

ESA Council at ministerial level  
Paris, 22-23 November 2022

## **Follow-up and debriefing to the Belgian space actors**

### **Belgian Science Policy**

Residence Palace, Brussels  
22 December 2022

# Agenda

08:45 – Arrival

09:15 – Results of socio-economic study 2022

10:15 – Intervention by State Secretary Th. Dermine

10:30 – Panel discussion

11:15 – Intervention by Astronaut R. Liégeois

11:30 – Debriefing of CM-ESA 2022

12:30 – Reception

14:30 – Closure

# Panel discussion

Space for earth and society

Space for knowledge and business

Space for inspiration

Strategic autonomy

# Debriefing CM-ESA 2022

# Belgian Process

- **Main milestones**

- Definition of BE level of resources 2023-2027 (May 2022)
- First information to BE CM (11 July 2022)
- Information meeting for BE space actors (30 Sept 2022)
- Budgetary conclave (Oct 2022)
- Final proposal to BE CM (18 Nov 2022)

- **Decisions by BE CM**

- BE level of resources increased by 385 M€ for the period 2023-2027
- Participation to ESA programmes
- Reporting of the decisions to BE CM

# Level of resources for Belgium Period 2023-2027 (e.c. 2022)

- Total 2023-2027 space BE:  
 $1243,83 \text{ M€} + 385,00 \text{ M€} = \mathbf{1628,83 \text{ M€}}$   
 $\rightarrow \mathbf{\sim 325 \text{ M€/y}}$ 
  - ESA:  $\sim 295 \text{ M€/y}$
  - Intergovernmental (Eumetsat, ECMWF, ESO):  $\sim 20 \text{ M€/y}$
  - EU, Bilateral, National:  $\sim 10 \text{ M€/y}$

# Budget allocation for Belgium Period 2023-2027 (e.c. 2022)

- Previous commitments (“Inéluctables”)
  - **796,97 M€**
- New commitments for ESA programmes
  - **804,42 M€** (832,35 M€ for full duration of programmes)
  - See details here after
- New commitments for other space programmes
  - **27,45 M€** (28,50 M€ for full duration of programmes)
  - See details here after







# Resolutions

- 1) ESA Accelerating the Use of Space in Europe
- 2) Level of Resources for the Agency's Mandatory Activities 2023-2027
- 3) CSG (2023-2027)
- 4) ESA programmes and activities

# Mandatory Activities and CSG 2023-2027

Programme	Envelope (M€)	BE (M€)	Compared to “Inéluctables” 2023-2027
Basic Activities (c.e.c.)	1616,00	45,25 (GNP <sup>1</sup> )	+ 149,14 M€ ESA + 5,52 M€ BE
Science Programme (c.e.c.)	3186,00	89,21 (GNP <sup>1</sup> )	+ 306,00 M€ ESA + 8,50 M€ BE
CSG (e.c. 2022)	593,00	20,22 (3,41 %)	+ 371,86 M€ ESA <sup>2</sup> + 12,64 M€ BE <sup>2</sup>
Total		154,68	+ 26,65 M€ @ new commitments BE

<sup>1</sup> BE GNP period 2021-2023 = 2.80 %

<sup>2</sup> “Inéluctables” for CSG defined only till 2024 (2025-2027 not covered)

# Scientific Support (c.e.c)

Programme	Envelope (M€)	Covered (M€)	BE (M€)	Rem.
PRODEX	open	165,90	78,00	Till 2026

# Exploration (e.c. 2022)

Programme	Envelope (M€)	Covered (M€)	BE (M€)	Rem.
<b>E3P Period 3</b>	<b>2980,00</b>	<b><sup>1</sup>2707,36</b>	<b>132,00</b>	
- Humans in LEO (+ SciSpaceE)	<b>1200,00</b>	<b>979,31</b>	<b>46,00</b>	
- Humans beyond LEO	<b>460,00</b>	<b>393,80</b>	<b>35,00</b>	
- Lunar Robotic Exploration	<b>390,00</b>	<b>329,45</b>	<b>23,00</b>	
- Mars Robotic Exploration	<b>850,00</b>	<b>792,10</b>	<b>25,00</b>	Firewall
- ExPeRT	<b>80,00</b>	<b>61,40</b>	<b>3,00</b>	

