



# SITE SURVEY REPORT

## Ericsson

### 1. GENERAL INFORMATION

|   |                         |  |
|---|-------------------------|--|
| Site name:  | GHIMES                  |  |
| Site number (code):                                 | BX306                   |  |
| Site address (city;street;no.; building; entrance): | Loc. GHIMES JUDET BACAU |  |
| Site area:  | C BACAU                 |  |
| Site survey team:                                   | Mira Telecom            |  |
| Checked by:   |                         |  |
| Date of site survey:                                | 07.06.2018              |  |
| Type of Site (urban, rooftop):                      | Rural Tower             |  |
| Lesser:   | -                       |  |
| Contact Person:                                     | -                       |  |





|                |  |
|----------------|--|
| Other Remarks: |  |
|----------------|--|

**2. ROOFTOP (Building information)**

|  |  |
|--|--|
| GPS coordinates:                           | N .....° ..... ' ....."                                  |
|  | E .....° ..... ' ....."                                  |
| Building height:                           | ..... m  |
| Existent tripod:                           | Yes <input type="checkbox"/> NO <input type="checkbox"/> |
| Total height:                              | ..... m  |
| Use of crane for materials transportation: | Yes <input type="checkbox"/> NO <input type="checkbox"/> |

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| Other Remarks: |  |
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**3. GREEN FIELD (Specific data information)**

|   |   |
|---|---|
| GPS coordinates:  | N46° 35' 22.93"   |
|   | E 26° 03' 54.09"  |
| Tower:  | Yes <input checked="" type="checkbox"/> NO <input type="checkbox"/>   |
| Tower type:   | <input checked="" type="checkbox"/> Heavy Cosmosite tower – 30m (or more)<br><input type="checkbox"/> Polygonal Monopol – 30m (or more)<br><input type="checkbox"/> Monopole lattice tower-30m<br><input type="checkbox"/> Guyed tower on shelter-20m             |
| Antenna Metallic Structure:   | New "H" Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/><br>Upgrade existing "H" Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/><br>Atypical Structure Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| RRU Metallic Structure:   | New RRU Support Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/><br>Atypical Structure Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>   |
| Mini - shelter require:   | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>   |
| Mini – shelter frame standard adaptor solution:                                   | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>   |
| In case Non Standard Mini-shelter frame solution, dimensions are requested:       | N/A   |
| Non standard mini - shelter frame profile   | N/A   |
| RRU to Antenna/Combiner Jumper length (type: DIN7/16 Male –N Male):               | 2x2m 4x4m   |
| Antenna to Combiner -> Jumper length (type: DIN7/16 Male – DIN7/16 Male):         | 6x2m  |
| FO cable length between BB to RRU   | 3x50m   |
| DC cable length between PP to RRU   | 1x40m   |
| Type and length of DC power for RRU Cu 2x6 mm <sup>2</sup> (L<30m):               | -   |
| Type and length of DC power for RRU Cu 2X10 mm <sup>2</sup> if needed(30m<L<60m): | Type 2X10 mm <sup>2</sup> / / 3x40m m   |
| Type and length of DC power for RRU Cu 2X16 mm <sup>2</sup> if needed(60m<L<90m): |   |
| Type and length of DC power for RRU Cu 2X25 mm <sup>2</sup> if                    |   |



|  |  |
|--|--|
| needed(L>90m):                                 | -  |
| Combo Box required:                            | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/> ; Length of cable: ..... m               |
| Connection patch length from CB to RRU (FO&DC) | M .....  |
| Outdoor CB existing breakers type              | 16A <input checked="" type="checkbox"/> 25A <input type="checkbox"/> Oth. <input type="checkbox"/> ...A spec |
| PDU existing breakers availability (63A in PP) | Yes <input type="checkbox"/> NO <input checked="" type="checkbox"/>  |
| DC cable length from PP to new PDU             | ..... m  |
| PP Type / producer plus picture on the bottom  |  |

