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| **Component 1.3: HIGH CAPACITY DIGTAL NETWORK** | |
| **Investment/ reform CID reference** | **Reform 1** |
| **Investment/ reform name** | **Improving the environment for the deployment of electronic communications networks** |
| **Type of change compared to CID** | [modified] |
| **Legal base of the change (select at least one)** | Article 14(2) – loan request  Article 18(2) – update of the maximum financial contribution  Article 21 – amendment due to objective circumstances  Article 21a – REPowerEU non-repayable financial support (ETS revenue)  Article 21b (2) – BAR transfers  ☐ None of the above, correction of clerical error |
| **Elements modified (only for modified measures)** | Component / Measure description  Milestones and targets  Estimated cost  Green and digital tagging (potentially relevant, because there is a substantive change to the underlying measure)  DNSH self-assessment |

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| **Reform 1: Improving the environment for the deployment of electronic communications networks Mileston 32** | | |
| *Description and justification of the change* | | |
| **Modified elements** | **Current version** | **Amended version** |
| ***Component and / or measure description*** | *1.3 Digital high capacity networks/ Reform 1 - Improving the environment for the deployment of electronic communications networks* | *No change* |
| ***Milestones and targets*** | *Entry into force of measures prepared by the Ministry of Industry and Trade aimed at establishing a database of investment project plans and increasing the number of network quality measurements* | *No change* |
| ***Estimated cost*** | *CZK 1.6 bn* | ***CZK 1.884 bn*** |
| ***Green and digital tagging*** | *No change* | *No change* |
| ***DNSH self-assessment*** | *No change* | *No change* |

The costing prepared in 2021 was based on the assumed prices indicated in the project studies of projects submitted under OP PIK (2014 – 2020). Now, in 2023, the projects are already implemented and we have more precise information on the prices and methods used for mapping (see 1.3\_33,34,39\_Calculation Methodology for Costing\_review).

We ask to increase the allocation of CZK 284million for the DTM implementation.

The new allocation for the part of component 1.3.1 must therefore be CZK 1.884 billion.

**The funds for higher allocation will be drawn from the funds remaining after the target achievement in component 1.5.1.3 (both has 100 % digital tag).**

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| **Component 1.3: HIGH CAPACITY DIGTAL NETWORK** | |
| **Investment/ reform CID reference** | **Investment 1** |
| **Investment/ reform name** | **Building high-capacity connections** |
| **Type of change compared to CID** | [modified] |
| **Legal base of the change (select at least one)** | Article 14(2) – loan request  Article 18(2) – update of the maximum financial contribution  Article 21 – amendment due to objective circumstances  Article 21a – REPowerEU non-repayable financial support (ETS revenue)  Article 21b (2) – BAR transfers  ☐ None of the above, correction of clerical error |
| **Elements modified (only for modified measures)** | Component / Measure description  Milestones and targets  Estimated cost  Green and digital tagging (potentially relevant, because there is a substantive change to the underlying measure)  DNSH self-assessment |

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| **Investment 1: Building high-capacity connections – Target 39** | | |
| *Description and justification of the change* | | |
| **Modified elements** | **Current version** | **Amended version** |
| ***Component and / or measure description*** | - | No change |
| ***Milestones and targets*** | The infrastructure to increase the number of address points connected with the very high capacity network (VHCN) shall be constructed, increasing the number of address points connected by 23 000. The very high capacity network shall be in line with the BEREC Guidelines on Very High Capacity Networks. | No change |
| ***Estimated cost*** | CZK 2.85 bn | **CZK 3.466 bn** |
| ***Green and digital tagging*** | No change | No change |
| ***DNSH self-assessment*** | No change | No change |

The costing prepared in 2021 was based on the assumed prices indicated in the project studies of projects submitted under OP PIK (2014 – 2020).