<sup>1</sup> Includes contributions not assigned to sub-elements

# Earth Observation (e.c. 2022) (1/2)

<b>Programme</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
<b>Future EO-1 Segment 2</b>	<b>1590,00</b>	<b>1222,87</b>	<b>48,00</b>
<b>Copernicus Space Component-4 Ph 2</b>	<b>616,00</b>	<b>641,15</b>	<b>13,00</b>
<b>Aeolus-2</b>	<b>405,00</b>	<b>413,80</b>	<b>9,00</b>
<b>Truths Phase B2/C0</b>	<b>202,00</b>	<b>174,99</b>	<b>0,00</b>

# Earth Observation (e.c. 2022) (2/2)

Programme	Envelope (M€)	Covered (M€)	BE (M€)	Rem.
Climate-Space Ph 1	81,00	86,96	6,50	
Digital Twins Earth	50,00	48,62	2,50	
InCubed-2	86,00	68,40	1,50	
Altius Completion	-	20,90	20,00	+ 4 M€ PRODEX

# Telecom & Integrated Appl (e.c. 2022) (1/2)

<b>ARTES 4.0</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
GPL-FP	45,00	23,15	1,00
GPL-CC	255,00	336,43	59,00
GPL-Partner	200,00	43,10	2,00
GPL-BASS	200,00	126,98	10,00
SPL-5G/6G	185,00	149,76	15,00
SPL-4S	185,00	211,64	25,00
SPL-ScyLight	255,00	194,10	5,00
<b>Total</b>	<b>1325,00</b>	<b>1085,16</b>	<b>117,00</b>



# Telecom & Integrated Appl (e.c. 2022) (2/2)

Programmes	Envelope (M€)	Covered (M€)	BE (M€)
<b>Moonlight</b>	<b>225,00</b>	<b>152,82</b>	<b>0,00</b>
<b>Civil Security from Space</b>	<b>100,00</b>	<b>28,95</b>	<b>10,50</b>
- Line 1 Telecom	-	11,20	5,25
- Line 2 EO	-	17,75	5,25
<b>Secure Connectivity</b>	<b>750,00</b>	<b>643,92</b>	<b>24,00</b>
- Element 1 Ph 1	35,00	30,92	0,75
- Element 1 Ph 2	685,00	613,00	23,25
- Element 2	30,00	0,00	0,00

# Navigation (e.c. 2022)

Programme	Envelope (M€)	Covered (M€)	BE (M€)	Rem.
<b>NAVISP</b>	<b>120,00</b>	<b>101,13</b>	<b>3,50</b>	
- Element 1	30,00	27,41	0,00	
- Element 2	60,00	52,67	1,75	
- Element 3	30,00	21,05	1,75	
<b>LEO PNT</b>	<b>100,00</b>	<b>151,38</b>	<b>5,00</b>	
<b>GENESIS</b>	<b>80,00</b>	<b>64,52</b>	<b>21,00</b>	+ 4 M€ PRODEX

# Space Safety (e.c. 2022)

Programme	Envelope (M€)	Covered (M€)	BE (M€)
<b>S2P Period 2</b>	<b>910,00</b>	<b><sup>1</sup>733,03</b>	<b>51,00</b>
- COSMIC	335,00	184,85	26,00
- VIGIL	223,00	160,10	3,00
- HERA Ph 2	185,00	180,43	22,00
- ADRIOS Ph 2	167,00	183,86	0,00

<sup>1</sup> Includes contributions not assigned to sub-elements

# Space Transportation (e.c. 2022) (1/3)

<b>Ariane &amp; Vega</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
<b>Ariane-6 Product Adaptations</b>	<b>405,00</b>	<b>357,60</b>	<b>7,00</b>
<b>Vega-C Product Adaptations</b>	<b>140,00</b>	<b>114,10</b>	<b>2,00</b>
<b>Vega-E Development</b>	<b>365,00</b>	<b>321,18</b>	<b>18,58</b>
<b>P120C Product Adaptations</b>	<b>202,00</b>	<b>202,00</b>	<b>0,00</b>
<b>Ariane-6 and P120C Transition Step-3</b>	<b>195,00</b>	<b>209,55</b>	<b>13,00</b>
<b>Ariane-6 LEAP-Classical</b>	<b>318,33</b>	<b>274,84</b>	<b>15,00</b>
<b>Vega LEAP-Classical</b>	<b>92,00</b>	<b>75,61</b>	<b>5,00</b>
<b>A5 LEAP-Supplementary</b>	<b>80,00</b>	<b>33,11</b>	<b>3,52</b>
<b>Total</b>	<b>1797,33</b>	<b>1587,99</b>	<b>64,10</b>

