



TENtec General Pilot Workshop

Automated exchange of Data |
Parameter definitions homework and AED Technical
Specifications

19 January 2023, 10:00 – 12:30

Opening Remarks

- Agenda
- Comments from participants.
 - You can always contact us via the wiki, teams or MOVE-TENTEC@ec.europa.eu

09:55 – 10:00	Registration and log-on to the virtual WebEx meeting
10:00 – 10:45	Current Draft of Technical Specification (Open Discussion of draft document) - Open Discussion with all Participants
10:45 – 11:50	Parameter Homework Discussion Mr Winmore Zimmermann, SRD.2 Mr Vitor Carvalho, SRD.2 Mr Mohammadi Laazzouzi, B1 MS Lotte Lankveld, B1
10:45 – 11:00	General Questions & Answers - IWW/PORTS
11:00 – 11:20	General Questions & Answers - ROADS
11:20 – 11:40	General Questions & Answers - RAILWAYS
11:40 – 11:50	General Questions & Answers – NODES
11:50 – 12:20	Next steps <ul style="list-style-type: none">• Network Identification• Implementation plan• Teams and files Mr Winmore Zimmermann, SRD.2 Mr Vitor Carvalho, SRD.2
12:20 – 12:25	AOB Other topics New TENtec Integrated Viewer (announcement) Mr Winmore Zimmermann, SRD.2
12:30	Meeting closure

Current Draft – Technical Specifications

Open discussion on Draft document

Step 1 : Member state defines TEN-T in their data



- Ask for a national TEN-T network (shapeFile).
- The shapefiles provide a common identifier called `section_id`.
- Identify the TEN-T network in my national network (new attributes : `Section_Id` / boolean)

Step 2 : MS prepare a list of parameters to send

- JSON format with parameters
- Attributes for each parameters
 - **Section_ID**
 - **Year**
 - **Param value**
 - Param source
 - Start measure
 - End measure
 - Param ID

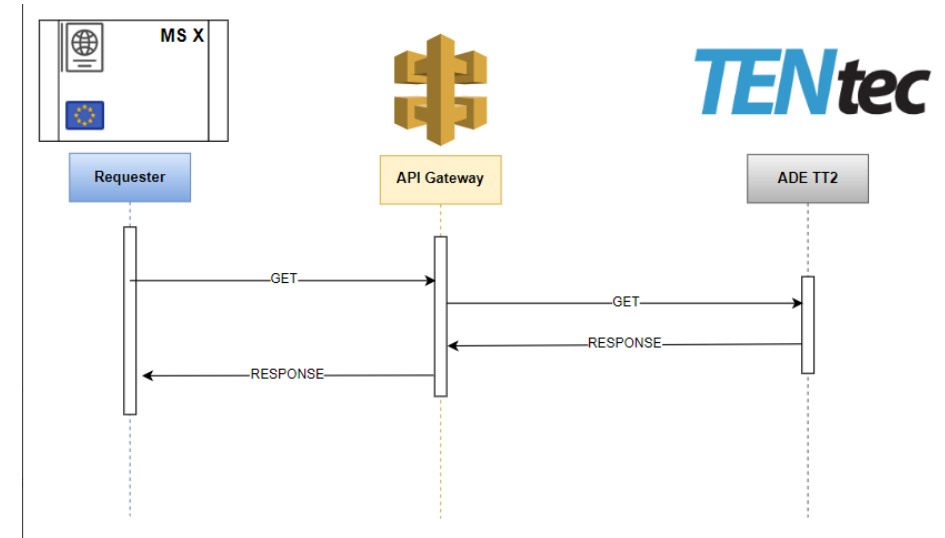
```
.. "Parameter": {  
  .... "section_id": 8139870,  
  .... "corridors": "TS",  
  .... "core_network": true,  
  .... "country": "IT",  
  .... "transport_mode": "AIRPORTS",  
  .... "year": 2023,  
  .... "param_name": "aliquip laboris",  
  .... "param_Value": "nostrud Excepteur",  
  .... "param_Source": "nisi magna incididunt",  
  .... "last_update": "2021-01-30T08:30:00Z",  
  .... "start_mesure": 32229952,  
  .... "end_mesure": 17002037,  
  .... "description": "ea"  
.. }
```