The cost of supplies and construction works grew rapidly between 2019 - 2023 that is why the OP PIK prices can’t be used. Now, in 2023, we use up to date prices declared in the projects submitted under Call for Proposals under RRF support. The prices are based on current proposals from suppliers and precisely declare the growth (see 1.3\_33,34,39\_Calculation Methodology for Costing\_review).

We ask to increase the allocation of CZK 616 million for the implementation.

**The funds for higher allocation will be drawn from the funds remaining after the target achievement in component 1.5.1.3 (both has 100 % digital tag).**

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| **Component 1.3: HIGH CAPACITY DIGTAL NETWORK** | |
| **Investment/ reform CID reference** | **Investment 2** |
| **Investment/ reform name** | **Covering 5G corridors and promoting the development of 5G** |
| **Type of change compared to CID** | [modified] |
| **Legal base of the change (select at least one)** | Article 14(2) – loan request  Article 18(2) – update of the maximum financial contribution  Article 21 – amendment due to objective circumstances  Article 21a – REPowerEU non-repayable financial support (ETS revenue)  Article 21b (2) – BAR transfers  ☐ None of the above, correction of clerical error |
| **Elements modified (only for modified measures)** | Component / Measure description  Milestones and targets  Estimated cost  Green and digital tagging (potentially relevant, because there is a substantive change to the underlying measure)  DNSH self-assessment |

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| **Investment 2: Covering 5G corridors and promoting the development of 5G – Target 40** | | |
| *Description and justification of the change* | | |
| **Modified elements** | **Current version** | **Amended version** |
| ***Component and / or measure description*** | *This measure aims at enhancing the 5G coverage of transport corridors via investments in equipment, as well as on research and development.*  *In pursuit of this objective, the following measures shall be completed:*   * *Increasing the coverage of rail corridors with an improved 5G signal. Based on a mapping of 4G coverage carried out by the Czech Telecommunications Office, intervention areas shall be proposed by 30 September 2021, ensuring that these would not be covered by telecoms operators in the market within 3 years. The following rail corridors shall be covered: Prague – Česká Třebová – Ostrava, Prague – Ústí nad Labem, Prague – Plzeň, Prague – České Budějovice, and Česká Třebová – Brno.* * *Equipping at least 350 railway wagons with repeaters or passive walls for 5G signals. The contractors shall be selected following a call for tenders based on a study on the scope and feasibility of the project.* * *Building and testing a Cooperative Intelligent Transport System for rail corridors (C-ITS) in 5G networks. Quarterly reports on the tests and experience gained shall be made available to other carriers operating in the above-mentioned rail corridors.*   *This investment shall be completed by 31 December 2025.* | *This measure aims at enhancing the 5G coverage of transport corridors via investments in equipment, as well as on research and development.*  *In pursuit of this objective, the following measures shall be completed:*   * *By increasing the density of BTSs (Base Transceiver Stations), hrough the construction of new BTS in additon to those BTS that mobile operators must build in accordance with the terms of the 5G frequency auction, ensuring comprehensive coverage with 5G signal of the following railway corridors: Prague – Česká Třebová – Ostrava, Česká Třebová – Brno* * *Ensuring coverage of 350 railway wagons with a high-quality mobile signal repeaters or passive walls for 5G signals.* * *Building and testing a Cooperative Intelligent Transport System for rail corridors (C-ITS) in 5G networks. Quarterly reports on the tests and experience gained shall be made available to other carriers operating in the above-mentioned rail corridors.*   *This investment shall be completed by 30 June 2026.* |
| ***Milestones and targets*** | *Goal: 210 km*  *Timeline: Q4/2025*  *Description:*  *The measure shall enhance 5G coverage quality (beyond already imposed coverage criteria raised from spectrum auctions) over at distance of at least 210 km in the following rail corridors: Prague – Česká Třebová – Ostrava, Prague – Ústí nad Labem, Prague – Plzeň, Prague – České Budějovice, and Česká Třebová – Brno.*  *Goal: 350*    *Description:*  *Current wagons shall be equipped with operational 5G repeaters or passive walls for the quality provision of mobile data services.* | *Goal: 86 km*  *Timeline: Q2/2026*  *Description:*  *The measure shall enhance 5G coverage quality (beyond already imposed coverage criteria raised from spectrum auctions) over at distance of at least 86 km in the following rail corridors: Prague – Česká Třebová – Ostrava, Česká Třebová – Brno.*  *Goal: 350*    *Description:*  *Ensuring coverage of 350 railway wagons with a high-quality mobile signal repeaters or passive walls for 5G signals.* |
| ***Estimated cost*** | *CZK 700 mil.* | *CZK 804 mil.* |
| ***Green and digital tagging*** | *No change* | *No change* |
| ***DNSH self-assessment*** | *No change* | *No change* |