# Space Transportation (e.c. 2022) (2/3)

<b>Future Launchers Preparation (FLPP)</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
<b>Technology Disruptors and Space Logistics</b>	<b>120,00</b>	<b>152,67</b>	<b>12,85</b>
<b>Prometheus</b>	<b>238,00</b>	<b>228,16</b>	<b>15,00</b>
<b>Themis/Reusability</b>	<b>220,00</b>	<b>84,40</b>	<b>8,00</b>
<b>Reusable Upper Stage Demonstration</b>	<b>80,00</b>	<b>49,74</b>	<b>3,00</b>
<b>Human Space Transportation</b>	<b>30,00</b>	<b>20,50</b>	<b>1,00</b>
<b>Total</b>	<b>688,00</b>	<b>535,47</b>	<b>39,85</b>

# Space Transportation (e.c. 2022) (3/3)

<b>Commercial Services and Support (Boost!)</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
Boost!-1	85,00	43,81	2,00
Boost!-2	5,00	4,24	0,00
Boost!-3	50,00	31,20	0,00
<b>Total</b>	<b>140,00</b>	<b>79,25</b>	<b>2,00</b>

<b>Space Rider 3.1</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
CSI Element	102,00	84,50	2,00
Evolution Element	8,00	0,00	0,00
<b>Total</b>	<b>110,00</b>	<b>84,50</b>	<b>2,00</b>

# Technology and Operations (c.e.c)

<b>GSTP</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
<b>Develop (+ Cyber Resilience + Solaris)</b>	<b>225,00</b>	<b>243,94</b>	<b>55,00</b>
<b>Make</b>	<b>75,00</b>	<b>121,40</b>	<b>48,00</b>
<b>Fly</b>	<b>60,00</b>	<b>63,70</b>	<b>2,50</b>
<b>EEE</b>	<b>155,00</b>	<b>76,18</b>	<b>25,00</b>
<b>ENDURE</b>	<b>40,00</b>	<b>29,30</b>	<b>1,00</b>
<b>Total</b>	<b>555,00</b>	<b>534,52</b>	<b>131,50</b>

# Commercialisation (e.c. 2022)

<b>ScaleUp</b>	<b>Envelope (M€)</b>	<b>Covered (M€)</b>	<b>BE (M€)</b>
Inovate	80,00	96,60	4,00
Invest	20,00	21,00	11,00
<b>Total</b>	<b>100,00</b>	<b>117,60</b>	<b>15,00</b>



## ESA others (c.e.c)

Programme	Envelope (M€)	Covered (M€)	BE (M€)
NTP	-	-	0,75
Education	-	-	8,00

# Other (non ESA) programmes

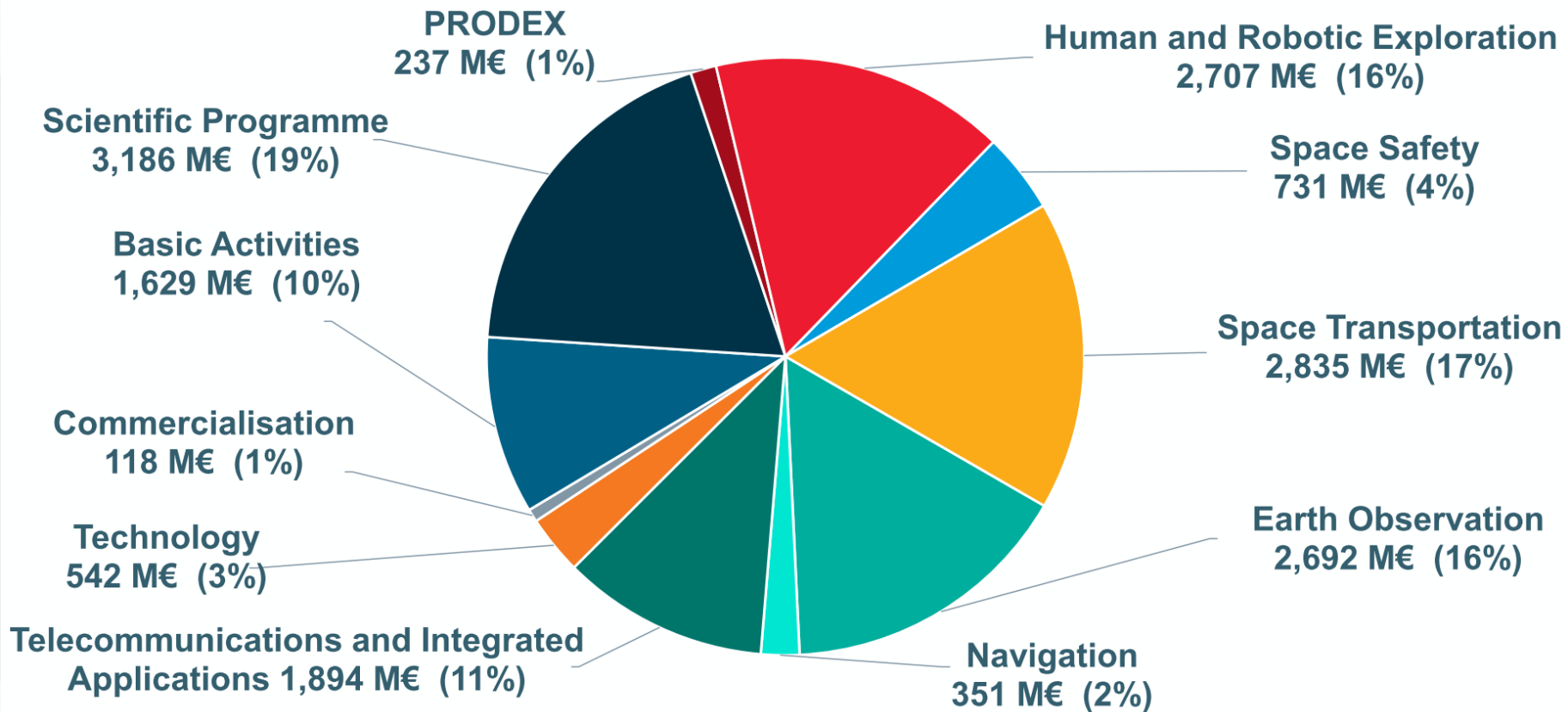
<b>Programme</b>	<b>BE (M€)</b>
<b>EU co-funded</b>	<b>7,00</b>
<b>Terrascope</b>	<b>20,00</b>