Step 3 : TENtec provide Webservices secure

- **TENtec provide web services secure by:**

- OAuth2 protocol
- Access token

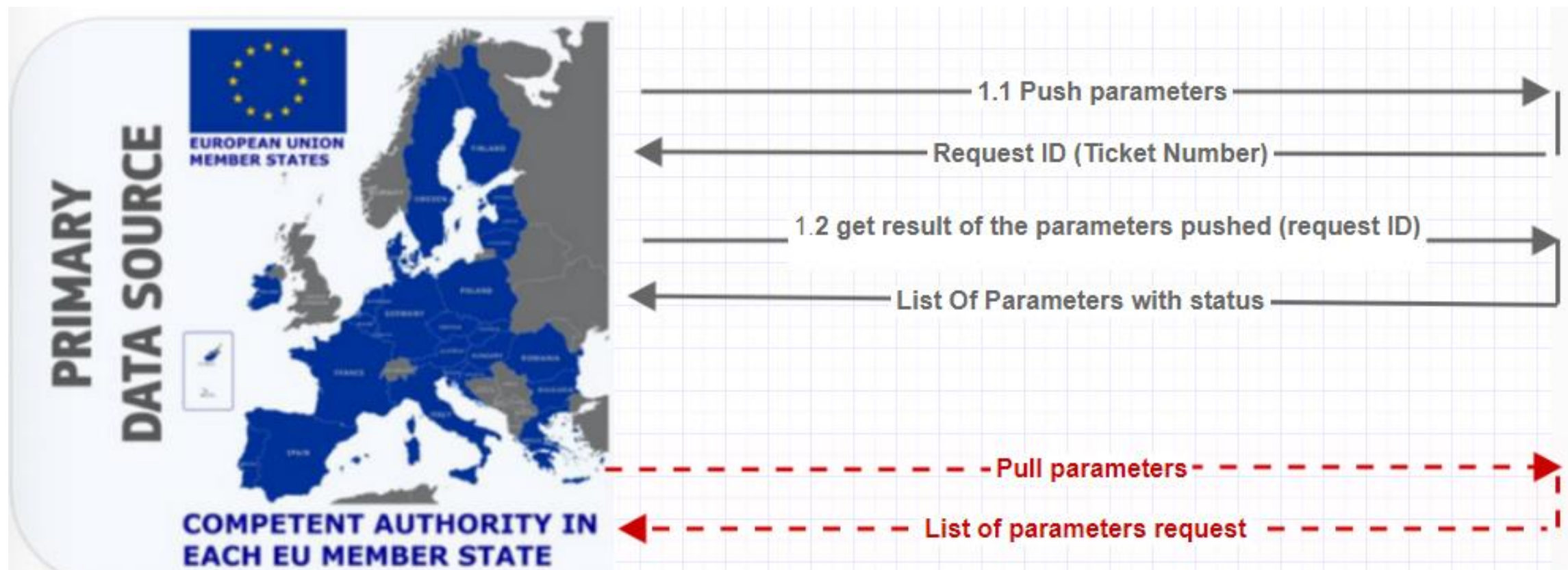
- **System communication [data exchange]:**



- **A member state can consume TENtec webservices:**

- Push parameters (Asynchronous base on section_ID)
- Pull parameters

Step 4 : Member state consume TENtec Webservice



Scenario 1 : push parameters to TENtec 1.1



```
POST {{url}}/parameters/update

Params Authorization Headers (7) Body Pre-request Script
none form-data x-www-form-urlencoded raw binary

1 [
2   {
3     "Parameter": {
4       "section_id": 8139870,
5       "corridors": "TS",
6       "core_network": true,
7       "country": "IT",
8       "transport_mode": "AIRPORTS",
9       "year": 2023,
10      "param_name": "aliquip laboris",
11      "param_value": "nostrud Excepteur",
12      "param_source": "nisi magna incididunt",
13      "last_update": "2021-01-30T08:30:00Z",
14      "start_mesure": 32229952,
15      "end_mesure": 17002037,
16      "description": "ea"
17    }
18  },
19 ]
```

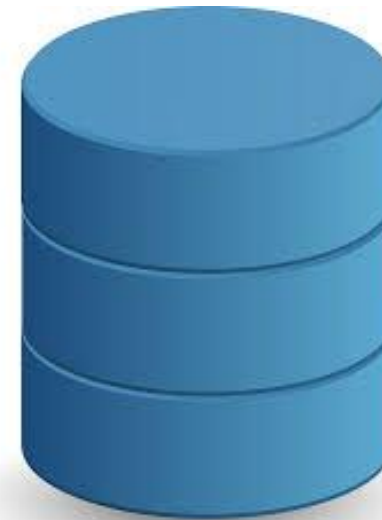
MS send road parameters to TENtec



TENtec send a ticket to the MS



Request ID (12345)