The length of the railway corridors was calculated at the time when the 5G frequency auction was taking place and plans for radio coverage of the corridors with a 5G signal were not known. These plans could only be prepared based on the final conditions of the auction. Under these circumstances, the length of corridors with the need for high 5G signal strength and future CAM services was determined by an expert estimate.

Based on results of the 5G auction and the conditions laid down there it was possible to request the 5G allocation holders (in the form of an RFI) to submit their investment plans for the coverage of railway corridors. According to these investment plans, Czech Telecommunication Office has verified the coverage of railway corridors by SW simulation and created a list of intervention areas that do not reach the required parameters corresponding to high 5G signal strength. A public consultation was carried out on this list of intervention areas in order to find out whether any 5G allocation holder plans to cover some areas with high 5G signal strength. The output of this consultation was the final list of intervention areas with insufficient 5G signal strength, and based on this, it was possible to determine a more accurate length.

With regard to the prioritization of corridors in connection with the results of the public consultation, the increasing investment costs of BTS construction due to high inflation rate and the original estimated costing limit in this measure, the list of corridors was narrowed down to the main two corridors “Prague - Česká Třebová – Ostrava” and “Česká Třebová – Brno” with a total length of 447 km. On these two corridors, the intervention areas for the required coverage with high 5G signal strength in a total length of 95 km were identified and verified by simulation. Based on these calculations, we propose changing the target to 86 **km** taking into account possible difficulties in finding solutions to realize the coverage in some intervention areas (for some intervention areas applications may not be submitted) or the possible failure to realize the coverage according to the time schedule.

The intervention areas with a total length of 95 km contain 76 sections and these sections are divided into the following two groups: the first group are those intervention areas that will be covered by BTS stations that will be located mainly in the railway zone and will be built by the state-owned company, the Railway Administration. The second group comprises intervention areas that will be covered by BTS stations that will be built by Cellular Tower Companies, i.e. companies mainly derived and separated from mobile network operators. The first group includes 51 BTS stations and the second group includes 25 BTS stations. The indicative price of the BTS stations from the first group is 5.5 mil per station and from the second group 4.5 mil. per station. The difference in the prices of BTS stations is mainly due to the following:

1. The construction of the mast is within the perimeter of the track about 4 m from the track axis in a very tight space.
2. The mast itself has to meet strict standards. One of the conditions is stability for trains travelling around at 200 km/h and vibrations caused by railway traffic at BTS stations. Groundworks in the railway zone are significantly more expensive compared to greenfield construction.
3. The minimum lifetime of a passive BTS station is assumed to be 50 years.

More detailed differences and other parameters are listed in the attached document.

The total costing is calculated as a multiple of the number of BTS stations and sections and therefore equals 25 x 4.5 + 51 x 5.5 = 393 mil. CZK. Considering the predicted inflation according to Eurostat for 2024, 2025 and 2026 of 9.3%, 3.5% and 2%, the total costing equals 453 million. CZK. According to the Association of Mobile Network Operators, most of the invoices will reflect 2025 and it is very realistic that there will be some invoices in the first months of 2026. It should also be stressed that the original cost estimates were also based on indicative prices presented by the CEF Telecom Expert Group in 2020 of EUR 200k to cover one kilometre of the corridor (see the attached document).