# GLOBAL ESA<sup>1</sup>

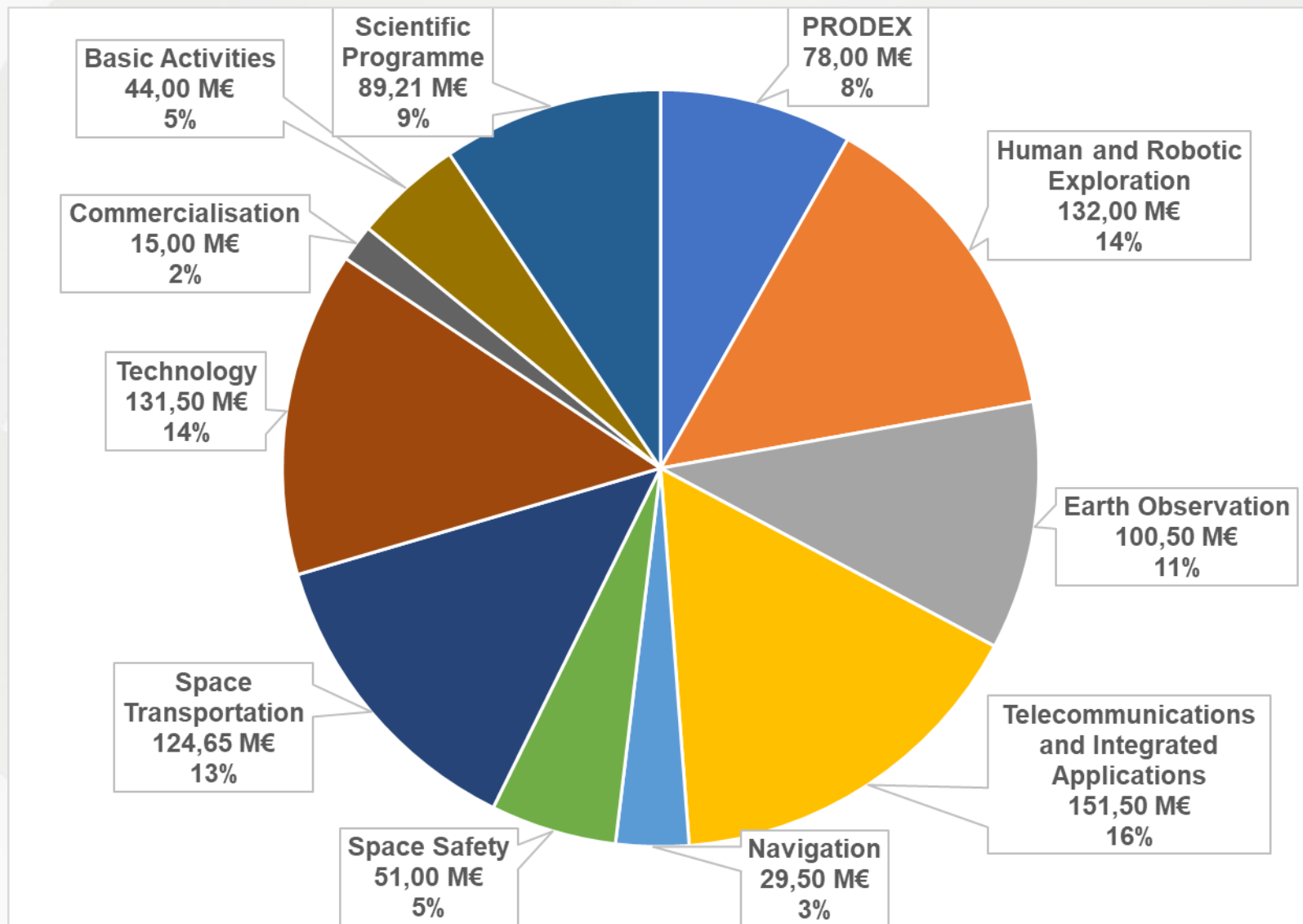
CM-ESA	2016	2019	2022
ESA Mandatory	4,25 B€	4,74 B€	4,81 B€
ESA Optional (+ CSG)	6,03 B€	9,65 B€	12,11 B€
ESA Total	10,28 B€	14,39 B€	16,92 B€
BE Total @ ESA	580,84 M€ (5,65 %)	817,61 M€ (5,68 %)	946,86 M€ (5,60 %)