Database



Data processing

```
1 {
2   "request_id": "122345678899743"
3 }
```


Scenario 1 : push parameters to TENtec 1.2



TENtec

```
1 {
2   "request_id": "122345678899743"
3 }
```

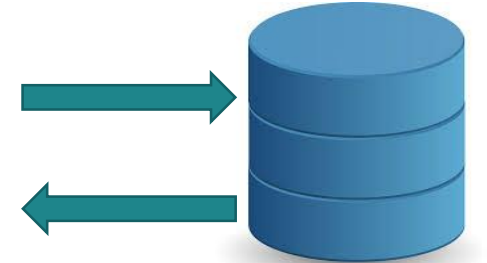
MS send the request ID (12345)



TENtec send the result with status for all parameters



```
1 {
2   "UpdateProcess": {
3     "UpdateDetails": {
4       "request_id": "<integer>",
5       "start_date": "2021-01-30T08:30:00Z",
6       "end_date": "2021-01-30T08:30:00Z",
7       "status": "DONE",
8       "description": "all parameters updated"
9     },
10    "Parameters": [
11      {
12        "Parameter": {
13          "section_id": "<integer>",
14          "corridors": "<string>",
15          "core_network": true,
16          "country": "<string>",
17          "transport_mode": "<string>",
18          "year": "<integer>",
19          "param_name": "<string>",
```



Database

check the data in the
database

Replies from Member States

- We already received comments from CY, DE, NL, SK
- Questions from members
 - Questions on Network Identification
 - Questions on data (Parameters)
 - Questions on Infrastructure (solution)

- MS can pull data from TENtec
- MS can push data to TENtec
- MS can push data to RINF/EuRIS (**AS-IS**)
- TENtec can pull MS data from RINF/EuRIS, etc...
- The following formats are the basis
 - JSON
 - XML
 - Other formats to follow as needed...
- The formats will be discussed in detail
 - Pilot group to discuss

Open discussion Technical specifications

- Does this approach work for all?
- Tools used in the development?
- Further Questions?

Parameter Homework responses

- Technical parameters walkthrough
- Working with Member States

Technical Parameters

- 2018/2019 parameters were discussed, defined, agreed with the TENtec working group and published
- The list includes elements required for the parameter values
 - Basic parameters - required
 - Extended parameters
- The Excel table is available on the [teams channel](#).
 - One table has the complete overview, the other table shows the parameters per transport mode or node

- 4 IWW existing parameters are kept (CEMT CLASS, Permissible height under bridges, Permissible draught, RIS)
- Based on revision TEN-T revision: add water-levels related parameters
- Where possible, once-only principle: EURIS (Future RIS COMEX II)
 - Take information for EURIS countries directly from EURIS
 - Fine tune definition existing and new parameters
- RIS COMEX II
 - Investigation possible TEN-T identification in EURIS/RIS COMEX II
- Timeline: parameter definition finalised by end Q2

Reply MS

- IWW 7 replies (AT, BG, DE, ES, NL, SE)
- AT + NL: Maximum value ranges
- BG indicated all parameters are available in EURIS, there are no alternative names used, they did not provide information on filling rate, the definition used is ok.
- DE indicated all parameters available EURIS, the filling rate on average is 90%, EURIS does not cover the entire DE network. Some part of the maritime regulated waterways are not there, some Rhine parts are covered by FR. Data could however be prepared directly for TENtec.

Reply MS (IWW 2)

- ES
 - suggested to use maximum aerial draft allowed instead of minimum bridge clearance. It comprises all type of clearance (bridges, aerial electrical wires, ...). Aerial draft is the vertical distance between the highest point of a vessel and the waterline.
 - Proposes to add: waterway name: identifier for river or canal (use RIS-index WWNAME)

Reply MS (IWW 3)

- NL
 - maximum draught of vessel (width of vessel) Indicating that there is a difference between legal max dimension and the max dimensions used within EURIS. The EURIS data is used for route calculation and therefore contains the maximum dimensions of the ship that can use this route (might be larger than legal dimensions or might contain dimensions on a fairway that has no legal limits). Within NL not all fairways have legal max dimensions and when there are max dimensions it might not be possible to extract one value (example: maximum width of 15,5m for ships with a length of 137,5m or less and a maximum width of 13,5m for longer ships).

IWW conclusion

Further investigation value ranges, section description (+ separate WWNAME), definition (and combining data into one value) of permissible height under bridges, permissible draught in conjunction with water levels.

ROADS

- CEDR
 - First contact established to investigate once-only principle
 - Has a viewer [Microsoft Power BI](#)
 - Gathers only motorway data
 - Cooperation on other relevant infrastructure components: bridges, tunnels, traffic flows etc.