**4. EXISTING CONTRACT & CHANGES**

|   |                              |  |  |
|---|------------------------------|--|--|
| Indoor space requires contract change           | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Outdoor space requires contract change          | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Cable routing requires contract change          | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Power cabling requires contract change          | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Indoor space requires studies & license change  | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Outdoor space requires studies & license change | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Cable routing requires studies & license change | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |
| Power cabling requires studies & license change | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |  |

|                |  |
|----------------|--|
| Other Remarks: |  |
|----------------|--|

**5. POWER SUPPLY INFORMATION**

|  |                           |
|--|---------------------------|
| Power availability:  | YES                       |
| Voltage-measurements (PLC display):  | L1(V)    L2(V)    L3(V)   |
| Amperage-measurements (PLC display, without A/C):  | I1(A)    I2(A)    I3(A)   |
| Amperage-measurements (PLC display, with A/C):   | I1(A)    I2(A)    I3(A)   |
| Outdoor mini shelter: 32A available breaker in LDB (5x6 mm <sup>2</sup> AC Cable)            | N/A                       |
| 1X16A available breakers in indoor Power System  | YES                       |
| 1X32A available breakers in indoor Power System  | NO                        |
| 2X63A available breakers in indoor Power System  | NO                        |
| Power counter exist:   | YES                       |
| Main AC board exist:   | YES                       |
| Breaker value in BMPT:   | N/A                       |
| Surge arrestors existence:   | YES                       |
| Type and length of power connection cable for BBU  | Cu 2x6mm <sup>2</sup> -3m |
| Type and length of power connection shielded cable AI 6X25 mm <sup>2</sup> if needed:        | -                         |
| Type and length of power connection shielded cable AI 6X35 mm <sup>2</sup> if needed:        | -                         |
| Type and length of AC power connection cable 5X6 mm <sup>2</sup> for mini shelter if needed: | -                         |
| Type and length of DC power from PSU to PDU AI 2x35 mm <sup>2</sup> if needed:               | -                         |
| CB/PDU/2 Sections (if needed):   | -                         |
| CB/PDU/3 Sections (if needed):   | -                         |
| PDU indoor (if needed):  | No                        |
| Boards grounding - secured:  | Yes                       |
| Boards waterproofed:   | Yes                       |

|                |  |
|----------------|--|
| Other Remarks: | -In rack 19" existent in shelter se va instala 1XMU nou<br>-MU nou se va alimenta de pe o siguranta de 16A existenta in PDU<br>-RRU-urile noi se vor alimenta de pe 3 sigurante de 25A noi |
|----------------|--|

**6. POWER PLANT and BATTERY INFORMATION**

|                                      |  |   |
|--------------------------------------|--|---|
| Number of units                      | <input checked="" type="checkbox"/>  | Unit 2 <input type="checkbox"/>   |
| Type                                 | 300A <input type="checkbox"/> <input checked="" type="checkbox"/><br>600A <input type="checkbox"/> <input type="checkbox"/><br>Other <input type="checkbox"/> <input type="checkbox"/> | 300A <input type="checkbox"/> <input type="checkbox"/><br>600A <input type="checkbox"/> <input type="checkbox"/><br>Other <input type="checkbox"/> <input type="checkbox"/> |
| Nr./capacity[A] of rectifier modules | 2  |   |



|                                 |  |  |
|---------------------------------|--|--|
| DC Load Amperage(displayed) [A] |  |  |
| Battery capacity [Ah]           |  |  |
| Battery type/number             |  |  |

|                |  |
|----------------|--|
| Other Remarks: |  |
|----------------|--|