<sup>1</sup> Such as in ESA official communication: include full Level of Resources for Mandatory Activities and CSG over 5 years, Additional and Future Contributions, To Be Allocated and transfers.

# ESA subscriptions = 16,92 B€



# BE subscriptions = 946,86 M€



# 2019 vs 2022 per domain

Domain	CM19	CM22
	M€, 2019 economic conditions	M€, 2022 economic conditions
Scientific Programme*	2,823	3,186
PRODEX*	244	237
Human and Robotic Exploration	1,972	2,707
Earth Observation	2,607	2,692
Telecommunications and Integrated Applications	1,590	1,894
Navigation	73	351
Space Safety	455	731
Space Transportation	2,758	2,835
Basic Activities*	1,407	1,629
Technology*	582	542
Commercialisation	-	118
<b>Total</b>	<b>14,511</b>	<b>16,923</b>

\* In current economic conditions

Inflation 2019 to 2022 = 3.8%

# 2019 vs 2022 per Member State

Member State	Subscriptions (M€)		Delta (M€)	Delta (%)
	Space19+ 2019 e.c.	CM22 2022 e.c.		
Austria	190	<b>229</b>	39	21%
Belgium	816	<b>946</b>	130	16%
Czech Republic	150	<b>146</b>	-4	-3%
Denmark	128	<b>136</b>	7	6%
Estonia	9	<b>26</b>	17	186%
Finland	110	<b>148</b>	38	35%
France	2664	<b>3202</b>	538	20%
Germany	3294	<b>3512</b>	217	7%
Greece	84	<b>87</b>	3	4%
Hungary	97	<b>87</b>	-10	-10%
Ireland	81	<b>96</b>	15	18%
Italy	2282	<b>3083</b>	801	35%
Luxembourg	129	<b>131</b>	3	2%
Netherlands	345	<b>465</b>	121	35%

Member State	Subscriptions (M€)		Delta (M€)	Delta (%)
	Space19+ 2019 e.c.	CM22 2022 e.c.		
Norway	284	<b>281</b>	-3	-1%
Poland	166	<b>197</b>	31	18%
Portugal	102	<b>114</b>	12	12%
Romania	168	<b>122</b>	-46	-27%
Spain	852	<b>932</b>	80	9%
Sweden	244	<b>317</b>	74	30%
Switzerland	542	<b>634</b>	92	17%
United Kingdom	1655	<b>1892</b>	237	14%
Latvia		<b>3</b>	3	
Lithuania		<b>5</b>	5	
Slovakia		<b>12</b>	12	
Slovenia	5	<b>20</b>	15	284%
Canada	114	<b>98</b>	-16	-14%
<b>TOTAL</b>	<b>14511</b>	<b>16923</b>	<b>2411</b>	<b>17%</b>

**Thank you**