The proposed shift in the deadline of this measure is due to the shift in the timeline for carrying out the individual stages/actions of the implementation plan of the measure/project presented by Association of MNOs, as well as the ongoing prenotification process with time uncertainty.

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| **Component 1.3: HIGH CAPACITY DIGTAL NETWORK** | |
| **Investment/ reform CID reference** | **Investment 2** |
| **Investment/ reform name** | **Covering 5G corridors and promoting the development of 5G** |
| **Type of change compared to CID** | [modified] |
| **Legal base of the change (select at least one)** | Article 14(2) – loan request  Article 18(2) – update of the maximum financial contribution  Article 21 – amendment due to objective circumstances  Article 21a – REPowerEU non-repayable financial support (ETS revenue)  Article 21b (2) – BAR transfers  ☐ None of the above, correction of clerical error |
| **Elements modified (only for modified measures)** | Component / Measure description  Milestones and targets  Estimated cost  Green and digital tagging (potentially relevant, because there is a substantive change to the underlying measure)  DNSH self-assessment |

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| **Investment 2: Covering 5G corridors and promoting the development of 5G – Targets 41** | | |
| *Description and justification of the change* | | |
| **Modified elements** | **Current version** | **Amended version** |
| ***Component and / or measure description*** | *This measure aims at enhancing the 5G coverage of transport corridors via investments in equipment, as well as on research and development.*  *In pursuit of this objective, the following measures shall be completed:*   * *Increasing the coverage of rail corridors with an improved 5G signal. Based on a mapping of 4G coverage carried out by the Czech Telecommunications Office, intervention areas shall be proposed by 30 September 2021, ensuring that these would not be covered by telecoms operators in the market within 3 years. The following rail corridors shall be covered: Prague – Česká Třebová – Ostrava, Prague – Ústí nad Labem, Prague – Plzeň, Prague – České Budějovice, and Česká Třebová – Brno.* * *Equipping at least 350 railway wagons with repeaters or passive walls for 5G signals. The contractors shall be selected following a call for tenders based on a study on the scope and feasibility of the project.* * *Building and testing a Cooperative Intelligent Transport System for rail corridors (C-ITS) in 5G networks. Quarterly reports on the tests and experience gained shall be made available to other carriers operating in the above-mentioned rail corridors.*   *This investment shall be completed by 31 December 2025.* | *This measure aims at enhancing the 5G coverage of transport corridors via investments in equipment, as well as on research and development.*  *In pursuit of this objective, the following measures shall be completed:*   * *By increasing the density of BTSs (Base Transceiver Stations), hrough the construction of new BTS in additon to those BTS that mobile operators must build in accordance with the terms of the 5G frequency auction, ensuring comprehensive coverage with 5G signal of the following railway corridors: Prague – Česká Třebová – Ostrava, Česká Třebová – Brno* * *Ensuring coverage of 350 railway wagons with a high-quality mobile signal repeaters or passive walls for 5G signals.* * *Building and testing a Cooperative Intelligent Transport System for rail corridors (C-ITS) in 5G networks. Quarterly reports on the tests and experience gained shall be made available to other carriers operating in the above-mentioned rail corridors.*   *This investment shall be completed by 30 June 2026.* |
| ***Milestones and targets*** | *Target name:*  *Completion of equipping railway wagons with repeaters for passive walls mobile signal coverage*  *Target description:*  *Current wagons shall be equipped with operational 5G repeaters or passive walls for the quality provision of mobile data services.* | *Target name:*  *Completion of equipping railway wagons with repeaters or passive walls mobile signal coverage*  *Target description:*  *Ensuring coverage of 350 railway wagons with a high-quality mobile signal repeaters or passive walls for 5G signals.* |
| ***Estimated cost*** | *CZK 700 mil.* | *CZK 804 mil.* |
| ***Green and digital tagging*** | *No change* | *No change* |
| ***DNSH self-assessment*** | *No change* | *No change* |

It is proposed to change the description of the measure for the equipment of 350 carriages with repeaters because of the different possible solutions, which also include the possibility of equipping a train set with two repeaters covering several carriages with distribution elements (e.g. radiating cables). The original costing was calculated for 350 repeaters installed on 350 carriages and was created in 2020. We have now requested an update of the costing. However, it should be noted that this will be a rough estimate, given that it is not possible to determine in advance how many train sets or passive wall installations will be of interest in this measure.