**7.AIR CONDITIONING INFORMATION**

|   |  |   |
|---|--|---|
| Temperature [°C]                                  | Internal:  | External:   |
| Number of units                                   | Unit 1 <input checked="" type="checkbox"/>   | Unit 2 <input type="checkbox"/>   |
| Type  | Free Cooling <input type="checkbox"/><br>Duct <input checked="" type="checkbox"/><br>Split <input type="checkbox"/>  | Free Cooling <input type="checkbox"/><br>Duct <input type="checkbox"/><br>Split <input type="checkbox"/>  |
| Technical specifications from external unit label |  |   |
| Cooling capacity [BTU]                            | 9.000 <input type="checkbox"/><br>12.000 <input type="checkbox"/><br>18.000 <input checked="" type="checkbox"/><br>24.000 <input type="checkbox"/><br>Other <input type="checkbox"/> | 9.000 <input type="checkbox"/><br>12.000 <input type="checkbox"/><br>18.000 <input type="checkbox"/><br>24.000 <input type="checkbox"/><br>Other <input type="checkbox"/> |
| Start meter                                       | Compressor:<br>Evap. Fan:<br>Heather:  | Compressor:<br>Evap. Fan:<br>Heather:   |
| Work time meter [h]                               | Compressor:<br>Evap. Fan:<br>Heather:  | Compressor:<br>Evap. Fan:<br>Heather:   |
| Alarms outputs                                    | Very high temp <input type="checkbox"/><br>Very low temp <input type="checkbox"/>  | Very high temp <input type="checkbox"/><br>Very low temp <input type="checkbox"/>   |

|                |  |
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| Other Remarks: |  |
|----------------|--|

**8.NEW INSTALLATION INFORMATION**

|  |     |
|--|-----|
| Common: number of buss with free holes   | Yes |
| Common: Available space on the existing cable tray                                     | Yes |
| Indoor equipment: Existing space for ILP mounting                                      | Yes |
| Indoor equipment: Existing space for Radio Indoor equipment mounting                   | N/a |
| Indoor equipment: Existing space for Indoor Concentrator equipment mounting            | N/a |
| Indoor equipment: Existing space for DC PDU mounting                                   | N/a |
| Indoor equipment: Available holes in FIMO  | N/a |
| Outdoor equipment: Existing space on the existing base frame for mini shelter mounting | N/a |
| Outdoor equipment: Existing outdoor transmission cabinet                               | N/a |
| Outdoor equipment: Existing space for outdoor Concentrator mounting (proposal)         | Yes |
| Outdoor equipment: Existing space for RRU mounting (proposal)                          | Yes |

|                |   |
|----------------|---|
| Other Remarks: | - |
|----------------|---|



9. EXISTING TELECOM EQUIPMENT & INFRASTRUCTURE

a. General information

|  |  |  |
|--|--|--|
| Equipment type:  | Indoor <input checked="" type="checkbox"/> | Outdoor <input type="checkbox"/>       |
| Number of RF antennas:   | 4  |  |
| Number of MW links   | 2  |  |
| Nr. of existing RBS cabinets   | 2xRBS 6601                                 |  |
| MW existing RL cabinet   | Indoor <input checked="" type="checkbox"/> | Outdoor <input type="checkbox"/>       |
| Power cabinet exist (BBS):   | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |
| Existing cable ladder availability:                                    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |
| Existing cable entry availability:                                     | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |
| Air condition existence & operation                                    | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |
| Grounding protection existence:  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |
| Lightning protection existence:  | Yes <input checked="" type="checkbox"/>    | No <input type="checkbox"/>            |
| Installation of RF & IF cables requires special machinery (e.g. crane) | Yes <input type="checkbox"/>               | No <input checked="" type="checkbox"/> |

b. Existing Masts

|   | Height | Length | poles/mast | Cell_id on the mast | installation readiness |
|---|--------|--------|------------|---------------------|------------------------|
| 1 |        |        |            |                     |                        |
| 2 |        |        |            |                     |                        |
| 3 |        |        |            |                     |                        |
| 4 |        |        |            |                     |                        |