Reply MS

- Roads 5 replies (DE, DK, EE, ES, SE)
- DE + ES + SE
 - Road types: follows the legislator definition.
- DE + SE
 - User charges/tolls: subject to review following legislation, including vignette (extended parameters).
- DK + EE + ES
 - Traffic flows: subject to review (vans/cars/trucks), following average values.

Reply MS (2)

- EE
 - Axle load, permitted weight vehicles: not available.
- ES
 - Proposes to add extended parameter to basic parameters: Lanes (total number of traffic lanes).
 - Questioned basic parameters: design speed, lanes back/forwards, max axel load, permitted weight vehicles, user charged road,

Reply MS (3)

- SE
 - Definition for/backwards
 - Design speed: SE also uses enumeration (additional format)

Road conclusion

- Synergies:
 - CEDR facilitator TENtec AED project from MS level
 - TENtec can support CEDR to further finetune the TEN-T network and provide datalayers
- Required TEN-T Data needs to come from Member States directly
- Further investigation how to reflect legislation obligations in TENtec (road types, toll/charges, traffic flows, adding parameters)

RAIL

ERA

- ✓ Filling rate RINF: incomplete for most parameters and countries
- ✓ Geometry RINF: operational points SOL vs real trajectories

Reply MS

- Rail 5 replies (BG, DK, ES, NL, SE)
 - Multiple/Single selections certain parameters (track gauge, P400, ETCS level) to be verified
 - Operating speed freight trains (availability in RINF to be checked)
 - Suggestion to add track ID additional to the number of tracks, additional (2) field (attribute) required in TENtec database
 - Naming Structure gauge vs Gauging profile (to be clarified by ERA)
 - Condition electrification – voltage, you can only fill voltage if electrified

Reply MS (2)

- Suggestions to review moving certain parameters to the extended list (ETCS baseline) and keep in basic parameter list: ETCS level status. Suggests to review the need for certain extended parameters (travel time).
- Some MS see difficulty to provide data (planned sections, P400, train length)
- Combination value (1, 2, 1/2, 3)
- Speed parameters aligned with ERA (line category as a reference for passenger and freight?) and final TEN-T regulation (160/≥200).
- Introduction of RINF parameter codes in TENtec
- RINF regulation 2019/777 – EN version as reference for parameter names displayed in TENtec
- Challenge: Online vs Offline availability of data - need for digitalisation

Rail conclusion

- Continuous comparison and testing with ERA (RINF) needed
- Internal finetuning of the basic and extended parameters.
- Traveltime is extended parameter
- MS requested to start pilot to identify TEN-T in MS database and RINF

Nodes

Replies: Airports 2 (ES, SE), Ports 3 (BG, ES, SE) RRTs 2 (ES, SE)

Urban nodes (future)

- Maritime Ports/Airports:
 - Data on traffic flows will be retrieved from Eurostat
- Inland ports:
 - Whenever available from EUROSTAT, otherwise through Member States
- RRTs:
 - Data traffic flows of goods directly through Member States
- Urban nodes:
 - KPI data via future SUMP's set-up in TENtec

Conclusion Nodes

- Airports
 - Rail connection according to final text of the revised TEN-T regulation
 - Runway length to be further clarified (MM)
- Ports
 - Most traffic related parameters will be retrieved from EUROSTAT
 - Remainig subject to review following MS comments
- RRTs
 - RRTs according to description and as annexed to the final text of the revised TEN-T regulation.

Overall conclusion parameters

- Many thanks for reconfirming the already existing and agreed parameters.
- Next step is finetuning following your comments, in accordance with the final text of the TEN-T and after exchange with ERA, EUROSTAT, EURIS, CEDR.
- We will provide you with a reworked parameter glossary (green list) based on your input and discussions with desk officers in DG MOVE (rail, road, IWW).
- We will provide you with a list of availability of data and filling rates in ERA, EUROSTAT, EURIS, CEDR