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| **Component 1.3: HIGH CAPACITY DIGTAL NETWORK** | |
| **Investment/ reform CID reference** | **Investment 3** |
| **Investment/ reform name** | **Supporting the development of 5G mobile infrastructure in rural investment-intensive white areas** |
| **Type of change compared to CID** | [modified] |
| **Legal base of the change (select at least one)** | Article 14(2) – loan request  Article 18(2) – update of the maximum financial contribution  Article 21 – amendment due to objective circumstances  Article 21a – REPowerEU non-repayable financial support (ETS revenue)  Article 21b (2) – BAR transfers  ☐ None of the above, correction of clerical error |
| **Elements modified (only for modified measures)** | Component / Measure description  Milestones and targets  Estimated cost  Green and digital tagging (potentially relevant, because there is a substantive change to the underlying measure)  DNSH self-assessment |

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| **Investment 3: Supporting the development of 5G mobile infrastructure in rural investment-intensive white areas – Target 44** | | |
| *Description and justification of the change* | | |
| **Modified elements** | **Current version** | **Amended version** |
| ***Component and / or measure description*** | *-* | *No change* |
| ***Milestones and targets*** | *The infrastructure, including 120 base stations, shall be constructed and operational to cover by 5G signals the municipalities in investment-intensive rural areas identified in investment 3.* | *The infrastructure, including 55 base stations, shall be constructed and operational to cover by 5G signals the municipalities in investment-intensive rural areas identified in investment 3.* |
| ***Estimated cost*** | *CZK 300 mil.* | *CZK 300 mil.* |
| ***Green and digital tagging*** | *No change* | *No change* |
| ***DNSH self-assessment*** | *No change* | *No change* |

The number of BTS was calculated at the time when the 5G frequency auction was taking place and plans for radio coverage of the territory with a 5G signal were not known. These plans could only be prepared based on the final conditions of the auction. Under these circumstances, the number of BTS was determined by an expert estimate, taking into account the indicative costs of 1 BTS and the set budget limit.

Based on results of the 5G auction and the conditions laid down there it was possible to request the 5G allocation holders (in the form of an RFI) to submit their investment plans for radio coverage of the territory. According to these investment plans, Czech Telecommunication Office has verified the radio coverage of the territory by SW simulation and created a list of intervention areas where no mobile signal coverage is planned. A public consultation was held on this list of intervention areas to find out whether any 5G allocation holder plans to cover some areas with a mobile signal. The output of this consultation was the final list of intervention areas without a mobile signal, and based on this, it was possible to determine the number of white spots/areas (1176 in total).

Considering the population density in white spots, the increasing investment costs of BTS construction due to high inflation rate and the estimated costing limit in this measure, it is proposed to reduce the number of BTS from **120 BTS to 55 BTS**. This new target is proposed taking into account possible difficulties in finding solutions to realize the coverage in some intervention areas (for some intervention areas applications may not be submitted) or the possible failure to realize the coverage according to the time schedule.

The detailed costing includes an indicative average cost of construction of one BTS station of CZK 4.5 million. CZK. The total costing then, considering the construction of 55 BTS stations, is 55 x 4.5 = CZK 247.5 mil. CZK. Considering the inflation predicted by Eurostat for the years 2024, 2025 and 2026 of 9.3%, 3.5% and 2%, the total costing taking inflation into account is CZK 286 million. CZK.  According to the Association of Mobile Network Operators, most of the invoices will reflect 2025 and it is very realistic that there will be some invoices in the first months of 2026.