c. Existing Antenna Poles

|   | Height | Length | Cell_id | Corner/Tower | Obstacles | installation readiness |
|---|--------|--------|---------|--------------|-----------|------------------------|
| 1 | 27m    | 3m     | U       |              | no        | yes                    |
| 2 | 27m    | 3m     | V       |              | no        | yes                    |
| 3 | 27m    | 3m     | W       |              | no        | yes                    |
| 4 | 23m    | 3m     | G       |              | no        | yes                    |
| 5 | 23m    | 3m     | H       |              | no        | yes                    |
| 6 | 23m    | 3m     | I       |              | no        | yes                    |

d. Existing MW Poles

|   | Height | Length | Hop id | Corner/Tower | Far end | Obstacles | installation readiness |
|---|--------|--------|--------|--------------|---------|-----------|------------------------|
| 1 |        |        |        |              |         |           |                        |
| 2 |        |        |        |              |         |           |                        |
| 3 |        |        |        |              |         |           |                        |
| 4 |        |        |        |              |         |           |                        |

|          |  |
|----------|--|
| Remarks: |  |
|----------|--|

10. ANALYSIS LOADING DATA

| LOAD TYPE | DIAMETER (mm) | POSITION (m) | NUMBER |
|-----------|---------------|--------------|--------|
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |
| M/W LINK  |               |              |        |



