>	<b>20 081</b>	<b>16 040</b>	<b>79.9</b>	<b>19 416</b>	<b>96.7</b>	<b>545</b>	<b>2 076</b>	<b>100.0</b>	<b>1 570</b>	<b>75.6</b>

## Revenue trends

Mid-year revenue in 2019/20 was R16 million, 79.9 per cent of the 2019/20 adjusted estimate, whereas revenue in the first half of 2020/21 was R1.6 million, 75.6 per cent of the adjusted estimate of R2.1 million for the year. Compared to the first half of 2019/20, revenue over the same period in 2020/21 decreased by R14.5 million, 90.2 per cent. This was mainly due to a decrease in revenue from projects run by entities.

## Changes to transfers and subsidies, including conditional grants

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

R thousand	2020/21									
	Appropriation	Special appropriation	Adjustments appropriation	Second adjustments appropriation					Total second adjustments appropriation	Adjusted appropriation
				Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds	Other adjustments		
<b>Technology Innovation</b>										
<b>Departmental agencies and accounts</b>										
<b>Departmental agencies (non-business entities)</b>										
<b>Current</b>	<b>916 153</b>	–	<b>(113 795)</b>	–	–	<b>11 415</b>	–	<b>(4 129)</b>	<b>7 286</b>	<b>809 644</b>
Various institutions: Innovation projects research	241 376	–	(50 000)	–	–	(20 000)	–	–	(20 000)	171 376
Various institutions: Space science research: Economic competitiveness and support package	31 441	–	–	–	–	20 000	–	–	20 000	51 441
Technology Innovation Agency	455 858	–	(45 586)	–	–	–	–	(1 447)	(1 447)	408 825
South African National Space Agency	182 087	–	(18 209)	–	–	–	–	(2 682)	(2 682)	161 196
National Research Foundation: Research and development in indigenous knowledge systems	5 391	–	–	–	–	11 415	–	–	11 415	16 806
<b>International Cooperation and Resources</b>										
<b>Departmental agencies and accounts</b>										
<b>Departmental agencies (non-business entities)</b>										
<b>Current</b>	<b>16 718</b>	–	<b>(5 368)</b>	–	–	–	–	–	–	<b>11 350</b>
National Research Foundation: Bilateral cooperation for global science development	16 718	–	(5 368)	–	–	–	–	–	–	11 350

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

		2020/21								
		Second adjustments appropriation							Total second adjustments appropriation	Adjusted appropriation
R thousand	Appropriation	Special appropriation	Adjustments appropriation	Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds	Other adjustments		
<b>Non-profit institutions</b>										
<b>Current</b>										
	47 557	-	(9 557)	-	-	-	-	-	-	38 000
Various institutions:	47 557	-	(9 557)	-	-	-	-	-	-	38 000
Global science: International multilateral agreements										
<b>Research, Development and Support Departmental agencies and accounts</b>										
<b>Departmental agencies (non-business entities)</b>										
<b>Current</b>										
	2 897 726	-	(451 544)	-	-	-	-	(10 286)	(10 286)	2 435 896
Academy of Science of South Africa	27 898	-	(2 790)	-	-	-	-	(268)	(268)	24 840
National Research Foundation: Human resources development for science and engineering	993 972	-	(200 000)	-	-	-	-	-	-	793 972
National Research Foundation	966 097	-	(96 610)	-	-	-	-	(10 018)	(10 018)	859 469
Various institutions: Science awareness, research and initiatives to encourage youth participation in science	85 498	-	(52 000)	-	-	-	-	-	-	33 498
National Research Foundation: South African research chairs initiative to develop human resources in science	593 508	-	(60 000)	-	-	-	-	-	-	533 508
Various institutions: Strategic science platforms for research and development	230 753	-	(40 144)	-	-	-	-	-	-	190 609
<b>Capital</b>	<b>1 574 599</b>	<b>-</b>	<b>(408 678)</b>	<b>-</b>	<b>-</b>	<b>34 483</b>	<b>-</b>	<b>(87 085)</b>	<b>(52 602)</b>	<b>1 113 319</b>
Various institutions: Infrastructure projects for research and development	793 821	-	(50 000)	-	-	-	-	(87 085)	(87 085)	656 736
National Research Foundation: Square Kilometre Array: Capital contribution to research	780 778	-	(358 678)	-	-	34 483	-	-	34 483	456 583

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

		2020/21								
		Second adjustments appropriation					Total second adjustments appropriation		Adjusted appropriation	
R thousand	Appropriation	Special appropriation	Adjustments appropriation	Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds	Other adjustments		
<b>Public corporations and private enterprises</b>										
<b>Public corporations</b>										
<b>Other transfers</b>										
<b>Capital</b>										
	260 218	–	(200 000)	–	–	–	–	–	–	60 218
Council for Scientific and Industrial Research:	260 218	–	(200 000)	–	–	–	–	–	–	60 218
Cyberinfrastructure research and development										
<b>Socioeconomic Innovation Partnerships</b>										
<b>Departmental agencies and accounts</b>										
<b>Departmental agencies (non-business entities)</b>										
<b>Current</b>										
	496 819	–	(55 274)	–	44 999	–	–	(2 801)	42 198	483 743
Various institutions:	64 978	–	(18 000)	–	–	–	–	–	–	46 978
Economic competitiveness and support package: Local systems of innovation for the cold chain technologies project										
Various institutions:	46 375	–	(4 815)	–	28 438	–	–	–	28 438	69 998
Innovative research and development										
Human Sciences Research Council	324 585	–	(32 459)	–	–	–	–	(2 801)	(2 801)	289 325
Various institutions:	30 067	–	–	–	4 428	–	–	–	4 428	34 495
Local manufacturing capacity research and technical support										
Various institutions:	30 814	–	–	–	12 133	–	–	–	12 133	42 947
Environmental innovation										
<b>Public corporations and private enterprises</b>										
<b>Public corporations</b>										
<b>Subsidies on production or products</b>										
<b>Current</b>										
	997 650	–	(99 765)	–	–	–	–	(4 304)	(4 304)	893 581
Council for Scientific and Industrial Research	997 650	–	(99 765)	–	–	–	–	(4 304)	(4 304)	893 581

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

		2020/21									
		Second adjustments appropriation							Total second adjustments appropriation	Adjusted appropriation	
R thousand	Appropriation	Special appropriation	Adjustments appropriation	Roll-overs	Unforeseeable/unavoidable	Virements and shifts	Declared unspent funds	Other adjustments			
	<b>Public corporations and private enterprises</b>										
	<b>Public corporations</b>										
	<b>Other transfers</b>										
	<b>Current</b>										
		<b>218 905</b>	–	<b>1 923</b>	–	–	<b>(34 483)</b>	–	–	<b>(34 483)</b>	<b>186 345</b>
	Various institutions:										
	Advanced manufacturing technology strategy implementation	61 561	–	(3 985)	–	–	–	–	–	–	57 576
	Various institutions:										
	Information and communications technology Council for Scientific and Industrial Research: Mining research and development	39 839	–	34 483	–	–	(34 483)	–	–	(34 483)	39 839
	Various institutions:										
	Resource-based industries research and development	62 034	–	(20 375)	–	–	–	–	–	–	41 659
	Various institutions:										
	Resource-based industries research and development	55 471	–	(8 200)	–	–	–	–	–	–	47 271