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| **Component 1.3: HIGH CAPACITY DIGTAL NETWORK** | |
| **Investment/ reform CID reference** | **Investment 4** |
| **Investment/ reform name** | **Scientific research activities related to the development of 5G networks and services** |
| **Type of change compared to CID** | [modified] |
| **Legal base of the change (select at least one)** | Article 14(2) – loan request  Article 18(2) – update of the maximum financial contribution  Article 21 – amendment due to objective circumstances  Article 21a – REPowerEU non-repayable financial support (ETS revenue)  Article 21b (2) – BAR transfers  ☐ None of the above, correction of clerical error |
| **Elements modified (only for modified measures)** | Component / Measure description  Milestones and targets  Estimated cost  Green and digital tagging (potentially relevant, because there is a substantive change to the underlying measure)  DNSH self-assessment |

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| **Investment 4: Scientific research activities related to the development of 5G networks and services – Target 46** | | |
| *Description and justification of the change* | | |
| **Modified elements** | **Current version** | **Amended version** |
| ***Component and / or measure description*** | *This measure is aimed at supporting public and private entities in research, development and innovation related to 5G networks and services.*  *In pursuit of this objective, a call for tender for scientific research projects relating to the technological development of 5G networks and applications for the 5G ecosystem shall be launched. The projects shall focus on the use of 5G applications in industry and services, in particular the exploitation of new technologies in the production processes of the automotive and other key sectors, taking into account the principles of circular economy through the sourcing of secondary raw materials. Support shall also be targeted at projects fostering the development and dissemination of automation, robotisation, artificial intelligence and virtual or augmented reality. Potential beneficiaries include businesses or public research organisations. At least 20 projects shall be selected by 31 December 2024. During the subsequent implementation phase, at least 20 of the selected projects shall be completed.* | *This measure is aimed at supporting public and private entities in research, development and innovation related to 5G networks and services.*  *In pursuit of this objective, a call for tender for scientific research projects relating to the technological development of 5G networks and applications for the 5G ecosystem shall be launched. The projects shall focus on the use of 5G applications in industry and services, in particular the exploitation of new technologies in the production processes of the automotive and other key sectors, taking into account the principles of circular economy through the sourcing of secondary raw materials. Support shall also be targeted at projects fostering the development and dissemination of automation, robotisation, artificial intelligence and virtual or augmented reality. Potential beneficiaries include businesses or public research organisations. Projects shall be selected by 31 December 2024. During the subsequent implementation phase, at least 22 of the selected projects shall be completed.* |
| ***Milestones and targets*** | *At least 20 among the previously selected scientific research projects on potential further developments of 5G networks and services shall be completed. The resulting studies shall be published by the Ministry of Industry and Trade* | *At least 22 among the previously selected scientific research projects on potential further developments of 5G networks and services shall be completed. The resulting studies shall be published by the Ministry of Industry and Trade* |
| ***Estimated cost*** | *300 mil. CZK* | *324 mil. CZK* |
| ***Green and digital tagging*** | *No change* | *No change* |
| ***DNSH self-assessment*** | *No change* | *No change* |

*Two calls were made in this measure. In the first call, 13 project proposals were submitted and 10 of them were supported after the evaluation process. In the second call, 23 project proposals were submitted and the evaluation of these project proposals is now underway. At this moment, it can be assumed that the target of the measure will be exceeded and more than 20 projects are planned to be supported. With regard to the sum of the allocations based on results from both calls, it is proposed to strengthen this measure with funds in the amount of CZK 25 million from a thematically similar measure (CID number 58).*

*20 supported projects was the minimum number of projects. Based on the recent evaluation of applications, we can now say that a total of 23 projects will be supported, which is a higher number, and the target of supporting at least 20 projects has been met. We therefore propose to modify the text in "Description and clear definition of each milestones and targets" to "at least 22..." and the Goal to "22“. Unsuccessful applicants have the opportunity to appeal, so a reserve of less than 10% of the total budget is left in case the applications are re-evaluated.*