11. EXISTING LAYOUT(S):

GENERAL VIEW OF STRUCTURE





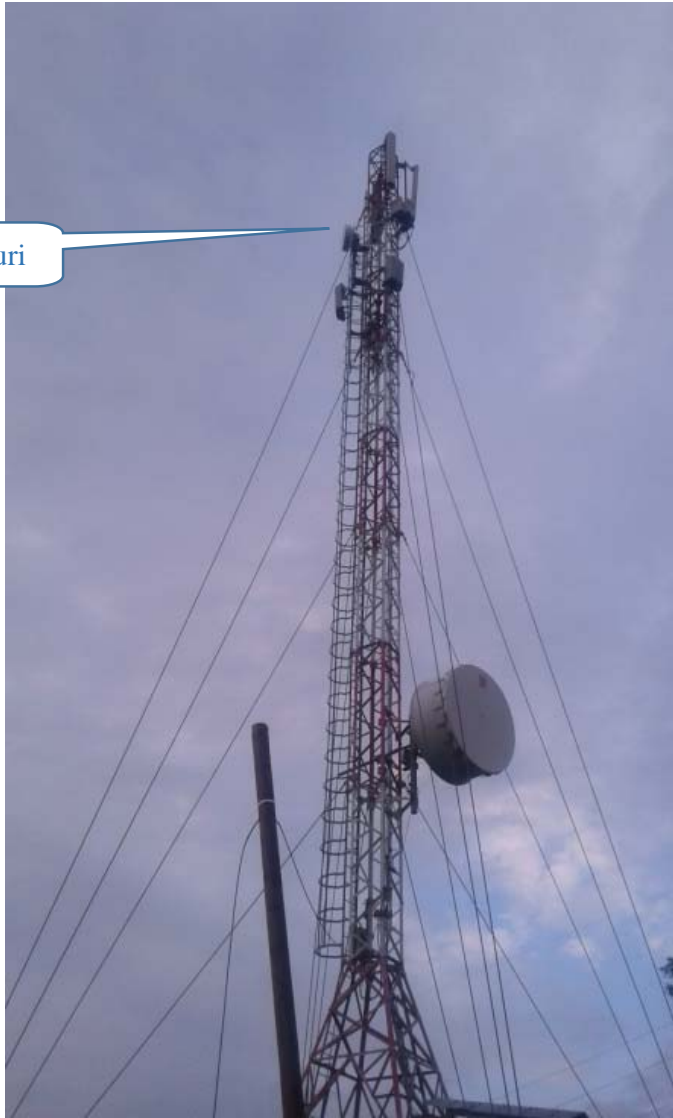
RADIO INFORMATION







MW -uri





CW INFORMATION

Indoor





Cable tray





12. PROPOSED INFRASTRUCTURE & EQUIPMENT SOLUTION

a. Indoor cabinets

|   |      |
|---|------|
| Dimensions of existing room:                    | 3x4m |
| Space availability for indoor equipment:        | yes  |
| C   | N/A  |
| Shelter needed:                                 | N/A  |
| Shelter concrete base needed:                   | N/A  |
| Space availability for new shelter positioning: | N/A  |
| AC power extension/change:                      | N/A  |
| Main grounding bus bar existence:               | Yes  |
| Water proofing of the room needs restoration:   | No   |
| Internal Lighting restoration:                  | No   |
| Wall painting needed:                           | No   |
| Antistatic floor addition:                      | No   |
| Fire alarm system expansion:                    | No   |
| Air Conditioning (A/C) expansion/replacement:   | No   |
| Nr./capacity[A] of rectifier modules            |      |
| Security Lights board:                          | N/A  |
| Plastic trays for cables expansion :            | N/A  |
| Internal ladder for the feeders availability:   | N/A  |
| Cable entry expansion:                          | N/A  |
| Other Remarks:                                  |      |

b. Outdoor cabinets

|  |  |
|--|--|
| New metal base needed:                     |  |
| Dimensions of new metal base:              |  |
| Secure of metal base on floor:             |  |
| Grounding of base/Earthing for equipments: |  |
| AC power supply availability:              |  |
| Needed properly holes on base:             |  |
| Clearances around cabinets:                |  |
| Other Remarks:                             |  |

c. Proposed New Masts

|   | Height | Length | poles/mast | Cell_id on the mast | Position |
|---|--------|--------|------------|---------------------|----------|
| 1 |        |        |            |                     |          |
| 2 |        |        |            |                     |          |
| 3 |        |        |            |                     |          |
| 4 |        |        |            |                     |          |

d. New Antenna Poles

|   | Height | Length | Cell_id | Corner/Tower | Obstacles | installation readiness |
|---|--------|--------|---------|--------------|-----------|------------------------|
| 1 |        |        |         |              |           |                        |
| 2 |        |        |         |              |           |                        |
| 3 |        |        |         |              |           |                        |
| 4 |        |        |         |              |           |                        |

e. New MW Poles

|   | Height | Length | Hop id | Corner/Tower | Far end | Obstacles | installation readiness |
|---|--------|--------|--------|--------------|---------|-----------|------------------------|
| 1 |        |        |        |              |         |           |                        |
| 2 |        |        |        |              |         |           |                        |
| 3 |        |        |        |              |         |           |                        |



|                                   |   |
|-----------------------------------|---|
| <p>Proposed corrective works:</p> | <p>Reconfigurarea siteului BX306 Ghimes sa include urmatoarele elemente:</p> <ul style="list-style-type: none"><li>-se vor inlocui cele 3 antene rf cu antene noi dualpol</li><li>-se va instala 3x RRU 800 pe support nou tip offset special for acest tip de pilon</li><li>-impamantarea RRU-ului se va lega la impamantarea existenta print-un conductor de cupru de 16mm</li><li>-RRU-urile noi se vor alimenta din shelter la sigurante de 25A ce se vor instala noi</li><li>-in rack PDH sub PDU se va instala un MU nou care se va alimenta de pe 1x sig. de 16A existent in PDU</li></ul> <p>Cablurinoi:</p> <ul style="list-style-type: none"><li>-3 x FO 50m</li><li>-3 X DC Cu 10mm/ 45m</li><li>-S1 2X jumpers 2m</li><li>-S2 2X jumpers 2m</li><li>-S3 2X jumpers 2m</li></ul> |
|-----------------------------------|---|

13. PROPOSED SOLUTION LAYOUT(S): PICTURES AND COMMENTS:







MU nou