Next steps

Network Identification Homework

Implementation plan

Teams and files

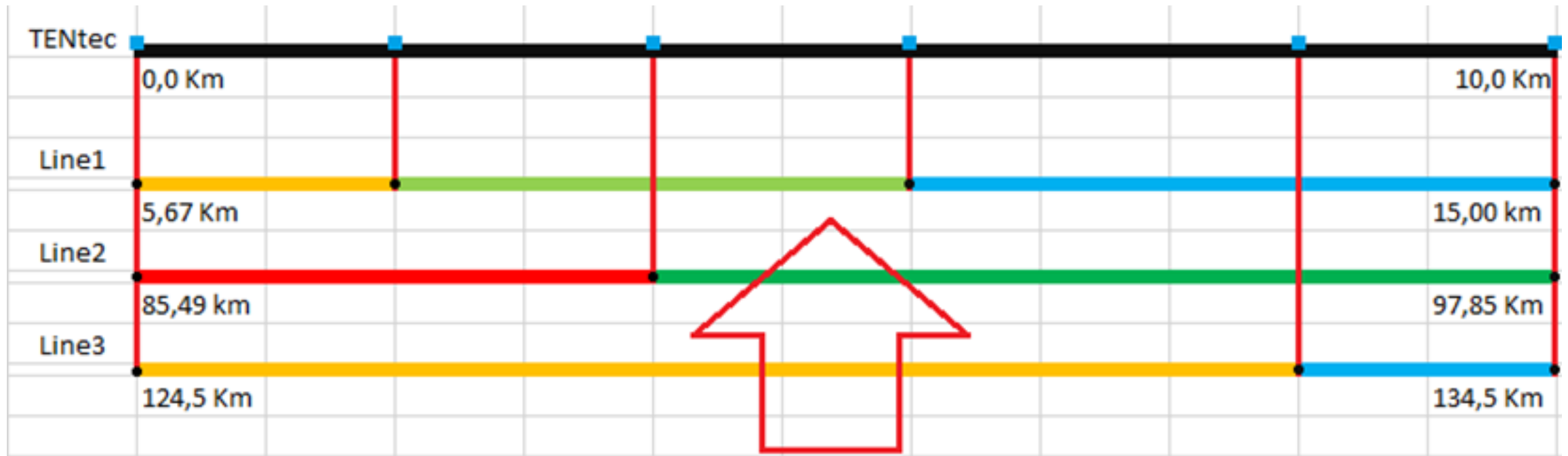
Network Identification - Issues and Approach

- Shapefiles as a starting point to align your network with TEN-T
 - Request help or clarification from GIS Team
- Network Identification in national systems is pre-condition in automated exchange of data
- Work towards Linear Referencing

LRS in TENtec

- Use of Linear Referencing

Projection of the network of MS over TENtec Network



TEN-T network alignment

- MS have to identify TEN-T in their national systems
- MS can do the identification by themselves using the provided shapefiles
- MS who cannot do the identification by themselves can liaise with the GIS team to work on a solution
- MS need to clean the TEN-T network of geographical inaccuracies. MS have to notify errors (shapefile).
 - Example Italy in run up to the redefinition of the network for the Council General Approach.
 - Example reconfirm border crossing points
- LRS report – baseline is TEN-T network in TENtec: implementation by 2024

Conclusion on homework for MS

Defining the TEN-T network & the Linear Reference System Approach

- Specific session can be organised for those who need more information on how to define TEN-T in their national network (and on how LRS works).
- Identify TEN-T in your national network. Ownership of identification lies with each Member State.
 - Example: if there are 5 railway lines next to each other, flag the one line that is TEN-T. The obligations will have to be fulfilled on this line (not the other 4).
- Tests with each MS to see together how to define TEN-T in your network (all modes)

Implementation Plan (DG MOVE)

- **Implementation plan to guide MS**
 - Objectives and goals
 - Technical outline annexe (based on discussion today)
 - Timeline
 - Pre-conditions
- ✓ Parameter Glossary (green items) – confirmation in TENtec working group
- ✓ Network definition – each Member State for their own network
- **Available beginning of February**

Teams and files

- Teams and files
- Teams: exchange of information
- [Wiki](#): find information with direct link

AOB

New TENtec integrated viewer (announcement)

Any other AOB from MS

New TEN-T viewer

- Precondition for the automated exchange of data
- 3 TENtec viewers integrated (public, private, military)
- Single access – information visible based on your credentials
- Basic version ready by end Q2
- First user testing available as from end February – you will be invited!

Bilateral talks

Specific questions on any topic?

Please ask for a bilateral so we can address your specific needs.

14:00 – 15:00 CY

15:00 – 16:00 free slot

16:00 – 17:00 free slot

Feedback and Questions on the Wiki

Feedback and Questions on the Wiki

- You can post any questions/subjects here:

<https://webgate.ec.europa.eu/fpfis/wikis/display/tentecwiki/Parameters+and+definitions>

- The wiki page you found in the invitation for today:

[Discussion on sections and parameters definitions. - TENTEC - EC Extranet Wiki \(europa.eu\)](#)

Many thanks for your input today!

We are looking forward to your comments and suggestions on the wiki or TEAMS page